A HEALTH PROMOTION PROGRAM BY APPLYING THE BUDDHIST DOCTRINE IN HIV INFECTED CLIENTS, CHIANG MAI, THAILAND

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One of Thomas Alva Edison's biggest strengths is perseverance ; he never gave up. Edison was quoted as saying, "Achievement is one percent inspiration and ninety-nine percent perspiration."

I am grateful to Dr. Dumrong Chiewsilp whose strength and optimism have been a constant source of my inspiration throughout the process of my studying. His initiation has strenthened my longstanding commitment to the care of HIV clients despite their huge demands, expectations, and frustrations.

What has inspired my idea for this research ? In 1997, after more than one year performing 573 HIV / AIDS, the pilot project was initiated. It took the greatest amount of empowerment including financial support and required the most complicated orientation. It was the initial stimulus for my continued devotion to excellence and achievement. This provided the necessary pride and cooperation among interest from colleagues. In addition to, it enhanced my insight into the achievements of the process that are set forth in this research.

I would like to gratefully acknowledge the time and cooperation of the HIV clients who have joined in the effort to improve the quality of life throughout the world. Their willingness to share their experiences in the certain aspects of confronting the challenge of HIV infection was invaluable to my work.

The style and structure of this research was much improved, thanks to detailed editing by Robin Sonnier, Srinakharinwirot University and a caring collegues who wishes to be annonymous.

I am grateful to all these people for their contributions handling of negotiations and publishing the knowledge and wisdom derived from such great experiences. They convinced me that it was possible to present a serious new paradigm for HIV / AIDS. The responsibility for the views put forth and for all the errors is mine alone

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At present, the trend of Acquired Immune Deficiency Syndrome (AIDS) in Thailand is rising. This study attempts to investigate this problem by applying the Buddhist doctrine in a health promotion program. This program was used to compliment the pluralistic medical approach, the combination of western, traditional, and popular medicine, covering different symptoms of the deadly disease. This research was conducted by using quasi experimental methodology. 156 HIV infected clients in Chiang Mai, were used in this study. 95 clients were divided into 6 experimental groups, while 61 clients were divided into 6 control groups. The 6 control groups received the conventional health education program, while the 6 experimental groups received the health education program by applying the Buddhist doctrine. Several activities of the applied program were conducted on a continual basis according to the problem solving process (the four Noble Truths), breathing meditation, Dhamma discussion, experience sharing and self-assessments. The initial data, pre-test, was collected before the intervention and was followed up every two weeks for eight consecutive times. The last data, post-test, was collected after the final activity of the program. All data were then analyzed with descriptive and analytical statistics. This tested the statistically significant difference of the arithmetic mean within the group with a paired t-test, and between groups with a student t-test. The configuration also analyzed factors influencing the prediction of health promoting behavior as well as factors influencing the prediction of health status of HIV infected clients by using stepwise multiple regression analysis.

The result of the research concluded that the experimental groups significantly improved 5 variables :

1. Overall understanding of the problem solving process and the way of practice.
2. Overall mental strength and ill-will, dullness, anxiety, and doubt.
3. Eating behavior.
4. Overall health status and body weight, oral candidiasis, diarrhea, fever and asthenia.
5. Overall program satisfaction.

The study then looked at the factors that could be used to predict health promoting behavior. It was found that understanding the problem solving process, mental strength and educational level were statistically significant ($P<0.001$) predictors. They were able to predict health promoting behavior by 81.60%.

Lastly, the study looked at the factors that could be used to predict health status. It was found that eating and air pollution avoidance were statistically significant ($P<0.001$) predictors. They were able to predict health status by 20.20%.

It is hoped that this will more effectively solve these long-standing problems by utilizing the Buddhist doctrine. It is possible, however, that each individual way of solving the same problem by critical thinking may be different. They all must establish the right way when solving a problem. Thus, there may be more than one way to explain certain problems. The best approach to solve the problems is to practise and experience the Dhamma for oneself. It implies wisdom or the ability to understand the problems deeply and correctly, according to their true nature. Thus, Buddhists need to commit themselves more meaningfully to their religion.

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กมลมาลย์ วิรัตน์เศรษฐสิน: การประยุกต์หลักพุทธธรรมเพื่อการส่งเสริมสุขภาพผู้ติดเชื้อเอชไอวี จังหวัดเชียงใหม่ (HEALTH PROMOTION PROGRAM BY APPLYING THE BUDDHIST DOCTRINE IN HIV INFECTED CLIENTS, CHIANG MAI, THAILAND). คณะกรรมการควบคุมวิทยานิพนธ์ : สมจิตต์ สุพรรณทัสน์, Dr.P.H., ประภาเพ็ญ สุวรรณ, Ph.D., สุรีย์ จันทรโมลี, ส.ค., จรรยา ภัทรอาชาไชย, Sc D. 211 หน้า. ISBN 974-664-747-4

ปัจจุบันแนวโน้มสถานการณ์เอดส์ คือ ผู้ติดเชื้อเอชไอวีได้พัฒนาการดำเนินของโรคเข้าสู่ระยะที่ปรากฏอาการและระยะเอดส์ ซึ่งรัฐไม่สามารถรองรับปัญหาดังกล่าวได้ ทำให้ผู้ติดเชื้อผู้ป่วยเอดส์มีพฤติกรรมการแสวงหาการรักษาด้วยสมุนไพรอย่างไร้จุดหมาย การศึกษาครั้งนี้จึงตอบสนองต่อปัญหาดังกล่าวด้วยการจัดบริการแบบการแพทย์พหุลักษณ์ บำบัดรักษาด้วยสมุนไพรที่สามารถครอบคลุมกลุ่มอาการต่าง ๆ ที่ปรากฏในผู้ติดเชื้อ/ผู้ป่วยเอดส์ เพื่อมุ่งเน้นในการรวมกลุ่มผู้ติดเชื้อ ศึกษาแนวทางการเปลี่ยนแปลงพฤติกรรมสุขภาพและชลอการพัฒนาการดำเนินของโรค โดยการประยุกต์หลักพุทธธรรมในการส่งเสริมสุขภาพ ทำการวิจัยแบบกึ่งทดลอง ศึกษาในผู้ติดเชื้อเอชไอวี จังหวัดเชียงใหม่ จำนวน 165 คน แบ่งกลุ่มตัวอย่างเป็นกลุ่มควบคุม 6 กลุ่ม จำนวน 61 คน ได้รับการสอนสุขศึกษาแบบปกติ กลุ่มทดลอง 6 กลุ่ม จำนวน 95 คนได้รับการสอนสุขศึกษาตามโปรแกรม ลำดับกิจกรรมอย่างต่อเนื่องตามกระบวนการคิดแบบแก้ปัญหา (หลักอริยสัจ 4) การฝึกกายบริหาร-จิตภาวนา การสนทนาธรรม การแลกเปลี่ยนประสบการณ์ภายในกลุ่ม และการเรียนรู้การตรวจสอบด้วยตนเอง ติดตามกลุ่มตัวอย่างทุก 2 สัปดาห์ เก็บรวบรวมข้อมูลก่อนเริ่ม และเมื่อเสร็จสิ้นโปรแกรมสุขศึกษาในครั้งที่ 8 วิเคราะห์ข้อมูลด้วยสถิติพรรณนาและสถิติวิเคราะห์ ทดสอบความแตกต่างค่ามัชฌิมเลขคณิตภายในกลุ่มด้วยสถิติ paired t-test ระหว่างกลุ่มด้วย Student t-test วิเคราะห์ปัจจัยที่มีอำนาจในการทำนายพฤติกรรมส่งเสริมสุขภาพ และปัจจัยที่มีอำนาจในการทำนายสภาวะสุขภาพของผู้ติดเชื้อเอชไอวีด้วยสถิติ Stepwise Multiple Regression Analysis ผลการวิจัยสรุปได้ดังนี้

ภายหลังการทดลอง กลุ่มทดลองมีการเปลี่ยนแปลงดีขึ้นกว่ากลุ่มควบคุมอย่างมีนัยสำคัญทางสถิติในเรื่องต่อไปนี้

1. ความเข้าใจในการแก้ปัญหารวม และความเข้าใจในประเด็นแนวทางปฏิบัติ
2. ความเข้มแข็งของจิตใจรวม และความเข้มแข็งของจิตใจในประเด็นภาวะจิตพยาบาท ภาวะจิตหดหู่ ภาวะจิตฟุ้งซ่าน และภาวะจิตลังเล
3. พฤติกรรมส่งเสริมสุขภาพในประเด็นพฤติกรรมการรับประทานอาหาร
4. สภาวะสุขภาพรวม และสภาวะสุขภาพในประเด็น น้ำหนักตัว เชื้อราในช่องปาก ท้องเสีย ไข้ และอ่อนเพลีย
5. ความพึงพอใจต่อโครงการ

ผลการศึกษาปัจจัยที่มีอำนาจในการทำนายพฤติกรรมส่งเสริมสุขภาพ พบว่าความเข้าใจในการแก้ปัญหา ความเข้มแข็งของจิตใจ และระดับการศึกษาสามารถร่วมทำนายพฤติกรรมส่งเสริมสุขภาพได้ร้อยละ 81.60 อย่างมีนัยสำคัญทางสถิติ ($p<0.001$)

และปัจจัยที่มีอำนาจในการทำนายสภาวะสุขภาพ พบว่า พฤติกรรมการรับประทานอาหารและการหลีกเลี่ยงมลพิษทางอากาศ สามารถร่วมทำนายสภาวะสุขภาพได้ร้อยละ 20.20 อย่างมีนัยสำคัญทางสถิติ ($p<0.001$)

ผลการศึกษาครั้งนี้สนับสนุนหลักพุทธธรรมที่มุ่งพิจารณาการมองให้เห็นทุกข์บนพื้นฐานหลักเหตุและผลให้เกิดปัญญารู้เท่าทันความจริง และสามารถแก้ปัญหาได้ด้วยวิธีการเรียนรู้จากประสบการณ์จริงแทนการถ่ายทอดความรู้ตามรูปแบบ ให้ความเป็นอิสระแก่กลุ่มตัวอย่างในการแลกเปลี่ยนประสบการณ์และหล่อหลอมความคิดในแนวทางที่ถูกต้องเพื่อนำไปสู่การปฏิบัติบนพื้นฐานความคิดนั้น

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CHAPTER I
INTRODUCTION

1.1 Background of the Problem

Since September 1984, the discovery of the first Thai HIV infected person in Thailand, until March 15, 1991 there were 27, 843 asymptomatic HIV infections. In 1991, the Ministry of Public Health announced the cancellation of the HIV report. The symptomatic HIV infections were being underestimated. This created great uncertainty to the actual number of asymptomatic HIV persons in Thailand at that time.

According to an estimation of the surveillance, it is believed that currently there are approximately 1 million HIV infected persons (one HIV infected person in sixty). In Thailand, symptomatic HIV persons including AIDS must be reported to the Ministry of Public Health for surveillance. Until June 30, 1998, which was the fourteenth year of the study, there have been 64,594 reported cases AIDS. There were 36.4 percent of those cases (23,522 cases) in the northern regions with 12.3 percent (7,963 cases) in the Chiang Mai Province. (Department of Epidemiology, Ministry of Public Health, 1998).

The trend at the present of new HIV infected persons is not severe. This may be due to the successful anti-AIDS campaign and/or the behavior population of those already infected. The rest of the population consists of no risk behavior population and non-responders. A study of prostitutes was conducted in Gambia for 1 year. It found that 20 prostitutes had a record of sexually transmitted disease but there was no incidence of HIV infection. A similar study of sex partners of HIV infected blood donors in Chiang Mai was also conducted. It found that they enough though had sexual intercourse more than twice a week for more than one year without using condom, 45 % were HIV seronegative. Similar studies of HIV infected pregnant women's hasbands were conducted at Siriraj and Rajvithi Hospital. It found that they were anti-HIV negative by 29.02 % and 26.5 % respectively (Bangkok Collaborative Perinatal HIV Transmission Trial group : 1994).

Consequently, the current trend appears to be that HIV infected persons progress to clinical AIDS. It shows that the number of AIDS and the mortality of AIDS has increased. It is estimated that 5.6 percent of HIV infected persons became ill each year. There are about 30,000-60,000 new patients yearly. This creates an additional expense for the government of 3,000 million baht for treatment and prophylaxis for opportunistic infection. The increased expense of course, does not cover the cost of antiviral drugs such as AZT and other derivatives which would possibly double the expense.

Peter Piot, Director of the AIDS Project of the United Nations, spoke at the 11th International Convention of AIDS on July 7, 1996 in Vancouver, Canada, about the clinical trials of a new group of drugs. The drugs were protease inhibitors with anti-

viral drugs (AZT, 3TC) with were created by a team led by David Ho, Director of Aaron Diamond AIDS Research Center in New York. These new treatments are considered extremely expensive for a poor country such as Thailand. There have been estimates that the cost of treatment would be around 25,000-37,500 baht/person/month. How could the government justify such an expense for this incurable disease, for only a short while? Moreover, while new medications can be developed, HIV can mutate easily even within the same patient. In time, the virus mutates consistently causing a wide diversification of new species.

Currently, there are already nine subtypes of HIV. In Thailand, the following two subtypes seem to be the most prevalence: Type E which has been found mostly in the sexual activity group and Type B which has been found mainly in the intravenous drug abusergroup. HIV use a special enzyme called reverse transcriptase to transform itself from the single strand RNA to the double strand DNA within the human body. The process is often full of error and inaccuracy. This causes a lot of problems in production of envelope, core or enzymes therefore, it is able to avoid immunity and can survive in the human body without being destroyed by the immune system. These mutations have caused drug resistance to occur rapidly and have been a great obstacle in developing a vaccine. Will the vaccine from the USA and Europe protect against the virus in Thailand or other parts of Asia, India, Africa, or South America? Additionally, clinical trials of prophylactic vaccine in humans (phase 3 study or field study) are extremely difficult to assess because HIV infection also involves the uncontrollable variable of behavior.

Consequently, HIV mutations and drug resistance are an obstacle to the discovery of appropriate vaccinations. While the number and mortality of AIDS increases, it creates a great social and economic hardship as well as many problems for social medicine in many countries of the world.

Thai society is facing the great crisis caused by AIDS. It is not only affecting the biomedical dimension, but it is also creating a complexity in the social, cultural, and spiritual dimensions. This relates to the life and death of a vast community. Whenever one knows that death is at hand, he cannot live with any hope. Death, especially to be known as inevitable is a great destroyer. It is "a state of dying before death." This in turn seems to bring great revulsion from employers, society, and even some close relations. As this problem deteriorates farther, the infected persons lack of care and the chance for opportunistic infections becomes more severe. This phenomenon leads to social crisis, as life becomes bankrupt, hopeless and they want to die. Families are often broken apart and social disintegration hasten.

Human relationships may cease at the most inopportune moments and HIV/ AIDS patients are left alone with the virulent threat. Many of them wait for death in strange places and are alienated leading to social discrimination. Some are left in hospitals, some may seek shelters and some may face opportunistic infection. Those with opportunistic infections may only be cared for by relations or neighbors who do not understand the complexity of the problem. The crisis often makes HIV infected persons socially imbalanced which may cause their physical and mental equilibrium to

the country.

The problem is how to care for AIDS patients with the opportunistic infection. There needs to be a great deal of counseling. How to counsel those whose lives are ending? How to live with a HIV infected person? And, most importantly, How should the HIV infected persons behave?

When HIV infected patients developed into clinical AIDS, there was clearly a different concept about care. The government who normally provides health care services, assumed that the proper care pattern for HIV/AIDS patients was to be cared for by the family and community. The government felt like the family and community could provide for a better warmth and closeness. The government could not support all places for beds, budget and health personnel. The government encouraged the community and family to accept both the problem and role of caring for the HIV/AIDS patients with sympathy and understanding. In the past, the focus was on the information about spreading HIV in order to persuade people to change their risk behavior. Education about safe sex was also a part of the emphasis.

For HIV/AIDS patients, their concept was opposite. They had been taught to depend on the health care system for medical services. Their initial goal was to keep HIV a secret and they expected the acceptance once was revealed. But in their mind, they wanted to be HIV seronegative.

AIDS workers, especially Non-Governmental Organizations, realized they needed to keep a connection with the hospital service. They understood very well that most HIV/AIDS patients and their families were poor and not well informed. The NGOs also had other problems. They were individually responsible for the conduct and budget of their projects. Each NGO tried to solve problems that caused HIV/AIDS individally and lost any support. The NGOs could not sustain this activity. Finally, the community itself became weak, The HIV/AIDS patients lost their kindness and generosity, the national personality of Thailand. Dennis Altman from La Trobe University of Australia presented a proposal at the International AIDS Conference in Yokohama City, Japan in 1994, and gave an opinion that NGOs did not represent HIV/AIDS patients but only worked to please these international organizations.

There are many differences in the working concepts of the different groups. Each lacked the noble friend property: know thoroughly, understand receivers and lead to reality. The ignorance caused each to insist self concept, to be inflexible, and not to concern or appreciate with alternatives. The lack of associating with one another reflected the social discrimination and disintegration, without considering how the HIV/AIDS patients felt. This showed a trend toward compartmentalization where nothing was really integrated or holistic. Finally, a blood examination was needed to identify AIDS. According to Immunology, whoever was infected with HIV would show anti-HIV positive persistently even though there were not any HIV-RNA. This phenomena was based on misleading information and caused confusion and misunderstanding. Because of this, the people involved should help clarify the situation to the public.

The situation above also affected the HIV/AIDS patients who felt that they were acted upon or were victims. There was material to pay back such as money, gifts, treatments etc., that caused HIV/AIDS patients to believe in others HIV/AIDS patients were more concerned about becoming dependent than taking responsibility for their disease which was the root of their problems. It should also be noted that AIDS is not about HIV only, but it is a multifactorial disease. AIDS is a lifestyle disease, arising from a variety of causes and conditions, that has both behavioral and social implications. The more they lacked the knowledge about the principle of reason of action or law of action, the more they lacked the direction. And so, the confusion continued. There was conflict among the 'givers' while the 'receivers' searched blindly for help.

The researcher's experience of HIV/AIDS counseling has found that the majority were forced to looked for a practical alternative and solution, such as herbs, for survival. Often HIV/AIDS patients felt they were drowning and looked for anything to hold onto, even a piece of straw. They searched for any alternative and attempted to cure it by any means. If there was any news about a herb, they would seek it out, no matter how far, how expensive, or how true it was.

In general why did HIV/AIDS patients not understand or realize the truth of their problems, and fail to gain the benefits from the right way? The reasons are as the following:

First, most of them know only two conditions of mind, positive and negative. They rarely come to realize the neutral state of mind. When the patient was seroconverted to be negative, they would feel happy. When they were seroconverted to be positive, they would feel sad, and so forth. This dualistic way of thinking is merely the nature of human thought. When mistaken beliefs such as these dominate the mind, it becomes extremely difficult to realize the truth of the problem.

Second, HIV/AIDS patients understand the HIV infection as a negative condition of mind. In order to resolve or release this problem, they believe they must search for objects of sensuality or sexuality, alcohol, drugs, and so on. These examples demonstrate the creation of additional problems instead of solving their initial problem. They have felt the pain and sorrow resulting from such mistaken beliefs. They can not reach the truth of problem.

Third, HIV/AIDS patients develope the idea that HIV exists in the mind at all times. This idea results in the belief that life is ending. They must attempt to eliminate this suffering by going to a temple to practice meditation, or by locating a teacher or meditation master to instruct and guide them in the practice of long hour sitting and walking meditation. HIV/AIDS patients firmly believe that practice such as these would eliminate their suffering. Meditation is difficult to learn and is often misleading and causes confusion to develop in the practitioner during practice or training.

Fourth, HIV/AIDS patients realize only spiritual suffering, but believe it to be physical suffering. Spiritual suffering occurs from different desires and attachments. This occurrence takes place frequently during the course of a day, an hour, minute, and

This occurrence takes place frequently during the course of a day, an hour, minute, and even a second. They attach to this wrong understanding, making the solution to the problem impossible. They were being led in the wrong way.

Fifth, the most common misunderstanding in today's world is that HIV/AIDS patients believe in curative medicine. In order to secure what they believed as curative, many search for Western Medicine and Herbal Medicine in various ways. They never come to realize the toxicity of those medications. They were unaware of the truth of problem.

In 1996, the Public Health Commission along with the consultant began to supervise the AIDS situation in Chiang Mai. They reviewed the AIDS situation that utilized the local treatments, especially Thai herbal medicine and a healthy lifestyle. The preliminary study from February 1996 to November 1997 studied the lifestyles of 573 HIV/AIDS patients living in Chiang Mai. It found that they did not naturally gather, but they gathered by the conditions of the supporting organization. It was also found that no other health center provided pluralistic medicine. The researcher then moved to the community and began to look after HIV/AIDS patients who lived without any commitment and were provided with pluralistic medical care. The results, however, were not so clear in the scientific documentation about "unwholesome food". HIV/AIDS patients did not monitor was they ate. There was the problem of "gapi" (shrimp paste) which every family prepared for cooking, "plarah" (fermented fish) and other fermented foods as well as other harmful chemical contamination in fruits and vegetables. In addition, there were the traditional habits of drinking alcoholic beverages, smoking and other health related behavior. In daily life, exercise and meditation is not expected to become a household practice. HIV/AIDS patients need to be taught about food, air, exercise, rest, sleep, emotion, and in general, a better quality of life "beyond positive and negative." It would encourage proper health promotion to maintain a healthy lifestyle.

In accordance with studies, it was found that most HIV/AIDS patients rarely took care of oneself, did it irregularly or did not do it at all (Nandachaipan, P., 1996 : 55-57). They behaved normally by habit and ignored their health behavior (Somrongtong, R., 1996 : 121). Their main priority was their economic problem, not their self-care (Penjan Pradabmukh, 1993 : abstract). The above problems were due to lack of thinking and wisdom. (Nandachaipan, P., 1996 : 55-57, Watradul, D., 1994 : abstract).

According to these conditions, everyone must have the paradigm shift in both concept and guideline of interactive learning through action without discrimination. The society needs an improved way to demonstrate correct behavior to support a healthy lifestyle. This leads to the three motives of this study. **First,** one must review, exchange experiences and search for something practical. In theory, many people had agreed that a multidisciplinary perspective can cause an integration of both the thinking and the studying frame. In reality, there were few studies that demonstrated this. It is still a conceptual ideal. This research followed the movement of the AIDS situation in Chiang Mai. It also discuss with other which pattern would be appropriate in the Thai lifestyles. **Second,** there was an attempt to understand the HIV/AIDS patients' desire to survive which greatly influenced their behavior. **Third,** how well do HIV/AIDS patients re-

spond to the calls of their conscience and responsibility. **Fourth,** The researcher realized that "Buddhism is a religion of wisdom" and that the Buddhist doctrine is a heritage of wisdom which is practical for today's complicated world. Unfortunately, most of the people lack the ability to properly apply this Buddhist doctrine to their lives. Thailand is a Buddhist country with more than 25,000 temples, 200,000 monks, and 100,000 novices, and the majority of the population professes Buddhism. Buddhism is closely associated with traditional value and cultural activities. Yet, many Buddhists believe only in the outer trappings of Buddhist festivals and ceremonies, Buddha lockets and votive tablets. They usually lack the interest in and commitment to Buddhism and Buddhist practice. They forget to really live the religious teachings. As a result, religion is rarely allowed to play its proper role in our personal and social lives. This leads to many problems. One of the most unfortunate is the fact that they hardly realize how much they lack true religion. The vicious circle seems to blind them and their problems in society continue to multiply. They are unable to properly develop their lives with wisdom, morality and concentration. Therefore, "all people does not exist in the Dhamma and that the Dhamma does not exist and operate in all people."

Moreover, the question arises whether western theories are suitable for Thai Buddhist or not. This research was aimed at studying the Buddhist doctrine beginning with the friendliness and generosity, the Thai traits, that are often cited as examples of the Buddhist influence on the nation personality. This study places great emphasis on wisdom and understanding which is the appreciation of teaching. Of course, this raises the question of whether this traditional value can now be adopted in operational reality. The crucial problems of AIDS arise from a variety of causes and conditions for which only the conventional medicine, the existing hospitals can hardly be held responsible. It should be through a interdisciplinary collaborative approach, and a commitment for improvement of medical and public health personnel, folk healers and HIV/AIDS patients. The aims are to set standards for basic cooperation for a pluralistic medical system, find a clear conclusion to this problem, and to apply the following Buddhist doctrine "Extinguish the problem at its root cause". This will be used as a frame of reference for health education.

The Buddhist way of life will be one of the key approaches to health promotion for HIV/AIDS patients. It was said by a well-known Buddhist monk, Buddhadasa Bhikkhu, "If Dhamma doesn't return, the world will go to ruin." Surely, the need for the true Dhamma is now more urgent than ever and HIV/AIDS patients should commit themselves more meaningfully to the Dhamma that is universally true and externally valid. In short, to return to the Buddhist way of life, one needs to apply a critical or systematic reflection. This can be done by listening to the Noble friends and following the Noble Eight fold Path which controls all human behavior for improvement by change and to pursue the middle path.

Conclusion : HIV/AIDS patients have many struggles throughout their lives. They try to escape from it in many different ways and want to flee from reality. It is ignorance, so they do not know the way leading to the end of problems. By applying the Buddhist doctrine, one can come to better understand the reality in daily life. This will lead to wisdom to help eradicate the root of problem, a radical change in the life.

1.2 Research Problems

1. Whether the application of the Buddhist doctrine can develop an understanding of the problem solving process, health promoting behaviors and mental strength in the HIV infected clients or not?
2. Whether the HIV infected clients are satisfied with the health promotion by applying Buddhist doctrine or not?
3. Whether the HIV infected clients using health promotion by applying the Buddhist doctrine can develop health status or not?
4. Whether the demographic factors, an understanding of the problem solving process, mental strength and satisfaction with the program can predict the variation of health promoting behavior in the HIV infected clients or not?
5. Whether health promoting behaviors can predict the variation of health status in the HIV infected clients or not?

1.3 Objectives of the Study

General Objectives : To study health promotion program by applying Buddhist doctrine in HIV infected clients.

Specific Objectives : To study the following in HIV infected clients after the completion of the program :

1. The change of understanding of the problem solving process.
2. The change of mental strength.
3. The change of health promoting behaviors.
4. The program satisfaction with the program.
5. The change of health status.
6. The factors which predict health promoting behavior and health status.

1.4 Research Hypotheses

1. The HIV infected clients in the experimental group in the post-test have better changes than in the pre-test in the following items:
   - 1.1 Understanding of the problem solving process.
   - 1.2 Mental strength.
   - 1.3 Health promoting behaviors.
   - 1.4 Health status.

2. The HIV infected clients in the experimental group have a better change than in the control group in the following items:
   - 2.1 Understanding of the problem solving process.
   - 2.2 Mental strength.
   - 2.3 Health promoting behaviors.
   - 2.4 Program satisfaction.
   - 2.5 Health status.

3. The demographic factors, an understanding of the problem solving process, mental strength and the program satisfaction can predict health promoting behaviors in HIV infected clients.

4. Health promoting behaviors can be the predictor of health status in HIV infected clients.

1.5 Variables of the Study

Independent variables : Health promotion program by applying the Four Noble Truths.

Dependent Variables

1. Health behaviors:

1.1 Understanding of the problem solving process: Understanding the condition of the problem, the cause of the problem, the purpose of solving the problem and the way of practice.

1.2 Mental strength: realization and overcome the Five Hindrances; sensure desire, ill-will, dullness, anxiety and doubt.

1.3 Health promoting behaviors: eating, avoid air pollution, exercise, sleeping, relaxation and communication.

2. Health Status: oral candidiasis, herpes zoster, CNS dysfunction, diarrhea, fever, asthenia, persistent dermatitis, persistent cough, lymphadenopathy, loss weight

Co-variables

1. The program satisfaction.
2. Demographic characteristics : gender, age, marital status, education, occupation and income.

1.6 Scope of the Study

1. Samples : Samples of the study were HIV infected clients who lived independently at communities in Chiang Mai. Samples qualified for entrance according to 7 criteria and were gathered into a group of approximately 15-20 persons at each group. All of the groups were divided into 5 experimental groups totally 105 persons and 5 control groups totally 98 persons by simple random sampling

2. Variables : The study emphasized human qualities such as environment, family, mental status, feelings and levels of fear or anxiety. These all combine to form our lifestyle. Lifestyle was considered an important factor as it related to happiness and satisfaction. A healthy lifestyle in this study was an important dimension which indi-

3. Duration : The research took 4 months due to the rapid progression of the disease and lack of a proper predictor. Opportunistic infections are important variables which influenced the studied behaviors.

1.7 Basic Assumption

1. Variables : The major variable was the health promotion potential of samples. Health status was another variable used.

2. Subjects : HIV/AIDS clients have encountered a wide variety of problems. The basic problem, whether they stay in the world alone or stay with others, is a biopsychosocial problem. It involves the relationship between life and the nature of human or personal behavior. Solving this basic problem may also effect others and encourage them to solve similar problems. Therefore, health promotion in this research started at the individual level then would extend the others.

3. Data collection : The distress level was the result of personal experience. It changed constantly which was not entirely assessed or observed by others (Steeves, Hahn and Benolial, 1990 : 722-725; Rhodes and Watson, 1987 : 242; Lough, Lindsey, Shinn, et. al., 1987 : 193-196; McCorkle and Young 1978 cited in McGorkle 1987 : 148). Similar distress levels have been studied in cancer patients according to Holmes and Beurn (1989: 844), the illness perception between cancer patients and nurses were different. Holzemer, et al., (1995 : 28) also found that patients learned about the symptom of pneumocystis carinii pneumonia not the same as doctors and nurses, thus the assessment should be based on symptom perception. Similarly, Goodinson and Singleton (1989) gave the principle, "the HIV/AIDS patient's quality of life assessment should be assessed by themselves".

4. Intervention : The study proceeded between the group of HIV infected clients because they were in the best position to understand their behavior. They were especially effective in strengthening their hope, maintaining strength and providing mental support to each other when they were confronted with their problems. This coincided well with the Buddhist proverb, "a friend in need is a friend in deed." While AIDS was still mainly a secret, HIV infected clients need to keep balance on duty. The right perspective at this level of the HIV infected clients group also effected the development of the right perspective at the social level.

5. Herbs : in this study, Thai traditional herbal medicine covers the symptoms of HIV/AIDS patients and fills the gap of treatment between provider and receiver. They are also originally employed as an instrument to induce HIV infected clients to practice the proper conduct or lead a life of righteousness.

5.1 The herb used in this research was the same herb that members of the New Life Friend Center in Chiang Mai have been using since 1993.

5.2 The herb was analyzed for toxicity, as per request by the Chairman of Public Health Committee. The Ministry of Public Health in the Medi cal Science department stated in letter no: PH 0512/3434 dated September 20, 1994, that this herb was found to be non-toxic.

tember 20, 1994, that this herb was found to be non-toxic.

5.3 The study of drug properties by Research and Developmental Insti tute as the government Pharmaceutical Organization found that the ingredient of this herb was bacteriostatic, virucidal, fungistatic, helminthicide, and hematinic effects as well as being an appetite stimu lant and immuno modulator.

5.4 This herbal formula has already been patented.

5.5 This herb was neither advertised nor sold.

1.8 Operational definition

HIV infected clients : Two groups of HIV seropositive as follow.

1. Asymptomatic HIV infected clients: HIV infected clients without any symp toms relevant to the immunity.
2. Symptomatic HIV infected clients: HIV infected clients with some symp toms relevant to the immunity, such as the following.
   - Oral candidiasis or hairy leukoplakia
   - Herpes zoster more than 1 dermatome
   - Central nervous system dysfunction such as mental confusion, dementia, decrease level of consciousness, convulsion, encephalitis or meningitis, abnormal cerebellar tests (e.g. inability to tap the in dex finger more than 20 times in 5 seconds)
   - Diarrhea for more than 1 month
   - Fever for more than 1 month
   - Cachexia or more than 10% weight loss
   - Asthenia more than 1 month
   - Persistent dermatitis more than 1 month
   - Persistent cough or any pneumonia more than 2 months (except TB)
   - Lymphadenopathy more than 1 centimeter at least 2 noninguinal site for more than 1 month

Free radicals : Substances which have an unpaired all single electron. That are unstable and chemically reactive. They steals electrons (oxidizes) from a near by molecule to stabilize themselves and in doing so, triggers a chain of molecular break-down.

Oxidative stress : The imbalanced condition due to and increase of free radi-cals and a decrease of antioxidants that this in a long period leading to oxidative dam-age.

Antioxidants : Any substance that sacrifices electrons to neutralize free radi-cals. It is also known as the free radical scavenger used to neutralize the highly destruc-tive free radicals.

Health education program : The program that applied the Buddhist doctrine and emphasized on problem based learning through listening, thinking and sharing ex-perience. Its aim was to help the clients be able to identifying the health problem and

finding a solution. It defines a purpose and translates into simple and realistic action that can be practiced.

Health promoting behavior : Health behaviors and health-related behaviors that relate to pattern and condition of living to inhibit free radicals in the body, such as the following ;

1. Eating wisely: Get all the nutrients the body needs on a balanced diet. Eat the correct number of serving from each of the four basic food groups, i.e. whole grain, legume, fresh vegetables and fresh fruits.
2. Clean air : Try deep breathing and avoid air pollution, as well as smoking cigarettes, toxic inhalants, etc.
3. Exercise regularly : Make time for exercise, aim to keep it regularly 3 to 5 times a week (frequency) for 20-30 minutes each time (duration), until sweating and without getting breathless (intensity).
4. Adequate rest and sleep : Allow time for rest and sleep, without the prob lem of falling asleep and getting up refreshed in the morning.
5. Good communication : Stay involved with others to maintain good rela tionships. Seek help by sharing the problems and/or talking it over with your spouse, relatives, friends, monks or health care providers.
6. Emotional relaxation : Plan to make time for leisure and relaxation by taking up a hobby, spreading out the changes in the life and dealing con structively with negative feelings.

Buddhist doctrine : The application of the important factors in the training system of Buddhism, consisting of the Noble friend as the instructor's role and the critical reflection as the practitioner's role.

A Noble friend (*Kalayanamitta*) : A person who does not want others to follow him blindly, but he points out the way by which they can realise the truth themselves and do not need to be dependant on him.

Critical Reflection (*Yonisomanasikarn*) : A way of thinking that uses logical reasoning in an attempt to find the truth of a condition or phenomena.

The Four Noble Truths (*Ariya-Sacca*) : The reality principle that relates to human life, the suffering and no suffering. The guidance of problem based learning is as follows:

1. Suffering (*dukkha*) : To understand the condition of the problem and de fine the scope of the problem in reality.
2. The origin of suffering (*samudaya*) : To analyze the causes and factors that are relevant to the problem. One must extinguish those causes and factors.
3. Extinction of suffering (*nirodha*) : To determine all the possible ways to extinguish the problem.
4. Path (*Magga*) : To find the way of practice or extinguish the cause of the problem.

The Noble Eightfold Path : The formula of practice that is used to perfect the life. Each factor must be completed simultaneously. It divided into 3 groups, as the following :

a. Wisdom : The guideline for living that leads one to consider all things in reality. That is; 1. right understanding 2. right thought.
b. Morality : The arrangement of life and social condition that leads to a problem-free life within society. That is; 3. right speech 4. right action 5. right livelihood.
c. Concentration : The guideline for mental persuasion that leads to a calm happiness, skillful thinking and memory. That is; 6. right effort 7. right mindful ness 8. right concentration.

The Five Hindrances (*Nivarana*) : The obstacles which block the mind from concentration and wisdom by worldly conditions.The Five Hindrances include the following:

1. Sensual Desire (*Kamacchanta*) : the imagination or attraction that occurs with a sensual object: form, odor, taste, touch, or mental object.
2. Ill-will (*Vyapada*) : anger, hatred and revenge.
3. Dullness (*Thina-Middha*) : laziness, apathy and drowsiness.
4. Anxiety (*Uddhacca-Kukkucca*) : mental restlessness, distraction and worry.
5. Doubt(*Vicikiccha*) : uncertainty, hesitation and reluctance.

CHAPTER 2
REVIEW OF RELATED LITERATURE

In this study, the researcher has looked at the conceptual theories and research of I. Soetjahja, a specialist in health education and administration at the World Health Organization in the Western Pacific Region (WHO/WPRO). The conceptual framework was summarized and related by using a collaborative approach with the behavioral, biomedical, and managerial sciences.

Health education is an important means in the pluralistic medical system, especially in managing the popular sector. Levin proposed that health education should keep people's existing behavior and advise appropriate methods, skills, behaviors or alternatives to create self-reliance (Levin, 1977 : 155).

This can be explained as follows :

2.1 How HIV causes AIDS
2.2 A practical guideline for AIDS situation within a pluralistic medical system
2.3 Health Promotion by applying the Buddhist doctrine
2.4 The preliminary study of HIV/AIDS in Chiang Mai
2.5 The conceptual framework for research

2.1 How HIV causes AIDS

The natural history : It does not seem like too many years ago that we learned of a dreadful new and mysterious disease that threatened to wipe out mankind. Little was known about this new disease, except that is was rapidly spreading. Some projected that it would kill us by the millions within a few years and bankrupt our health care system along the way. Fortunately, this has not happened, and a large part of the reason why is due to Luc Montagnier of the Pasteur Institute in Paris. He and his colleagues discovered the cause of the disease we now call Acquired Immune Deficiency Syndrome (AIDS) and determined how it was transmitted.

AIDS was formally recognized as a new disease on June 5, 1981 when the Centers for Disease Control (CDC) reported that 5 Los Angeles men had developed an unexplained immune deficiency. It is characterized as the breakdown of the body's immune system. This decrease results in defects in the immune function which then allows "opportunistic" infections, which cannot infect people with healthy immune systems to readily infect and soon kill AIDS patients. During 1980, there were a few reports of certain disease such as rare cancers and infections leading to quick "wasting" of the patient and a rapid death. There was a particular increase in cases of pneumocystis carinii pneumonia and herpes simplex. This was followed by an increase in the incidence of Kaposi's sarcoma (Passwater, R.A.,1997).

In Thailand, the HIV epidemic can be characterized by a slow growth in the

mid-1980s followed by a spread at the beginning of the 1990s. The prevalence of HIV among infected drug uses in Bangkok rose from less than 1% in 1987 to 43% in 1988. The national HIV surveillance system, established in 1989, has shown similar trends with prevalence rate peaking at 63% in 1991 among " brothel-based" female commercial sex workers in the upper north of the country. By the mid-1990s HIV had spread to the population at large as indicated by an HIV prevalence of 3.6% among military recruits and 2.6% among women visiting public prenatal care facilities. However, in the northern part of the country the impact will be more severe, particularly in the older age groups comprising the labor force (Surasiengsunk, S., et al., 1998 : 775-784).

Pathogenesis : Infection typically begins when an HIV particle, which contains two copies of the HIV RNA, encounters a cell with a surface molecule called cluster designation 4 (CD4). Cells with this molecule are known as CD4 positive (CD4+) cells. One or more of the virus's gp 120 molecules binds tightly to CD4 molecule(s) on the cell's surface. The membranes of the virus and the cell fuse by a process that probably involves both gp41 and a second "fusion cofactor" molecule on the cell surface. Following fusion, the virus's RNA, proteins and enzymes are released or penetrated into the cell. Although CD4+ T cells appear to be HIV's main target, other immune system cells with CD4 molecules on their surfaces are infected as well. Among these are long-living cells called monocytes and macrophages, which apparently can harbor large quantities of the virus without being killed, thus acting as reservoirs of HIV. Scientists suspect that HIV also may infect cells without CD4 on their surfaces. By using other docking molecules. For example, cells of the central nervous system may be infected via a receptor known as galactosyl ceramide. The role of HIV fusion cofactors in this process is currently under intense investigation. Cell-to-cell spread of HIV also can occur through the CD4-mediated fusion of an infected cell with an uninfected cell. After HIV enters the body, it is not dormant as formerly believed. Productively infected cells are estimated to have, on average, a life-span of 2.2 days, and plasma virions are estimated to have a mean life-span of 0.3 days. The estimated average total HIV-1 production is 10 billion virions per day.The minimum duration of the HIV-1 life cycle in vivo is 1.2 days on average. The average HIV-1 generation time, defined as the time from release of a virion until it infects another cell and causes the release of a new generation of viral particles, is 2.6 days (Alan, et al.,1996 : 1582-1585).

HIV disease is characterized by a gradual deterioration of immune function. Most notably, crucial immune cells called CD+ T cells are disabled and killed during the typical course of infection. These cells, sometimes called "T-helper cells," play a central role in the immune response, signaling other cells in the immune system to perform their special functions. A healthy, uninfected person usually has 800 to 1,200 CD4+ T cells per cubic millimeter of blood. During HIV infection, the number of these cells in a person's blood progressively declines. When a person's CD4+ T cells falls below 200/mm^3, he or she becomes particularly vulnerable to the opportunistic infections and cancers that typify AIDS, the end stage of HIV disease. People with AIDS often suffer infections of the intestinal tract, lungs, brain, eyes and other organs, as well as debilitating weight loss, diarrhea, neurologic conditions and cancers such as Kaposi's sarcoma and lymphomas. Most scientists think that HIV causes AIDS by directly killing CD+ T cells and by triggering other events that weaken a person's immune func-

tion. For example, the network of signalling molecules that normally regulates a person's immune response is disrupted during HIV disease, impairing a person's ability to fight other infections. The HIV-mediated destruction of the lymph nodes and related immunologic organs also plays a major role in causing the immuno-suppression seen in people with AIDS (NIAID, 1998).

The body mechanism : With the passage of time, changes inexorably occur in the human body. From the minute we are born, we begin to age and the signs of degenerative change range from the obvious weight loss, loss of height and muscular weakness, to the hidden, loss of elasticity in blood vessels and skin, slowing down of immune function, and most significantly, cellular damage from unrelenting free radical activity.

Free radicals are unstable oxygen molecules that are missing one or more electrons. They try to find another electron in order to stabilize themselves. They continuously collide with other molecules, stealing an electron (oxidizes) from evenly paired molecules, thereby causing them to become free radicals. These free radicals destroy first one cell and then another, and in doing so trigger a chain of molecular breakdown. This continuous destruction of cells and tissue creates a massive chain reaction in which millions of molecules are altered in a nanosecond. Free radical excess is cytotoxic and can create havoc with our DNA, protein molecule, enzyme and cells. Free radical damage weakens the cells allowing micro-organisms to penetrate the cell wall that lead to damage which can cause and worsen serious disease conditions, such as premature aging, atherosclerosis, heart disease, cancer, cataracts, arthritis, wrinkles and wasting disorder such as AIDS.

This process of losing an electron is called oxidization and is considered a normal metabolic functions. It is commonly seen in metallic rust and fruit discoloration. It is the free radicals, or unstable oxygen molecules, in the air that cause oxidation to occur. However, when banana slices are coated with lemon juice, free radical scavengers (antioxidants) prevent them from oxidizing. The same thing that happens to banana slices that are not protected by lemon juice happens to our bodies as we go on living from day to day. We are subjected to countless trillions of free radicals in our lifetime.

Oxidative stress is indeed involved in the progression to clinical AIDS. The cumulative effect of the bombardment of free radicals leads to the progression to clinical AIDS. This is the same underlying cause that reads to degenerative change.

There are many different sources of free radicals that can cause oxidative damage to an organism. Most free radicals come from internal sources, cellular oxidative metabolism, such as breathing, digestion and exercise, as well as other types of stresses in our lives. The external sources are commonly found, such as environmental pollulants, cigarette smoke, alcohol, pesticides, cleansing chemicals, overcooked foods, ultraviolet radiation, chemical drugs and even the chlorinated water we drink. There are also many free radicals in processed foods, fried food and preservatives, as well as bacteria,

fungal or viral infections. All of these cause free radical damage.

Since the body naturally makes free radicals, it also has natural protection from their harmful effects. The body's immune system has a built-in mechanism to cope with this problem. This process of free radical formation and antioxidant protection happens constantly The body does process some natural antioxidants in a series of antioxidant enzymes such as superoxide dismutase (SOD), catalase, cysteine and glutathione peroxidase (GPx). The body has an array of antioxidant mechanisms to protect the molecular constituents from breaking down due to the chemical effects of free radicals. A natural antioxidant acts to neutralize free radical activity by sacrificing electrons (John, H., McDonald, 1994).

Normally, free radicals are neutralized by sufficient levels of antioxidants within our cells. Often times, our intake of nutrient-depleted foods fail to provide enough antioxidant to counteract the constant unrelenting free radicals that occur every time we eat or take a breath. The natural enzymes are not enough to overcome today's continuous onslaught of natural and environmental free radicals.

Whenever sufficient levels of antioxidants are not available to fight back, the excessive amount of free radicals will impair the body's detoxifying ability to neutralize free radicals. This allows the chemicals to exert their toxic effect on the body causing permanent cellular damage as well as accelerating degenerative change. As the amount of damage increase over time, our bodies become more and more vulnerable. Our strength and vitality are slowed. This oxidative stress and resulting membrane destruction is the sine qua non of degenerative change.

AIDS critical events : Let us turn from HIV transmission to HIV progression which leads to clinical AIDS. Clinical AIDS is defined as an increasing of the rate of HIV replication. Some people develop clinical AIDS more quickly than others after HIV infection. Currently, most HIV infected persons will die within eight to ten years of infection. The period of time may vary since HIV often does not produce symptoms for several years in most people. Although the HIV infection is not producing symptoms, it is not dormant. The virus continues to replicate activity in lymph nodes and lymphatic tissue. Apoptosis is still occurring (Passwater, 1997).

The research for a unified view of the progression to clinical AIDS has been on the focus of oxidative stress as the primary activity causing an acceleration directly assecting the or indirectly degenerative process. Oxidative stress is a key factor and a component in the pathogenesis of AIDS. The activation of immune system cells creates a burst of metabolic activity that results in large numbers of highly destructive free radicals. At the same time, the stores of naturally occurring antioxidant reducing agents are depleted. The oxidative stressed cells are less capable of carrying on normal metabolic activity, therefore, leaving the body more susceptible to free radical damage. Thus the progression to clinical AIDS is not caused by HIV only. The following are two other cofactor (figure 1) that lead to the progression of clinical AIDS :

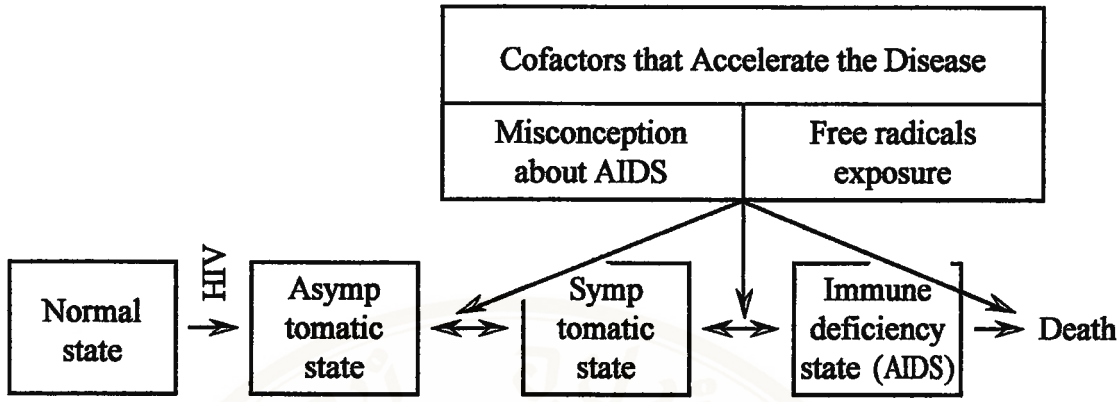


Figure 1 : Cofactors of the immuno deficiency state

1. Misconception : Whenever one believes that AIDS is a death sentence, their life becomes full of sorrow, lamentation, pain, grief and despair. This causes extreme psychological stress that could hyper-activate T cells in the body is immune system. Dr. Huns Selye, Noble Prize scientist, noted that the feelings and emotions which respond to stress depress the immune system and cause the body to be more susceptible to disease.

2. Free radicals exposure : In laboratory tests, free radicals were shown to activate HIV which, in turn, produced more virus in the system. This is an important component in the pathogenesis of HIV disease. The involvement of free radicals in cellular oxidative stress leads to cytotoxicity. The following lists the different sources of free radicals :

2.1 Risk behavior and some personal behavior may increase free radicals. An example is direct or indirect contact with toxic substances such as residue in food and water, insecticides, alcoholic beverages, cigarette smoke, ultraviolet rays, x-rays, infections for virus, bacteria, and parasites. This may also include mental and emotional stress, environment and other factors. Increased free radical exposure and insufficient antioxidants place us at increased risk for cellular free radical damage

2.2 Drug dependent behavior (Iatrogenic disease) : Some prescriptions, such as AZT and derivatives or other drugs not only kill or inhibit HIV, but also increase the number of free radicals. This causes oxidative damage to the organism. These prescriptions also have unsatisfied results and can become toxic.

With HIV infection the rate of cell damaging free radical reactions is accelerated, and the natural ability to repair the damage loses steam. The key may be to reduce the oxidative stress at the earliest stage of HIV infection. The rationale is to slow the oxidative damage and then the progression may be slowed or halted. The big question is how to restore the natural capacity of human cells to relieve oxidative stress while continuing to actively live without health concern.

AIDS patient's critical events put them in the position of having to find a stronger defense against free radicals. Perhaps by learning how to control excessive radicals, AIDS patients will be able to prolong their "functional" life span where mind and body are healthy and active. It is just one of the factors that may provide many health benefits.

It may be beneficial for HIV/AIDS patients to adopt a new health habit for the rest of their life to try to make the immune system take over the virus. They must give the body the proper nutrients daily and protect it from toxins and free radicals in order to slow down physiological deterioration. Some antioxidants have the ability to eliminate free radicals more than others. But there are several free radicals which are found in nature. Therefore, enzyme antioxidants and the natural antioxidants need to be synergy in such a way as to prevent the cells in the body from invasion of internal and external free radicals as shown in figure 2.

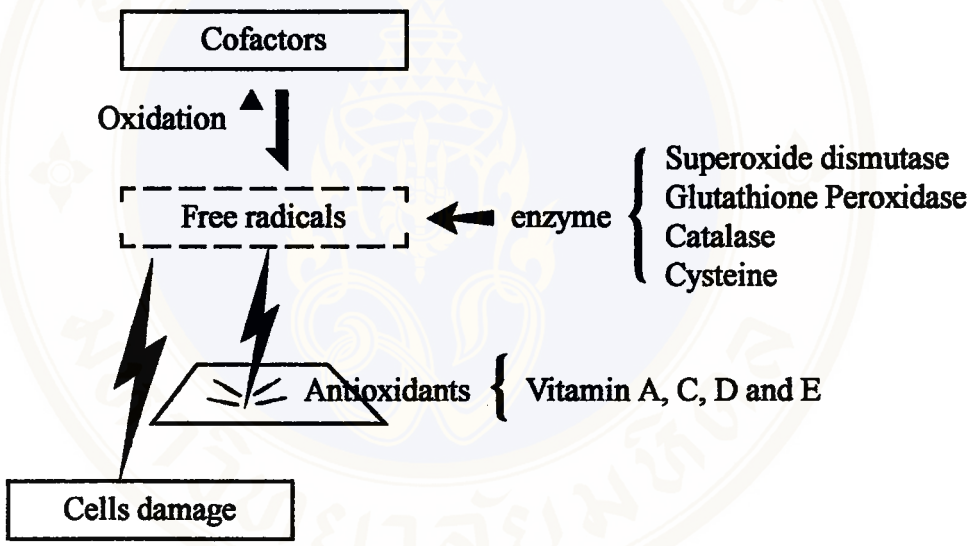


Figure 2 : Free radicals and the defense process (Chunhasavudikul, B., 1995 : 86)

Healthy lifestyle

a) Food : Unlike the antioxidant enzymes, some antioxidants are not made in the body. These antioxidants can be found in supplements and food. Montagnier's report that indicates the role of antioxidant nutrients and plant products may slow the progression of HIV infection to clinical AIDS. There are several dietary sources of antioxidants that have a dramatic effect on degenerative conditions. The most widely known antioxidants are vitamins A, C, D and E. These antioxidants sacrifice electrons to neutralize free radicals and protect the body from degenerative change caused by free radical damage.

Plants have invented more compounds than we have. Plant cells face an especially intense threat of oxidation because they produce free oxygen during photosynthesis. Therefore, plants posses a great range of defenses against oxidative stress. They

have much richer sources of antioxidants and other useful nutrients or pharmacologically active compounds than man. Let nature help mankind. Nature can give us a wide spectrum of compounds. Mankind should not try to purify plant extracts too much. They might contain several compounds that are effective only when in combination with each other. The following represents a simplified summary of their main benefits:

1.1 Beta carotene or Pro vitamin A: The body converts this to vitamin A. High vitamin A intake is associated with slower progression to clinical AIDS by increasing total white blood cell count as well as T helper cell level.

1.2 Vitamin C : This immune system enhancer neutralizes free radicals in the watery areas of the body such as blood plasma, lung fluid, eye fluid, and in between cells. It is necessary for the formation of collagen, the substance that binds together the cell of the connective tissue. It also has the ability to reactivate vitamin E.

1.3 Vitamin E : It protects the fatty areas of the body from free radical damage. It also offers some protection against heart attacks and thrombotic strokes. vitamin E works synergistically with the trace mineral selenium.

1.4 Flavonoids : Flavonoids are a large family of yellow-orange plant pigments. Flavonoids are recognized to be powerful antioxidants that play a minor role in protecting plant cells against oxidative stress. This can prevent the formation of free radicals and scavenge existing free radical as well as or better than vitamin E. A flavonoid exists in high concentration in several fruits and vegetables.

There is no single universal antioxidant just as there is no perfect food. Some antioxidants are more powerful than others at quenching free radicals since there are many types of free radicals. There are those antioxidants such as vitamin C that only scavenge free radicals in the watery areas of the body, while others such as vitamin E only work in the fatty areas of the body. Each antioxidant has its own unique structure and specialized role, but there is a synergy when they work together as a team. Taking a diverse selection of antioxidants is most effective because they work together to protect the entire body from the many different types of free radicals.

b) Air : We all need oxygen to live, of course. Up to 5% of the oxygen we breathe every day causes some damage to our body. It is oxygen in the form of a free radical. In addition, ultraviolet B (UVB) radiation in sunlight has been found to activate HIV from the latent state and accelerate it to the onset and progression of AIDS (Vincek V, 1995 : 119-123). At present, much toxicity comes from air pollution, cigarette smoke, toxic waste and runoff, herbicides, pesticides, x-rays, etc. Investigation pointed out that increased pathogenicity of smoking may be due to indirect biochemical effect of enhanced oxidative stress by increased free radicals and lipid-peroxidation and lower Vitamin c, glutathione and other antioxidants at tissue-level. When cigarette smoke is inhaled into the lungs, it liberates billions of free radicals into the blood stream. It has been found that cigarette smoke in HIV infection is associated with suppression in localized lung defense by the suppression in CD_4/CD_8 cell ratios and induction of both interleukin-1 beta (IL-1 beta) and tumor necrosis factor-alpha (TNF-alpha) (Wewers,

et al., 1998 : 1543-1549). And or paraquat induced free radicals of oxygen (superoxide) which causes damage to the lung, liver, and kidney tissue especially in HIV/AIDS patients.

There is also a type of fungus called cryptococcus neoformans that is spread through the air which enhances the chance of opportunistic infection. This fungus is found in turtle dove and pigeon lung and causes a high incidence of cryptococcal meningitis. It was found in 29.31% at Siriraj Hospital (Suwanakul, S., 1993 : 180-181), 24 % in Chiang Mai Province (Supparatpinya, K., 1993 : 243), 20 % in 21 hospitals throughout Thailand (Pukvimol, et al., 1993 : 181-187), and 26.3 % as Bumrasnaradul Hospital (Kitayaporn, et al., 1996 : 78). To avoid cryptococcus meningitis, HIV/AIDS patients should improve their health by living in areas with good hair ventilation and avoiding crowded damp places which are sources of fungus. This is especially important for those patients with respiratory tract infections in order to decrease their susceptibility to the disease. (Phipps, et al., 1991 : 2231).

c) Exercise : Growing evidence suggests that routine physical activity by individuals who are HIV-1 infected may have significant impact on several important components of good health. Some of the physical benefits are an increase in cardiopulmonary fitness, improved muscle function, and weight gain. Psychological benefits consisting of improved mood states and increased active coping behaviors have been observed (LaPerriere, et al., 1997 : 56-61, Hill & Smith,1985 : 244-245). Exercise also improves the immune function and inhibits the immuno suppression (Long, 1993 : 95 ; Flaskerud, 1995 : 37). HIV-infected individuals should exercise regularly in a manner suitable to their physical status.

In 1997, Nieman (1997 : 1-100) found that during the last 95 years, 629 papers (60% in the 1990s) dealing specifically with exercise and immunology have been published. The major findings of practical importance in terms of public health and athletic endeavor include :- (a) In general, acute exercise bouts of moderate duration (<60 min) and intensity (<60% VO2max) are associated with fewer perturbations and less stress to the immune system than prolonged, high-intensity sessions. (b) In response to long-term exercise training, the only finding to date, reported with some congruity between investigators, is a significant elevation in NK cell activity. Changes in the function of neutrophils, macrophages, and T and B cells in response to training have been reported inconsistently, but there is some indication that neutrophil function is suppressed during periods of heavy training. (c) Limited data suggest that unusually heavy acute or chronic exercise may increase the risk of upper respiratory tract infection, while regular moderate physical activity may reduce URI symptoms. (d) Work performance tends to diminish with most systemic infections. Clinical case studies and animal data suggest that infection severity, relapse, and myocarditis may result when patients exercise vigorously. (e) Although regular exercise has many benefits for HIV-infected individuals, helper T cell counts and other immune measure are not enhanced significantly. (f) Data suggest that the incidence and mortality rates for certain types of cancer are lower among active subjects. The role of the immune system may be limited, however, depending on the sensitivity of the specific tumor to cytolysis, the stage of cancer, the type of exercise program, etc. (g) Mental stress, undernourishment, quick

weight loss and improper hygiene have each been associated with impaired immunity. HIV-infected individuals who are undergoing heavy training regimens should realize that each of these factors has the potential to compound the effect that exercise stress is having on the immune system.

The benefits of exercise and sport for HIV infection have been reviewed. In 1998, Shephard (1998 : 101-10) found that AIDS patients' ability to exercise may be compromised by deterioration in cardiorespiratory and neuromuscular function. Given the impairment of immune function, the potential immuno-suppression from very intensive bouts of competitive exercise must be avoided (Shephard, 1998 : 101-110). The epidemiological data suggest that endurance athletes are at increased risk for upper respiratory tract infection while moderate exercise training has been associated with a reduction in incidence of URI (Nieman, 1998 : 573-580). Intense physical exercise has been shown to be associated with immuno-suppression and increased rate of infection (Konig, et al., 1998 : 2-21). In the recovery phase after intense long-term exercise, the immune system is characterized by concomitant inflammation and temporary suppression of the cellular immune system (Pedersen, et al.,1998 : 325-332).

The use of Yoga for rehabilitation has diverse applications. Yoga practice benefits mentally handicapped subjects, physically handicapped subjects, visually impaired children, socially disadvantaged adults and children and patients with coronary artery disease. For HIV-infected individuals, Yoga is an important factor in strengthening the entire body. It stretches and relaxes both flexor and extensor muscles. It helps muscles and ligaments to hold joints in proper alignment. Most importantly, lung capacity is expanded. Finally, the possible role of Yoga improving. The mental stage and general well being of HIV/AIDS and Yoga are being explored (Telles, & Naveen, 1997 : 123-127).

d) Sleeping : Sleeping at night is very important because this is when melatonin is produced. Melatonin is considered to be the most active and effective of all the naturally occurring antioxidant compounds. Melatonin is a hormone which is normally created by the pineal gland at night, and helps the body and mind to relax. During the daytime, the pineal gland stops creating melatonin but creates serotonin instead. Melatonin acts as an intercellular antioxidant preventing and reducing the damage to the body by free radicals. Consequently, deep sleep and avoiding light for 6-8 hours refreshes the body. HIV/AIDS patients are always faced with the problem of inadequate sleep, insomnia, sweating throughout the night and the change of sleeping pattern because of stress, anxiety and depression (Folkman, 1993; O'Brien and Pheifer, 1993).

e) Emotion : When HIV/AIDS patients understand that AIDS is certain death, they feel dreadful, anxious, depressed, lonely, hopeless, a decrease in self-confidence and may attempt suicide (Valente, Saunder, & Uman, 1993 : 15). Further analysis found that the top five causes of anxiety were unstable symptoms such as the need of physical and mental health maintenance, social rejection, fatigue and weight loss (Longo, Sproose, & Locke, 1990 : 21-26).

Human life consists of body and mind. A highly efficient mind depends on the

physical health, thus, one often hears the saying, "A healthy mind resides in a healthy body." In the same way, it is generally accepted that one's mental status can change one's physical status. A peaceful mind communicates liveliness while depression, fear and insolvable problems communicate lifelessness and create illness. This can be seen also in the saying, "The mind is the boss and the body is the servant."

Good emotion helps to balance the physical and mental state. It also enhances enzyme to destroy free radicals as fast as possible. Conversely, stress accelerates oxidation. High stress decreases the natural killer cells. If stress decreases, the progression of the disease will be slowed. (Solomon, et al., cited in McGough, 1990 : 32 ; Temossok, et al., 1988, cited in Lovejoy, & Sisson, 1989 : 11). If HIV/AIDS patients can control their lives and sickness, they will believe in self-efficacy (Whall, 1982 cited in Beare, & Myers, 1990 : 410).

Meditation is a therapeutic activity which is important for the body and mind. A peaceful mind makes the body better, but a deviate mind makes the body worse. Meditation is an alternative for humans to have a "relaxation reaction" which reduces adrenaline, decreases the heart rate, dilates the blood vessels decreases the blood pressure, normalizes digestion, relaxes the muscles, and brings the body back to a constant.

On May 2, 1994, Vivian Munro and David Engelbrecht, both lecturers of the Thai-Australian Northern AIDS Prevention and Control Project (NAPAC) in Chiang Mai, explained their own experiences of self-care and the pattern of HIV/AIDS infected patients' service in Australia. They used food, herbs and meditation for eleven years as treatment. They looked healthy and had good spirits despite the low level of T-cells. Munro and Engelbrecht believe that the proper food and herbs combined with meditation would improve the patient's immunity.

At the 10th International Conference on AIDS held in Japan, Bihari Bernard of the Foundation for Integration Research in New York, USA reported on the use of the spiritual power of Yoray with AIDS patients. He noted that 4 AIDS patients used Yoray 3-5 times a week for 12 weeks with expert religious followers. He indicated that the patients appeared healthier and their CD_4 cell count improved by 24 %.

In Thailand, the Monk 'Rut Ratanyano' of the Ruttanaprateep Bhuda Practice Office, Doi Gueng Temple, Mae Sarieng district, Mae Hongsorn has been using a training course in meditation (whirl meditation) since 1991. This course is offered 6 days once a month. The Medical Faculty and Anthropology Faculty at Chiang Mai University performed a study and found that everyone who had the training course in meditation had improved in physical and mental states. They were beginning to have normal lives once again. There have not been any long-term results reported.

Jongstitmun, J.'s research conducted from July, 1993 to January, 1995 found that 50 HIV/AIDS patients who had been trained in whirl meditation for 7 days had improved only slightly in physical and mental health. From a social view, the relationship between practitioners created a good environment for training and more than 50 % had positive expectations. There did not seem to be any change in family relationships

because most practitioners already had good family relationships. The other practitioners involved kept their HIV status a secret from their families. In the long term qualitative follow-up of 11 practitioners, the results depended on many reinforcing factors such as mental support, rejection view on meditation and not being persuaded to be immoral. These factors helped the practitioners have a normal physical and mental health with a good quality of life for the future.

Conclusion : The tremendous replication of HIV (10.3×10^9 particles) as previously mentioned, brings about the realization that the saying, "If the mind is good, everything will be good" is not the answer for HIV/AIDS patients. The real problems are cofactors which accelerate the progression of the disease, cause greater severity and bring on death. If HIV/AIDS patients can control or decrease cofactors (Figure 1), they will have a longer span of symptom-free life as long as they maintain a healthy lifestyle. This is true even though HIV is already present in their bodies. The HIV/AIDS patient is like a person standing on the edge of a cliff overlooking a deep canyon. When the immunity decreases, they feel as though they are beginning to fall down. When the immunity is built up, they feel they are beginning to climb up once again and they have to try even harder. In other words, they have to spend more time and try even harder to build up their immune system. Thus, to implement the concept of AIDS resistance by naturopathy, HIV/AIDS patients should be protected in regards to herbal and western medications. They should also work on health promotion by themselves in order to stop seeking additional medical help.

The researcher was interested in the g!uidelines that support the mentioned concepts in order to solve the existing crisis by a combination of pluralistic medicine and the application of the Buddhist doctrine for health promotion in HIV clients. The guidelines that support better health care promotion through the application of the Buddhist doctrine are explained in the next sequence.

2.2 A practical guideline for AIDS Situation

The quality of health service for HIV/AIDS patients and their families is an important issue to develop appropriately in accordance with the real problem. Currently, there is a lack of certain policies in dealing with this situation and a lack of keeping a positive attitude towards HIV/AIDS. The strategy for handling HIV/AIDS patients is very vague. Characteristically, the existing institution of the bureaucracy often tries to dictate the treatment without researching new options. Therefore, it does not support medical systems that do not follow the regulations. It is traditionalistic and conservative almost to the extreme. This conservatism represents both a weakness and a strength in the system that can hardly be held responsible as the problems in society continue to multiply. Characteristically, whether the trend of the situation is almost to the extreme or not; one side lets only the doctor take responsibility, another side shift all the responsibility to the community. Both can hardly be held responsible. They have subsequently been forced to look for a practical alternative both in Western and Herbal medicine. It is time for all to join hands and express the true information that make release the intensive situation.

The local health care system, as it currently exists, consists of three sectors; known as the pluralistic medical system, the western or conventional sector. (Kleinman, 1980 : 24-118). In many ways, the health care system resembles the cultural system in which it exists. Illness occurs in every society and the community's response to illness leads to the pattern of the health care system. Pluralistic medicine is a cultural system that can respond to a variety of different health needs. It can reduce the severity of HIV infection and respond to HIV/AIDS problems with different socioeconomic levels, cultures, and beliefs. These three sectors are separate, therefore, the problem is how to integrate all three sectors to become a holistic approach. Everyone should develop by leaving the envelope or de-envelope to join the multidisciplinary approach without reservation. De-enveloped was the concept used by Halfdan Mahler, former director of the World Health Organization, who encouraged the idea of health for all. This integrated health service system supports the actual situation and the requirements of HIV/AIDS patients who mostly seek more than one alternative. Local wisdom combined with current medical science helps to keep this system in balance and decentralized. It is time for all in volved : HIV/AIDS patients, monks, folk healers, educators and associated officials to understand the interactive learning through action which helps each to understand the problem from the other's viewpoint. Those involved, especially in the north, must seek something practically in the Thai cultural potential. This leads to a complete health care system by continuing to enhance the equilibrium in the system and may be a practical way of solving the crisis.

Kleinman (1980) stated that the health behavior is best handled with the patient, family, and social network. This is proposed as the health service model. See figure 3.

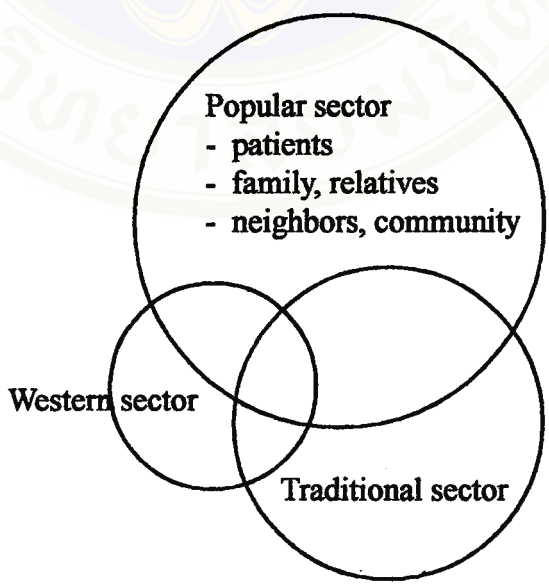


Figure 3 Pluralistic medical system (Kleinman, 1980)

a) Western or Professional sector

Several medical institutes have created a holistic approach including physi-

cal, mental and social health care. This not only attempts to care for the physical disease, but also tries to deal with the mental and social dimensions. They have included the social sciences and anthropology in the curriculum. This should be a good point for doctors and public health personnel to realize that the environment and sociocultural context also affect the patients' mind and illness. Unfortunately, this idea seems to remain only in the educational realm and it has not yet been transferred to the service context.

This is the fifteenth year since the first AIDS patient was found in Thailand. There are a variety of events of treatment that need to be reviewed. Several different groups were identified, as the following: **Group 1** The general population, blood donors or general patients. Doctors reported they were HIV seropositive and could not be cured. They were suggested to anonymous clinics and became no-names. **Group 2** Symptomatic HIV infected persons that were treated with large doses of chemical substances (an acute course) and followed by maintenance or secondary prophylaxis. Both groups lived with the statement, "AIDS is a death sentence even god cannot help to cure us". They also lived with polluted chemical substances which most of them could not tolerate. **Group 3** Asymptomatic infected persons that were treated with primary prophylaxis for opportunistic infection. The prophylaxis which is a toxic chemical substances does not provided life-long immunity. It often suppresses the immunity. **Group 4** Infected pregnant women. Doctors tried to prevent vertical transmission with anti-viral drugs (Zidovudine). This has reduced the rate of infection from 25-30 % to 8.1%. Why should the 70-75% uninfected children continued to live with such toxic chemical substances like AZT? Actually, an experimental study in guinea pig showed that the popular drug AZT is fetal carcinogen. **Group 5** Unknown group. The patients did not know they were HIV serpositive and were separated from other patients. This group led a dreadful life with great ambiguity. They did not think of what they were facing. In addition, doctors treat the patients knowing it is hopeless, and prescribe anti-viral drugs (AZT : Zidovudine, ddl : dideoxyinosrne) without monitoring viral load, CD_4 or blood chemistry. Those drugs were originally developed for chemotherapy to kill human cancer cells which appeared to cause AIDS-like symptoms.

Conventional medical technology frequently uses specific sciences and technology in an attempt to control or eradicate disease. With medicine, one must remember that the more action it has, the greater toxicity it induces. This event can be described as iatrogenic disease. It makes a person feel hopeless, worthless and shortens their life. It is death before death. There is a chance of Quick death either by suicide or toxicity from medications administered. Kary B. Mullis, Nobel Prize winner for Chemistry in 1993, asked, "Why do doctors prescribe the toxic drug called AZT to people who have no other complaint than the presence of antibodies to HIV in their blood...what a hell of a mistake." At the same time, Peter H. Duesberg, Professor of Biology (Retrovirology), Berkeley University, California, USA, believed that AZT made AIDS worse, not better. (Peter Duesberg, 1996: Poreword) Even Luc Montagnier, the discoverer of AIDS, said the same thing when he suggested that HIV alone does not cause AIDS. He felt the cause was cofactors as previously mentioned.

b) Traditional sector

Today, Thai society and those who encounter AIDS are not satisfied with the answers that have been provided. In the past, HIV/AIDS patients and their families as well as medical and public health personnel, looked for answers. Since everyone was looking for an answer, an opportunity for alternative medicine should be opened. Although this was not orthodox or conventional medicine, people did not reject it, especially herbs were not toxic. Most HIV/AIDS patients who took herbs said they felt better and were able to work and live. It was not scientifically monitored, but it gave them hope to continue fighting.

Several herbal remedies have been used in Thailand for HIV/AIDS patients. They may be immuno modulator, or cure opportunistic infection, and inhibit viral replication. Currently, however the knowledge of herbs which are used to cure and prolong survival time is incomplete. Most people believe that herbs need to be developed more thoroughly by scientific method in both the laboratory and clinic in order to substitute Western medicines with more efficacy. They also need to be promoted and available in the community.

The Service and Research Conference for Herbs, operated by the Herb Network Development Corporation Project and the Medical Faculty of Chiang Mai University, concluded in May 1994 that herbs have the advantage in that they have an immediate impact on the mind to show generosity and friendliness. They should be considered as a useful therapy. In many instances they are not effective on treatment but they are effective in gathering HIV/AIDS patients and their families. HIV/AIDS patients and their families can express their problems, meet new friends, escape the solitude of living alone, and become self-sufficient which would help them to be more responsible. This helps to stimulate the body's mechanism to resist illness. An important point to remenber is that the consumer needs to be protected from being deceived. HIV/AIDS patients do not want to die. They attempt to do whatever they hear although the possibility of deception is high. Even if they were convinced to drink their own urine, many would attempt it and think they had nothing to lose.

In 1993, there were reports of a 'miracle' doctor in Chiang Mai who had a cure for AIDS. The cure was a hot-water extraction herb. HIV/AIDS patients had to pay 100 baht/month for expenses such as the herbs, public utilities, manpower and managing costs. In 1992, this 'miracle' doctor was finally arrested with his 'questionable' product. The event made the HIV/AIDS group very angry and 1,500 HIV/AIDS patients gathered to protest. The non-governmental organizations agreed with the government's efforts to review the guidelines of traditional medicine, especially herbs. Although some educators and members of the public did not believe in the quality of herbal treatments, they rejected the government's conduct in this case. They wanted the government to research alternative ways to treat HIV/AIDS patients. As a result, 3 representatives met and appealed to the prime minister in Chiang Mai, Chuan Leekpai, for some sympathy. They wanted the government to review the arrest of the 'miracle' doctor. Finally, the government allowed the HIV/AIDS patients to use the questioned herb but forbid its advertisement. After that there were no governmental agencies studying this event. In 1990, Dumrong Chiewsilp and his group developed a combination of herbs into a powder. This process uses the concept of Luc Montagnier, that is, it does

herbs into a powder. This process uses the concept of Luc Montagnier, that is, it does not purify the plant extraction. Herbs are well-balanced natural plants which have several ingredients. The pharmacologically active compounds must be balanced or in harmony. The extraction process for each substance may cause some loss or change in the make-up of the ingredients. For example, vegetables and fruits have more than 500 types of carotenes in a balance called carotenoids. Humans only extract one substance which is beta-carotene.

c) Popular sector

The sick behavior and the use of the public health service is a phenomenon that mostly occurs in the popular sector. Because people often have prior health related problems, they share their problems with their families and decide on methods of treatment according to their culture, knowledge and experience. In some cases, many cross the boundaries between the local and western system. Information and advice from others who have been sick is often exchanged within the comnunity. In short, there are several health-related conditions that should be considered when discussing popular medicine. The patient should stop eating foods which may be unwholesome. They should eat special foods, exercise and rest. They should also select the appropriate hospital and self medications, especially herbs. This is a social network with limitless potential. Furthermore, the social network can be the main actor to defend the HIV/ AIDS situation and construct the social immunity which it is in reality.

Self-care becomes a necessity and a basic way of life. Kleinman argued that 93 % of illnesses are cared for within the family. It is the phenomenon which is permeated with violence in anywhere. For example, 2 papers reported on the health seeking behavior of Thais who lived in rural areas. The studies found that self-care was the first way to manage the illness (93.8% and 92.4%, respectively). The results can be seen in Table 1.

Table 1 The comparison of self care pattern in Thai rural areas between Pimwan, et al. and Legrand & Luechai

Self care pattern	Pimwan, et al.[1] (n=690)	LeGrand & Luechai[2] (n=1,755)
1. self care first	93.8	92.4
- no action	11.5	14.4
- action with no drug	25.7	7.5
- self remedy	56.6	70.5
- western drugs	44.5	-
- herbs	12.1	-
2. first aid	2.4	-
3. local treatment and supernatural ritual	3.8	-

Source: 1. The study of 2 villages in Chumpuang district, Nakorn Ratchisima Province in 1987.
2. The study 2 villages in Kudchum district, Yasothorn Province, and 2 villages in Soungnoen district, Nakorn Ratchisima Province in 1989.

In the developing project of health comprehensive and continuum care system at the Out-patient department in 63 hospitals, Thailand, it was combination treatment of 630 HIV infected clients. There were 22.7% having self-remedy and 48.8% used herbs (Pavanaporn, V. and Chancharoen, K, 1997 : 44-46). To investigate the extent of recourse to alternative therapies among 184 HIV-positive patients who continued to attend at 3 conventional medical clinics. The study describes the specific alternative therapeutic modalities that were more commonly sought by the respondents. There were 40 % of patients reported having used alternative or complementary therapies, 42% therapies of respondents who had been enrolled in clinical trials had used alternative therapies at some stage. Of respondents using alternatives, 10% expected the unconventional treatments to cure their HIV infection, and 36% expected them to delay the onset of symptoms. The results of this study will contribute to conventional practitioners' understanding of those unconventional explanations and therapies for HIV infection that many patients find relevant and meaningful. Health-care workers should be aware of their patients' interest in participating in decisions about their treatment, whether alternative or conventional, and be prepared to work with them to achieve satisfactory outcomes (Anderson, et al., 1993 : 561-5).

Currently, the trend for HIV/AIDS is that hospitals only allow limit admissions. Families and the communities remain the basic care for most HIV/AIDS patients. Most Thai people do not even want to go to the hospital unless they are severely ill. They would also prefer to die at home if the illness is incurable like AIDS. They refuse to be packed into a red plastic bag when they die. An interesting point is the many Thai families do not reject AIDS, but they are unaware of how to care for them. This represents the continued existence of the intimate relationship of a family which is based on self-care.

During 1995, meetings were held in the north. From July to September of that year, meetings were also held at the provincial, regional, and national levels. At that time, there were about 30 groups that represented northern provinces. This northern representation soon increased to 75 groups with about 5,000 members. They were determined to establish a plan to solve the health and socio-economic problems. The problems and obstacles they faced were not any different from those faced by public health volunteers. There was no economic support and the system had many regulations such as designing the project, accounting, reporting, etc. The HIV/AIDS patients also faced social rejection and other health problems, thus, the effort was extreme. It was like the blind leading the blind, referring to especially social discrimination.

Conclusion : AIDS is not evil but it can give many positive views to an alert society. The important keys in solving the HIV/AIDS problem is basic molecular knowledge, more information about the oxidative stress mechanism and a better understanding of free radicals and antioxidants. All of these things need to be considered with a multidisciplinary approach by a pluralistic medical system. It is difficult to assess the actual results of any studies because lifestyle is such an important factor. This has caused incomplete interpretations in the past.

If the problem solving process follows the holistic approach of caring for the HIV/AIDS patients by applying the Buddhist doctrine. It can develop wisdom, morality in health, and mental kindness in Thai society. This framework is not only concerned with knowledge of the body's mechanisms and pluralistic medicine, but it also places emphasis on the point of the Buddhist doctrine by the health education process. The HIV/AIDS patients would find some direction and proper health promotion in the popular sector, as explained in the next item.

2.3 Health Promotion Program by Applying the Buddhist Doctrine

As diseases become move complicated, medicine alone can not get rid or cure one of a disease. Thomas Edison said that doctors in the future are not necessary to prescribe medicine, but are essential for caring for humans in reference to food, etiology and prevention. It needs to revise the issue of "human curing". The role of health promotion has guided public health development in the west since A.D. 1974. This was due to the epidemiological transition from communicable to non-communicable and degenerative disease. It is widely known that most health problems are caused from health behavior, mental status, environment, economic state, belief and culture. There is some evidence that lifestyle such as smoking, drinking, eating, lack of exercise, etc. can also cause health problems. Lifestyles are notoriously the most difficult to change. All of these causes make it harb of bio-medical sciences to analyze and guide problem solving effectively (Becker and Rosenstock, 1989 : 284-305). For example, a patient with diabetes mellitus or hypertension is taking their medication. The medication alone can not control the level of blood sugar or blood pressure without the patients adjusting their behavior. It showed that in fact ill health oriented does not only depend on technology and science, but also on behavior. It is common to solve a problem at the beginning and neglect it when the problem is minimized. This leads to not prevent the new problem and not solving the problem in the long run, especially in this dependent character or drug dependent world. To root of the problem is continually seeking new doctors and entrusting them with one's health problems without considering one's behavior. The Buddhist doctrine points out that way to solve problems is by starting at oneself first, then extend in to others. This agrees with the public health view that aims for good health oriented based on behavior with leads to health promotion.

In 1984, the Ottawa Charter held the first international conference on health promotion in Canada. It defined health promotion as the process of enabling people to increase control over and to improve their health. In order to reach a state of complete physical, mental and social well-being, it is an individual's duty to control his or her health by engaging in responsible behaviors, eliminating risk behavior and coping with the environment. Health is a positive concept emphasizing social and personal resources, as well as physical capacity. Therefore, health promotion is not just the responsibility of the health sector, but it goes beyond a healthy lifestyle to a well being (WHO 1986).

The Ottawa Charter has been a source of guidance and inspiration to health promotion. They have identified five health strategies for health promotion :- a) build healthy public policies, b) create supportive environments, c) strengthen community action, d) develop personal skill and e) reorient health services.

In 1997, at the fourth international conference in Jakarta, Indonesia, the Jakarta Declaration on health promotion offered a vision and focus for health promotion into the next century. It reflected the firm commitment of participants to draw upon the widest possible range of sources to tackle health determinants. Strategies for health promotion in the 21st century are as follows : a) Promote a social responsibility for health, b) increase investment for health development, c) consolidate and expand partnership for health, d) increase community capacity and empower the individual, and e) secure an infrastructure for health promotion.

Pender (1987 : 59) defined health behavior as continuous activities directed toward increasing the level of well being and actualizing the health potential of individuals, families, communities and societies

Donnel (1989 cited in Green and Kreuter, 1991 : 12) explained that health promotion is the science and art of helping people change their lifestyle to move toward a state of optimal health. Lifestyle change can be facilitated through a combination of efforts to enhance awareness, change behavior and create environments that support good health practices. Of the three, a supportive environment will probably have the greatest impact in producing lasting changes.

Health promotion does not only mean health-directed behavior but also health-related behavior of individuals as well as families, communities and organizations. This more pervasive behavior deals with patterns and conditions of living such as housing, eating, playing, working and loafing. Most of these lie outside the realm of the health sector and are not considered health-directed (Green and Kreuter, 1991 : 1).

According to Green and Kreuter's concept (1991 : 17-18), health promotion is the combination of educational and environmental supports for actions and conditions of healthy living. Educational refers to any combination of learning experiences designed to facilitate voluntary actions conducive to health. The combination emphasizes the importance of matching the multiple determinants of behavior with multiple learning experiences or educational interventions. Environmental refers to the dynamic social forces bearing on the behavior or more directly on health.

In summary, health promotion is the combination of behaviors that relate to the condition of living. It is important to realize that one must be interested and have a commitment to self-care. Health promotion must include health education because it is an important component to putting the idea into action. In the past, western theories that described health behavior have been criticized because of its limitation to explain behavior. None of the theories cover all the dimensions of behavior because it is considered dynamic. There is no evidence in the explanation about the relationship between various variables and health behavior. There is no conclusion about interpretation and the result is rather confusing. There are multifactorial determinants such as Thai culture, tradition, belief and in different regions of the country. It is not practical to use only one theory to study health behavior.

The Buddhist doctrine is a perfect completed system and covers many western theories. It is a holistic view and compliments our daily life. It is not exclusive for any particular person, but it is open to every level of the community. Buddhism is closely associated with Thai traditional values and cultural activities. The Thai traits of generosity and friendliness are often cited as examples of the Buddhist influence on the national personality. Albert Einstein once said the Buddhism is a cosmic religion of the future. It transcends a personal God, avoid dogmas and theology. It is based on a religious sense arising from the experience of all things, natural and spiritual, as a meaningful unity. It is regrettable that current education relies on western theories and ignores the Buddhist doctrine. This study raises the Buddhist doctrine to be the advocacy for health promotion according to the objective of research in place by Western theories. The details are as follow :

1. The prerequisites and factors that lead to Right Understanding
2. The Noble Eightfold Path
3. The eight factors of the Path classified into the Threefold Steps of Education

1. The Prerequisites and factors that lead to Right Understanding

A system of training in Buddhism consists of teaching and learn. These important factors contribute to the arising of right understanding which leads toward the final goal. Teaching, the external factor, is having a good teacher called *Paratoghosa* from whom you can learn. Learning, the internal factor, is having the capacity for and using systematic or critical reflection called *Yonisomanasikarn*. These two factors are the junction between humans and the world.

1.1 Listening to the teachings of others *(Paratoghosa)* In the process of entering Right Understanding, positive guidance is essential. In the term *Paratoghosa*, it is important to note the word *Kalyanamitta*, the Noble friends. *Kalyanamitta* refers to a person who is well prepared with the proper qualities to teach, suggest, point out, encourage, assist and give guidance for getting started on the Path of Buddhist training. One will gain a better insight into the Path by having associations with such a Noble friend. The Buddha confirmed that merely having a Noble friend encompasses the whole of the Holy Life. This point should not be missed or overlooked because it shows the first step needed to enter the Path. The Thai traits of friendliness are often cited as examples of the Buddhist influence on the national personality.

For all average people, a Noble friend is needed in life. The Buddha encourages us to have such Noble friends and allow them to admonish, to instruct and to restrain from the impure. The purpose of having Noble friends is to help us toward cessation of suffering. Noble friends will allow the opportunity to hear and discuss various ideals as a part of the training process for Buddhism. Hearing and discussion these ideals will hewn and polish their character, cleanse their minds and make them bright. They then are faithful.

A Noble friend ➢ hearing various ideals ➢ faith

The faith in this process means the faith for wisdom based on reason. This

faith leads to critical reflection, *Yonisomanasikarn*. The faith is the stream of thought. When one perceives some emotion or experience, thought will go along with the faith. The faith is internal drive that provides the readiness to start action and contributes to achieving the destination rapidly. It is the basic step to leading the mind in the right direction, as follows:

A noble friend ➢ hearing various ideals ➢ faith ➢ critical reflection

In this process, a noble friend should be a person who is well prepared with the proper qualities to teach, suggest, point out, encourage, assist and give guidance for getting started on the path of Buddhist training. The 3 characteristics of the Noble friend based on the Buddha's teaching are as follows :

1. To speech profound dharma : This is the instructor's aspect. The instructor must insight about the content and induce faith that causes belief and satisfaction. He must also teach with true knowledge which he has already acquired and induce confidence that it is practical. On the other hand, the instructor should have freedom while helping others, not attach to the problem, and help others with a pleasant mind.

2. To speech logical dharma : This is the learner's aspect. The instructor should give freedom to the learner and advises the learner to be "living with wisdom". The instructor is a conductor who teaches the learner to be conscious of the world, life and surroundings as they are.

3. To speech miracle dharma : This is the Buddhist teachings' aspect. It actualizes the practice and attains the result of the practice. It does this step in a by step with proper sequence in logical progression. In the Buddhist system, the precept *(sila)* aims for the basic life which is refraining from evil and expanding on merit

1.2 Applying critical or systematic reflection *(Yonisomanasikara)*

As previously mentioned, we set our sights on observing the teachings or receiving advice from Noble friends. The second factor, critical reflection, is a principle based on wisdom that contemplates how teachings should be correctly applied.

Internal reflection is the ability to think clearly. It is being able to look at things with critical eyes and brake them down into their conditions. Therefore, in the process of intellectual development, critical reflection plays a primary role; it eradicates ignorance and other defilement. Critical reflection helps develop the ability of thought and culminates in a highly developed level of wisdom. The developed thought must be structured, reasoned and in harmony with causes and conditions.

We can conclude that initially a person who lacks sufficient wisdom must depend on the guidance of others, which is the external factor. Through this external factor, the person gains the faith. He later goes beyond this initial level of faith. He takes the foundation of understanding well established with the faith, and uses it to gain freedom of thought for the continued application of critical reflection. This accomplishment brings about right understanding. This process of the two prerequisites of the

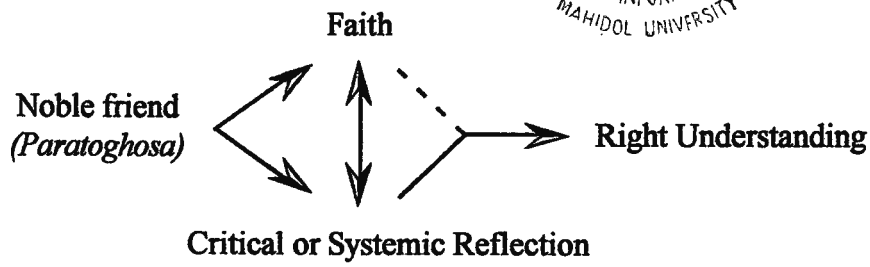


Figure 4 The prerequisites leading to right understanding (Payutto, 1995 : 615)

In the Buddhist text, various methods of systematic reflections are given. Payutto (1995 : 675-727) specified the ten method of "how to think". One must engage the mind and consider matters thoroughly in an orderly and logical manner through application of critical and systematic reflection.

This study takes the thinking process in light of the Four Noble Truths *(Ariya-Sacca)*. This way of thought is based upon observing the problems or phenomena and focusing upon their causes with an intention to find a solution. Wherever the cause of the problem is found, we can begin to solve the problem by attempting to eradicate the roots of the problems.

The Four Noble Truths (*Ariya-sacca)* : The Highest Acquisition of Mankind is the Dhamma realized by The Buddha upon His Great Enlightenment. In reality, there is only "One Truth". This Truth is the Ultimate Truth ; no one can dispute this Truth for it is the Truth of Nature.

Bud!dhism points to the condition or the state of the mind. The Four Noble Truths is the essence of Buddha's teachings. He said, "In the former, as in the present, I teach only suffering and no-suffering." He handed down the Four Noble Truths to manage the suffering and no suffering of the mind instead of placing the responsibility on external factors, situation or knowledge. Following are logical developments and more detailed explanations of the Four Noble Truths. The Four Noble Truths and the essential duties for realizing the Four Noble Truths are as the following:

a) The Noble Truth of suffering *(Dukkha)* : The first truth appears throughout our lives in the form of sorrows, dissatisfactions and frustrations. These phenomena are common to all people; they do not discriminate. In the process, suffering itself is not the thing of which we must rid ourselves because suffering is not the cause of suffering. Rather, suffering is the product of craving and desire. The Buddha taught that we must observe, locate and thoroughly comprehend our suffering.

b) The Noble Truth of the cause of suffering *(Samudaya)* : This Truth states the causes of suffering. Each phenomenon in our life has conditions through which it arises. People are surprised with extraordinary things when they do not know the conditions. On the contrary, when we know this, we cannot be surprised by strange phenomena. The Buddha encourages us to eliminate all kinds of causes. The duty to

perform is to prevent suffering from arising, or protect the mind from suffering by giving up the ways or actions that lead to suffering.

c) The Noble Truth of the state of no-suffering *(Nirodha)* : This Truth represents the state of no-suffering, the goal of human. It is a state of mind where ignorance and craving are replaced by wisdom and compassion. It is the realization of the state of perfect peace, absence of defilements and freedom from suffering. It serves as a warning of hope toward which we should strive and finally reach. When this truth is realized through the practice of the right way, we will then attain complete protection from the arising of suffering. It serves as a warning of hope toward which we should strive and finally reach. When this truth is realized through the practice of the right way, we will then attain complete protection from the arising of suffering.

d) The Noble Truth of the way of practice *(Magga)* : This truth represents the way leading to the extinction of suffering, maintaining the mind in the state of no-suffering. The Buddha outlined the Noble Eightfold Path to help people realize the state of no-suffering and guide them in the right way. This way of practice is practical and convenient for everyone at any time and in any place. When one walks the way of the Eight-Rights, defilement and suffering are of no concern any longer.

Some may presently hold the belief or idea that the Four Noble Truths are extremely difficult to practice. Some feel that The Buddha offered these Truths merely for the sake of monks and nuns, and render them as unsuitable for the ordinary person. In reality, the Four Noble Truths are the ultimate truths for suffering and no suffering. They do not place and emphasis on an individual person. Everyone has the opportunity to practice the Four Noble Truths. See figure 5

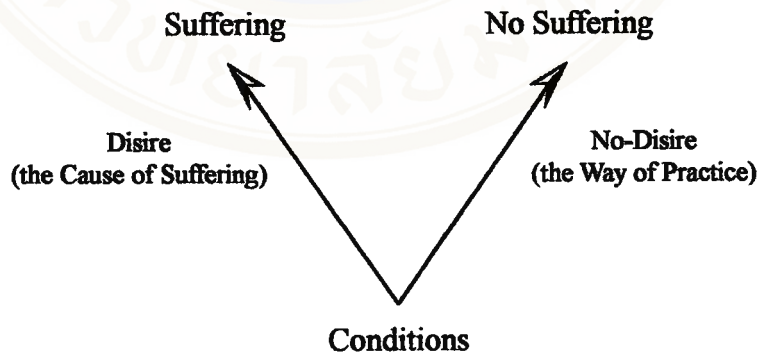


Figure 5 The Four Noble Truths (Varadhammo, V., Phra, 1996 : 105)

At any given moment, it is impossible to practice the right way. In view of this teaching, everyone has the opportunity to choose their own action, either of walking the way leading to suffering or the way leading to no-suffering. This teaching is the utmost importance to understand. The Four Noble Truths are suitable for all human beings.

From this realization, we come to understand that our lives are led by wisdom because understanding is wisdom. Thus, everyone should realize the importance of wisdom in their lives. The Four Noble Truths allows us to realize the condition of suffering and the state of no-suffering.

wisdom in their lives. The Four Noble Truths allows us to realize the condition of suffering and the state of no-suffering.

The Buddha even instructed to refrain from believing something as being true just because He, Himself said it was true. He taught that we must investigate, consider and realize each issue for ourselves. Buddhism does not attempt to force anyone to believe anything. With instruction in a constructive and profound manner, the Four Noble Truths afford an opportunity to think for oneself. Learning through one's own experiences is the best way of teaching. Once has realized the Four Noble Truths thoroughly, the Noble Eightfold Path can only perform in the right way.

2. The Noble Eightfold Path *(Ariya-Magga)* : *The way of life*

In the practice of the Four Noble Truths, The Buddha taught "The Noble Eightfold Path" to be "the new way of life" The Buddha never stated in The Four Noble Truths that suffering should be suppressed, destroyed or encountered. When we practice in The Noble Eightfold Path, we direct every factor of our existence toward the right way. Thus, defilement is never encountered or confronted and the life is never influenced by suffering. He stated in The Four Noble Truths that The Noble Eightfold path is "the way of practice" for maintaining a state of no-suffering. The Noble Eightfold Path is the supreme "way of life". It is the only path or way by which human beings may realize the state of no-suffering, the final destination of human life. This path covers every aspect of human existence.

The activities and behaviors of human beings consist of four factors : thought, speech, actions and livelihood. The mental factor encompasses thought and memory, the verbal factor encompasses speech, the action encompasses physical actions, and livelihood encompasses the management of our physical lives in order to live appropriately in society. See figure 6.

Thought	Speech	Action	Livelihood

Figure 6 The aspect of human being (Varadhammo, V., Phra, 1996 : 129)

The Truth of Nature is as follows : the way of life is contingent upon the leaders, ignorance and wisdom. At any moment, in any situation, if wisdom or right understanding is present, every factor of our existence will follow in the right direction: right thought, right speech, right action and right livelihood. Conversely, if ignorance or wrong understanding is present, every factor of our existence will proceed in the wrong direction : wrong thought, wrong speech, wrong action and wrong livelihood. See figure 7.

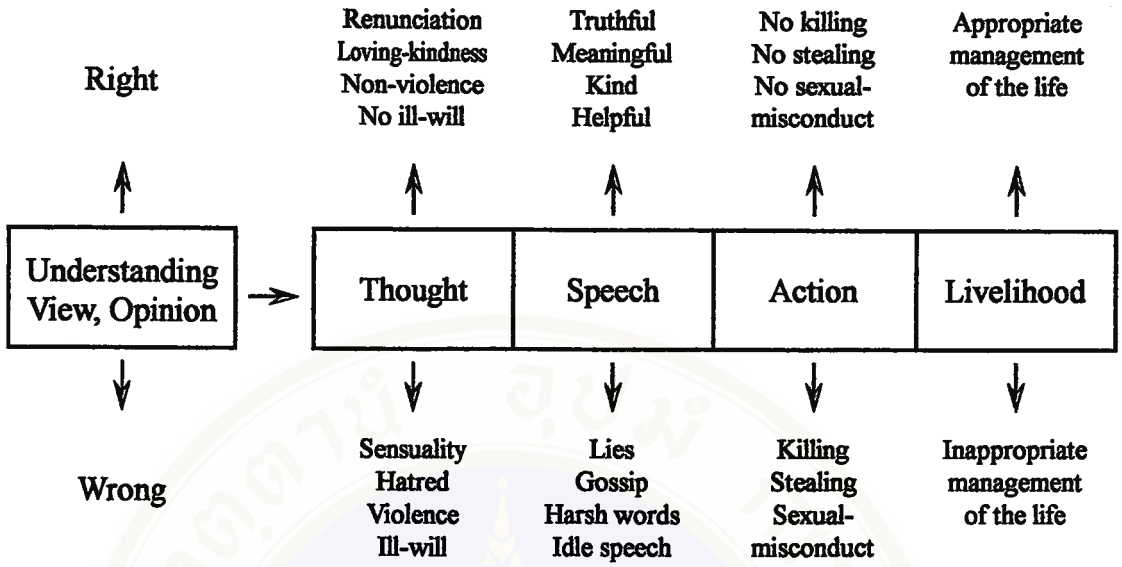


Figure 7 The Way of Life (Varadhammo, V., Phra. 1996 : 131,133)

From this realization, it comes to understand that the human life is lead by wisdom because understanding is wisdom. Thus, everyone should realize the utmost importance of wisdom in human life. At this point, right understanding is the leader of human life, but it is not enough. This is merely wisdom or a map showing the direction to go. If there is no power, no meaning, no effort, no mindfulness, and no concentration, one will be unable to reach the final destination. In accordance with the Law of Nature, one must have sufficient power or energy, effort, mindfulness and concentration in order to succeed in work or to perform our duties appropriately. The power is necessary to push every factor of one's lives forward under the control of right understanding.

In order to practice in the right way for no suffering and to benefit society, every factor must be in the right way. A diagram to illustrate this right way of practice or the Noble Eightfold Path would be as follows. See figure 8.

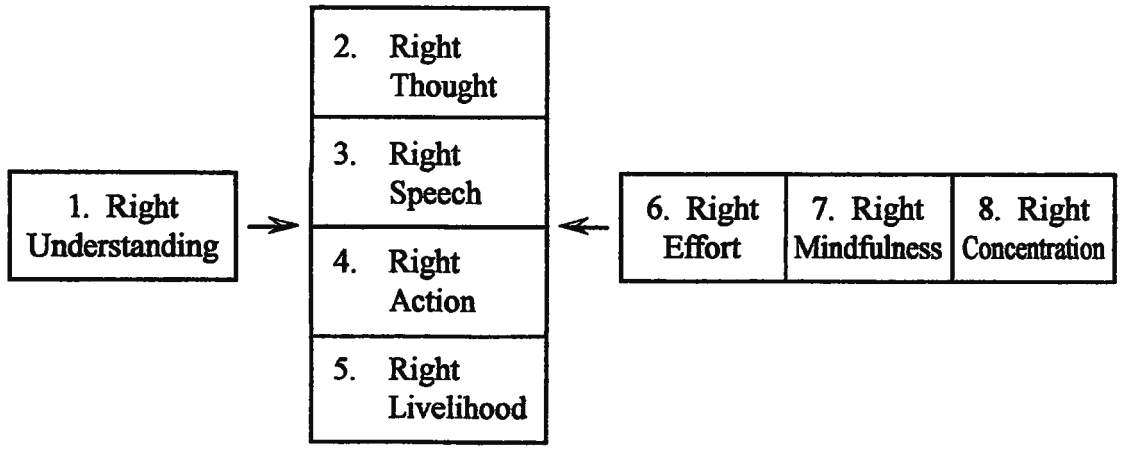


Figure 8 The Noble Eightfold Path

Here is the completed the Noble Eightfold Path : one is the leader, right understanding, view or opinion ; two through five represent human life ; and six through eight represent the power. It is important that the leader and the power have a sufficient relationship in order to achieve success during the performance of any duty.

The Noble Eightfold Path is used for practice at the beginning, starting with the mind and manifesting through the verbal responses, bodily actions, livelihood, and so forth, of an individual. If we direct every factor of our existence toward the wrong way, the eight wrongs, suffering and violence will be the results. Conversely, if we direct every factor of our existence toward the right way, the eight rights, the results will provide the perfect formula for life; happiness, peace and survival of all things. Suffering will not arise and one will remain in the state of no-suffering. Thus taking the initiative with the Eight Rights, we will experience the right living. When we develop the Eightfold Path we come to know ourselves and our daily life. This is the way of practice for all people, with no limitation. See figure 9.

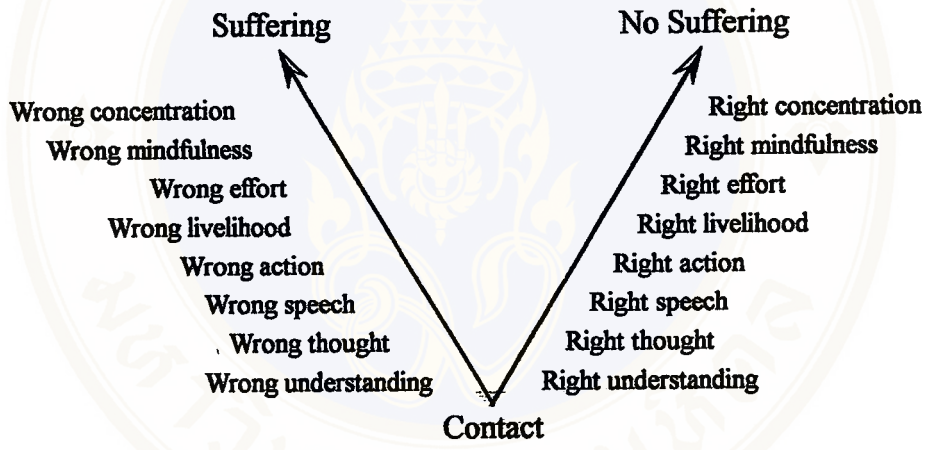


Figure 9 The way of practice (Varadhammo, V., Phra, 1996 : 145)

In every situation or circumstance, suffering will fail to arise if we take the initiative to protect our mind. We each have an opportunity to allow suffering to arise or to prevent its arising. Instruction in the Noble Eightfold Path is the best way of teaching the Four Noble Truths. At this point, we will experience the great blessings of the Dhamma which transforms the life. A radical change has started.

3. The eight factors of the path classified into the Threefold step of education

For human beings, Dhamma must be utilized as the tool for practice. With careful consideration, one clearly can comprehended that practice in the Noble Eightfold Path covers everything, including wisdom, morality and concentration. This Path, when viewed as a practice, can be broken down into the Threefold steps of education or Threefold Training *(tisikkha)* for the perfect life (Figure 10), as shown in the following:

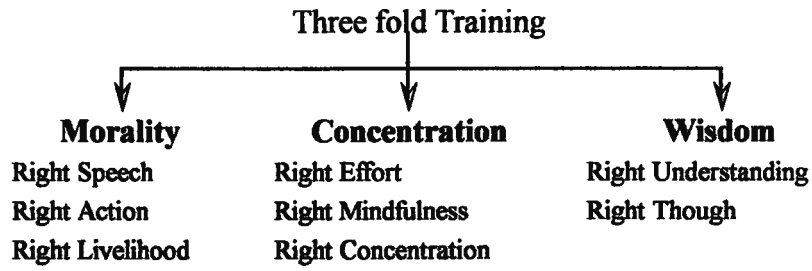


Figure 10 Threefold training (Varasak Varadhammo, 1996 : 353)

a) Training in higher Morality *(adhisila-sikkha)* : The actual training starts with morality. Morality is not a commandment or a low that is imposed upon us. It does, however, provide help and definite benefits for those who practice within its framework in order to perfect his moral behavior. The aim is to teach or train others within the framework of morality. The benefits received from this practice are able to be exemplified through one's own behavior. The benefits provide a problem-free existence within society. We no longer cause harm to ourselves or to anyone, hence we are a great asset to society. From this practice, feeling of happiness will appear, an external happiness. Through our practice, others are inspired to practice and most will feel satisfied and wish to practice in a like manner. Therefore, a completion of one's training in the morality is the foundation for further progress along the Path. The Path leading to moral training consists of the following factors:

Right Speech *(samma vaca)* : The power of speech is often underestimated. In fact, it is extremely influential. The first virtue is to abstain from false speech and to speak the truth because false speech is the very basis of other bad actions. The second is to abstain from libel/slander which can break up fellowship. One should speak that which brings about understanding, unity and harmony between people. The third is to abstain from harsh speech. One must use only true words which are pleasant, endearing and polite. Pleasant and courteous speech attract others and are an asset to our society. The fourth is to abstain from vain talk/gossip. One must speak meaningful and ethical words, making reference to things grounded in reality.

Right Action *(samma-kammanta)* : The indispensability of right action depends on the common rule. One must abstain from killing. The aim is to preserve and prolong life while avoiding harm. One must abstain from stealing. One must be honest. Respecting the rights of others leads to harmony and happiness in the society. It also leads to equality in the sense that each has autonomy and appreciation of his goods. One must abstain from sexual misconduct and promote trust and fidelity.

Right Livelihood *(samma-ajiva)* The highest form of life, according to the Buddha's teaching, is a life of freedom, unbound by any kind of craving. It is impossible to give a specific itemized list, but the following examples will illustrate its meaning. Wrong Livelihood is demonstrated by failing to provide appropriate care for the physical body such as lack of exercise, poor nutritional habits and insufficient rest. All these can cause harm to one's self. Failure to maintain our personal

possessions appropriately further illustrates wrong livelihood. Earning a living in an inappropriate manner such as selling illegal drugs, selling human beings, taking part in any illegal or immoral enterprise, and so forth, are also considered wrong livelihood. If right livelihood is present, our lives will be appropriately managed with regard to our physical body, our personal possessions and society in general.

b) Training in higher Mentality or Concentration *(adhicilta-sikkha)* : Concentration is a mental condition whereby the mind is stilled or fixed at one point or peak. The qualities of this mental condition are purity, stability, alertness and activeness. Thus, concentration means the power of the mind. This power controls the situation and the other prejudices and distractions. It cultivates the factors of practice; wisdom, mindfulness and awarness. This also allows one to perform their duties completely it leads finally to the attainment of perfect wisdom allowing as to see things as they really are. The concentration is the crucial factor enabling the practitioner to reach the highest aim. Thus, well perfected mind is beyond the influence of over all surroundings. The Path leading to mental training consists of the following factors :

Right Effort *(Samma-vayama)* : In developing the right effort, one must first be sincere about one's own thoughts. Buddha outlined 4 types of effort : the effort to prevent unwholesome things that have risen, the effort to avoid unwholesome things, the effort to develop or establish wholesome things that have to arise and the effort to conserve, mature and sustain wholesome things that have already arisen. They are instruments for eliminating evil and harmful thoughts, and promoting and maintaining right thoughts. Therefore, they directly refer to the quality of our mental energy. Controlling our mental energy by regulating our effort is a supportive factor in our mental training toward the cessation of the problem. That is saying of the Buddha "Through perseverance, comes liberation".

Right Mindfulness *(samma-sati)* : The meaning of mindfulness is also encompassed in the concepts of circumspection and clarity about one's duties. It is attention, awareness, recall and recollection. It is the mind's ability to know and observe itself. Without mindfulness, wisdom cannot be developed, retrieved or applied. It allows us to be aware of what we are about to do. It is characterized by speed and agility. It is a great benefit in our daily lives. Whether one walks, stands or sits, whether one speaks or keeps silent, eats or drinks, one should be mindful and wide awake. One neither requires withdrawal from society nor a fixed time schedule. It can be integrated into general daily life. Buddha's last words were "Transient are all the elements of being! Strive with earnestness!" We should not be heedless.

Right Concentration *(samma-samadhi)* : From the beginning, a concentration mind fixed at one point. As a result, suffering can no long arise. The cessation of suffering can be reached by doing proper meditation. Meditation is divided into two forms. The first, the development of calm-meditation *(samatha)*, is the calmed state of mind which is continuously engaged in a single object. The second, the development of insight-meditation *(vipassana)*, is to see things as they really are.

Through meditation, the mental states and functions are progressively stilled. When the practitioner goes into deep meditation, all activity of the five senses is suspended. No visual or audible impressions arise at such a time and no bodily feeling is felt. One should not however, enjoy merely having experience in these types of absorption. It is just a pre-requisite for wisdom and calm-meditation. Calm-meditation does not lead to the permanent deliverance. Such deliverance can be achieved by insight-meditation.

c) Training in higher Wisdom *(adhipanna-sikkha)*

Wisdom means knowing in every aspect, how to solve a problem. The difference between human beings and the animal is the evolution of knowing. Human being have wisdom and ignorance, while the animals have only instinct. Human beings, therefore, have choices. They may act with either wisdom or ignorance. Animals do not have these choices.

There are three types of wisdom : wisdom realized by hearing or reading (*Suta-maya-pannas),* wisdom realized by thinking, reflection or contemplation (*Cinta-maya-panna)* and wisdom realized by practice or experience *(Bhavana-maya-panna).* With the first two wisdoms, only mindfulness is present. This makes it difficult to prevent suffering from arising. However, once one realizes the third wisdom by practice or experience, one can then solve all human problems. The Path leading to wisdom training consists of the following factors:

Right Understanding *(samma-ditthi) :* It is a valuable asset in resolving the problems of the body and mental factors. It is necessary to efficiently and effectively carry out one's daily activities and responsibilities. Often, one is unable to resolve the root of the problem. It is a misunderstanding. Some believe that problems arise because one's body factor is not perfect. They are willing to go to any length to improve or perfect their special diet, exercise programs, yoga practice, and so on. Some believe problem arises because their mental factor is not perfected. They support the demands of the mental factor by practicing meditation at a certain time, in a particular place and often enlisting the help of a teacher. By practicing in this manner, many are unable to go beyond the problem because of ignorance.

One must come to know and fully realize, the essential duties for a perfect life. One must realize what the condition of the problem is and comprehend it. One must realize the cause of the problem and eradicate or eliminate it by letting go of unwholesome actions. One must understand the state of no-suffering. One must understand the way for maintaining the state of no-suffering and develop the right way to guide their practice.

Right Thought *(samma-sankappa) :* People generally have similar thought process. The thought process arises when people perceive a certain mind-frame about and object. Feelings can arise in two ways. If a feeling is pleasant, one seeks to prolong it and pursue it. If a feeling is unpleasant, one resists it and wants it to end. For this reason, people's thoughts are influenced and pulled in certain directions

according to their biases. This does not allow them to see their true nature. Because of their personal biases for or against certain encounters, the thoughts of people are misled into the negative moral perceptions of lust, ill will and harm.

Today, ways of thinking are emphasized in education. People should be taught how to think. Many people, however, refer to ways of thinking only in terms of scientific or intellectual thinking. They do not touch the true nature of the mind and thus leave the thinking process defective. Their thinking process is too short to realize the aim of education, that is, to develop the individual man so that human problems will be rightly solved and a good life will be attained. With the phase of moral thought, the thinking process is complete. In this right process of thinking, intellectual thought and moral thought become integrated (Debvedi, Phra, 1990 : 46). Right thought is an internal factor necessary for those on the right way. In order to attain wisdom, one must develop his thought processes. He must train himself how to think.

By this time, Dhamma must be utilized as the tool for practice. As mentioned previously, moral training resolves the problem of suffering with regard to social concern. Mental training also resolves the problem of physical and mental suffering. Lastly, wisdom training resolves the problem of spiritual suffering for the perfect life. These are the benefits that one should understand from the practice of Threefold training. This formula of practice should be used to perfect our lives.

Life is like a chariot wheel, turning around without any beginning. The right way of life represents the simultaneous perfection of the wisdom, morality and mind as illustrated by figure 11.

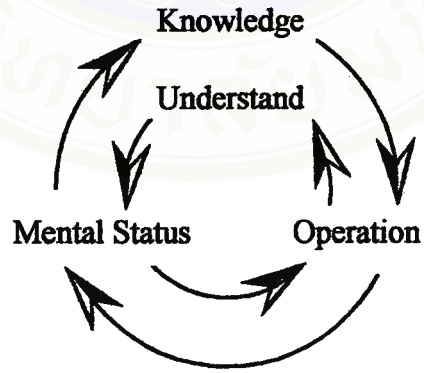


Figure 11 The circle of self-development (Piyachon, C., 1991 : 116)

The perfect life represents the interaction of Three factors. The three factors may change roles depending on the situations. When morality is the forerunner, one's decision is based on wisdom and concentration. In some situations wisdom is the forerunner, but one must also have morality and concentration. In other situations concentration is the forerunner, but wisdom and morality are still present. Conversely, if only morality is present, a person will become foolish and lack direction. If only wisdom is present, a person may become deceptive, cunning and selfish. If only concentration is present, foolishness and deception will result. None of these three factors alone will

lead to happiness and peace for ourselves or society. Each factor must be utilized simultaneously, for it can not be separated.

Metaphorically, defilements are compared to weeds, which are harmful to flowering plants. If the weeds overgrow them, the flowers will be suffocated. Practising morality is comparable to keep the weeds trimmed down and under control. Training in concentration is like keeping the weeds under a big rock, so that they have no chance to further. However, if one neglects trimming, or if rack is removed, the weeds will grow back to their former verdant abundance. The development of wisdom is like rooting out the weeds of defilements, chopping them up, and burning them to ashes so that they have no chance to bother the beautiful plant of the mind agin (Sunthorn Plamintr, 1994 ; 14-15).

Conclusion : The Eightfold Path encompasses the complete Buddhist system of ethics. The reason for breaking the Path into factor is to show the various prominent phases that occur in the different step of practice. One sees that it embodies the entire system of Buddhist ethics. From this study, one can grasp that the Eightfold Path is not for the monks or *arahants*, but is for people from all walks of life. It is a step by step movement toward ethical living. The inclusion of wisdom *(panna)*, morality *(sila)* and concentration *(samadi)* in the Eightfold Path makes it the nexus of Buddhist ethics. This structure differentiates Buddhist ethics from the others. Buddhist ethics does not include merely conduct and morality, in fact it includes the goal of conduct and morality and liberation, as well. It is not limited to certain times and certain places. Buddhism is a religion of practice. In order to derive the benefits from Buddhism, one needs to exert oneself and put it into practice. By treading the path of Dhamma (performing duties) one obtains results proportionate to one's endeavor, being free from suffering. In short, Buddhist ethics can be defined as the way of life leading to liberation.

Mental strength

AIDS patient's situation is different from other diseases. The chronic stage of AIDS is life-threatening within a short period of time. The etiology and progression of the disease relate to the way of life that is assessed behavior deviation from the norms. It is an offensive disease. The impact of the treatment differs from other diseases. HIV/AIDS patients have many methods of treatment but with uncertain result, especially in western medicine (Ragsdale, et al. 1992).

The AIDS situation directly impacts the mental status of HIV/AIDS patients. the development of treatment that attempts to minimize opportunistic infection to survive is insufficient. The researcher applied the Buddhist doctrine to support the mentioned situations because the main purpose of training in Buddhism is steadiness of mind (Sutthiyano, Phra, 1996 : 19-20). This is the internal characteristic that confronts the stimulus or problem appropriately.

Today we are faced with the obstacles of freedom. It seems that a peace of mind can not be found in daily life. One experience unpleasant things, one blames others. One do not know the real cause is within themselves. All things are merely

feelings or concocted emotions which is a reaction of the nervous system. The word Hindrance can be found in the Buddhist religion as well as other religions. The Five Hindrances of Buddhism are defined as an obstacle which blocks the mind from concentration and wisdom. They arise at the moment of contact or from natural instinct. If ignorance is present at the moment of contact, it leads to suffering. If concentration and wisdom are present, suffering will not arise and the mind will remain in the neutral state (Varadhammo, V., Phra, 1996: 289-295, David Holmes, 1990 : 35-36).

The Five Hindrances *(Nivarana)* are as follows :

1. Sensual desire *(Kamachanta)* means lust for pleasurable states : sights, sounds, smells, tastes, touches, wealth, power, position, fame and their accompanying pleasures. The opposite is peacefulness of renunciation.
2. Ill-will *(Vyapada)* means hatred, anger, resentment and repulsion. It is pessimism. The opposite is forgiveness, good will, loving, kindness and compassion.
3. Dullness *(Thina-middha)* means mental inertia and accompanying drowsiness or mental sinking into the heaviness of the mind. The opposite is activeness, alertness and awareness.
4. Restlessness or anxiety *(Uddhacca-kukkucca)* means the state of agitation, excitement, frenzy and stress which keeps the mind from focus. The opposite is serenity, tranquillity and a cheerful attitude.
5. Doubt *(Vicikiccha)* means lack of resolution and indecisiveness which hinders the right effort. The opposite is self confidence and certainty.

In reality, the Five Hindrances arise for a brief time and then pass away. They are not present in the mind at all times, therefore, there is no reason for the mind to attach suffer from any of the Hindrances. There is also no reason to become a slave to these feelings. The mind can be instantly changed to the neutral or void state, thus preventing any suffering from arising. As a result, these Hindrances are most unworthy of attachment.

There are 6 different ways to solve suffering by being aware of one's feeling : 1) Wise reflection and mindful consideration to gain a calm body and mind. 2) Realize the characteristics of all feelings or concocted emotions. 3) Realize the danger and harmfulness of the Five Hindrances along with the benefits of the opposite responses. 4) Refrain from attaching to that feeling when it arises by maintaining the mind in the neutral state. 5) Associate with the Noble friend. 6) Talk positively by practicing these ower a period of time, one begins to feel the positive effect of mind control. This is reason enough to continue practicing these feelings. We have now attained the wisdom or knowledge necessary to overcome the Five Hindrances in our daily lives. We will no longer be a slave to the Five Hindrances.

2.4 The preliminary study of HIV/AIDS patients in Chiang Mai

The preliminary study in the HIV/AIDS patients from February 1996 to November 1997 in Chiang Mai aimed to find for 3 points of issue. They are as follows :

1. To study the possibility of HIV/AIDS patient gathering : Initially, the study started with the 3 popular groups of HIV/AIDS patients called the New Life Friends Center, the Widow Club (or the Friendship Women Club in present) and the White Sky Group. It turned out that the groups could not represent the HIV/AIDS patients because they were affliated with NGOs. All activities depending on the budget from the government, private sector and/or foreign country. This was not sustainable for this research. The research planning was then moved to independent study groups. The new study design started with 573 HIV/AIDS patients. They were followed every two weeks from February 1996 to November 1997 for a total of one year and nine months. It was found that AIDS patients with opportunistic infections were too sick to participate and adjusted their behavior by themselves. The conditions of their illness caused them to be discriminated against within their society. The dropout rate was 62.5 % and the death rate was 27.9 % with most occurring within the first month of the appointment. Because of this experience, the research moved to study HIV/AIDS patients without opportunistic infections or with opportunistic infections that were not too severe. They should join and assemble in a small group somewhere in their villages. They lived with their families and worked as usual. There was no other benefit or compensation except for the treatment and/or the intervention procedures. The benefit of having small groups was to decrease the dropout rate from 76.9 % to 55.9%.

2. To study the feasibility of alliance building to develop the pluralistic medical system : Currently, the medical system can not support alternative medicine. The HIV/ AIDS patients had to move themselves from hospital and health center to assemble in the nearby temples in the village. This created a dropout rate of 32.9 %. The dropout rate was still high. This will affect the analysis and interpretation. Consequently, a proper intervention is needed in order to achieve the definite number of samples. The researcher developed a preliminary model for further application.

3. To study the social context concerning HIV/AIDS patient's lifestyle : The researcher studied and conclude some factors related to the progression of the disease. These findings will be used as a guideline for maintaining a healthy lifestyle. 573 HIV/ AIDS patients received the questionnaire to be completed at home. It was found 31.24 % (179 HIV/AIDS) did not attend the first visit. Data for analysis can be gathered for 68.8 % (394 HIV/AIDS).

Although there is no scientific documentation about "unwholesome food", it was found that many foods contain potentially harmful chemicals. Namely, 39.1% of the 154 HIV/AIDS patients experienced toxic or allergic reactions after eating these certain kinds of foods. Most of them were allergic to more than one kind of foods. Some potentially harmful food are alcoholic/stimulant beverages (57.6 %), fermented food (50.7 %), seafood (20.6 %), half-cooked food (20.2%), beef and buffalo meat (17.9 %), frog, eel, and other fresh water fish without scales (16.2 %) etc.

The severity of toxic or allergic reactions to various kinds of foods were different from one person to another. Most of them experienced pruritic papular eruption, diarrhea and headache. Other reactions were fever, weakness, fatigue and chest tightness. Some had convulsions, became unconscious and even died. The main reaction

that differs from the other diseases was a burning sensation within the body. It may be described as a fire without the flame within own body. This was oxidation. Within the short period after the occurrence of the burning sensation, the reaction that followed was skin manifestations. These reactions almost always followed the consumption of the land crab paste (Num-pu), frog or certain kinds of toxic mushrooms. As soon as the HIV/AIDS patients smelled Num-pu, paint, yeast fermented (Sah-low covering the road) or pesticide, they would appear dizzy and malaise. All 16 HIV/AIDS patients died after the consumption of the "Kradarng Mushroom" a poisonous mushroom.

The severity of the allergic or toxic reaction was also dependent upon the stage of infection and/or the quality and the quantity of the harmful chemicals in the comsumed food. Many patients often distrusted any information. They received about unwholesome foods because there was no seientific data to support in. These unwholesome foods need to be studied further. One of the most common unhygienic food used by families (96.2 %) for curries is shrimp paste (kapi). The next most common was fish preserved with salt (68.3 %) and pickled or preserved food (55.1 %). All of processed by fermentation and are full of bacteria, preservative, chemical substances, etc. All kinds of packed or canned food (45.4 %) and the half-cooked food (27.7 %) were also common. It was also found that vegetables were contaminated with chemicals. Some vegetables were taken from the market (85.2 %), while others were taken from the rice field (33.7 %). It is known generally that hill tribes do not eat vegetables they sell and the rice field is covered with pesticide. Inaddition, there were 59 of 161 males (36.6 %) who drank alcohol/stimulant and 61 of 161 males (37.9 %) who smoked cigarettes.

The insufficient quality of food and eating contaminated food was the problem with the consumer's behavior. HIV/AIDS patients must be conscious of the "safe food". This differs from the "safe sex" used for the general public to prevent HIV infection.

The trend of nutritional and biochemical research shows that the important factor that can inhibit the progression of disease is food. Some foods cause symptoms by producing free radicals. These free radicals minimize the immunity and make the patients more susceptible to opportunistic infection which leads to AIDS. HIV/AIDS patients should consume the foods essential food that enhance the immunity and inhibit the progression of the disease. The proper food will adjust the decreased immunity of the body to keep the natural equilibrium and resist opportunistic infection. Traditional medicine explained that eating a variety of foods that are suitable to the body's element, will prevent the body from getting sick. The impact of food on illness must be studied in both western and traditional medicine.

HIV/AIDS patients were found to have some poor health related behavior in their daily life. They did not meditate (39.8 %), lacked exercise (33.8 %), had irrgular bowel movements (27.8 %), lacked sleep (39.8 %) and were around air pollution (77.0 %). The next problem identified was occupational health. Farmers (81.8 %) and masons/painters (19.4 %) were the top two occupations that came into contact directly or indirectly with chemical substances. Another problem identified was traditions such as funeral ceremonies that lasted 3 to 4 days. These days were filled with liquor, cigarettes, narcotic drugs, gambling, music and cooking. This produced a poor-health envi-

ronment that could easily affect the HIV/AIDS patients.

The collected problems from this preliminary study found a health strategy which relates to the HIV/AIDS patients' lifestyle. The pluralistic medical system can help solve this lifestyle problem for Thais in the future.

The mentioned preliminary study was in accordance with the qualitative research of Siriard, P., et al. The study involved 43 HIV/AIDS members of The New Life Friends Center. Almost all of them had the same consumption pattern, knowledge, belief about food by hearsay from friends, parents, folk healers and self experience. They consumed potentially harmful food such as beef/buffalo meat (34.5 %), bamboo shoot (30.80 %), pickle or fermented food (26.95 %), poultry and fish without scales (11.55 %). After consoming the mentioned food, some symptoms occurred such as diarrhea, pruritic papular eruption, fever, headache and fatigue.

Nandachaipan, P. (1994: 55-57), the qualitative study about self-care of the HIV/AIDS patients in Chiang Mai found that most patients scarcely took care of themselves. They either did it irregularly or did not do it at all even though they knew how it should be done. They believed that no matter how well they did, they could not be free of AIDS and would eventually die. Some associations were found between self-care and other factors. The factors that limited assessment situations, problems and decision making in self care were lack of information, experiences, thinking process and wisdom. Most patients had never concentrated or tried to assess how to take care of one's self. The factors that inhibited self-care were lack of skill, support, interest and motivation. The situation or environment did not support self-care. Families believed in not doing anything but relaxing and waiting for help.

Watradul, D. 's study (1994 : abstract) found that HIV/AIDS patients have self-care deficit. They lack the knowledge and application, thinking process, wisdom, communication and friendliness.

Somrong, R. 's qualitative study (1996 : 121) found that more than half of HIV/AIDS patients kept the infection confidential. Asymptomatic HIV infected clients ignored health behavior. They behaved normally by habit by drinking liquor, smoking cigarettes, taking narcotic drugs and having sexual intercourse without protection. They did not want to be suspected of being ill. There are many different ways to cope and to confront the problem. They would seek treatment when symptoms appeared. The belief in fate *(karma)* caused them to ignore self-care and seek the black magic which makes the progression of the disease worse.

Pradabmukh, P. 's study (1993 : abstract) found that asymptomatic prostitutes put the priority of self-care after their economic problem.

Porter, et al.(1993 : 20) found that 49 % of HIV/AIDS patients lacked the carefulness in health. This shortened the period of progression to AIDS to be 9 months. Sorrow and demoralization for a long time will increase the chance of opportunistic infection and death (Wright and Gidden, 1993 : 148).

2.5 Research Conceptual Framework.

The studying of concepts, theories and researches has above led to the main issue of this study. It emphasizes health promotion of HIV infected clients to have a longer symptom free life span. They must maintain a healthy lifestyle by applying the Buddhist doctrine, with the concept of "Buddhist doctrine, the forerunner beyond AIDS". This links the western, traditional and popular medicine in order to stop seeking behavior without the proper direction.

The study started with AIDS in a state of social discrimination and disintegration. This research prompted a mobilization of both formal and informal sources to develop a pluralistic medical system. The Noble friend was the main key to this alliance building. It was the input of this study, namely the researcher acting as a facilitator, that prepared the condition of learning in accordance with the samples' daily living. The samples were stimulated to have systematic thinking with cause and effect, like the problem based learning when applying the principle of the Four Noble Truths. The researcher provided learning experiences with questions step for the scope of the problems, the causes of the problems, the goal of solving the problem and the way of practice.

The main conceptual guideline in this study is to sustain good health behavior with a learning spiral. HIV infected clients must listen and think based on the reality. The Noble friend provided them with the right understanding and right thought. This gave them a chance to practice the right way and ensure self responsibility. This new right way, the output of the study, advocated health promoting behavior and impacted health status.

To facilitate and understand the process in this study, the researcher summarized the research conceptual framework as shown in figure 12.

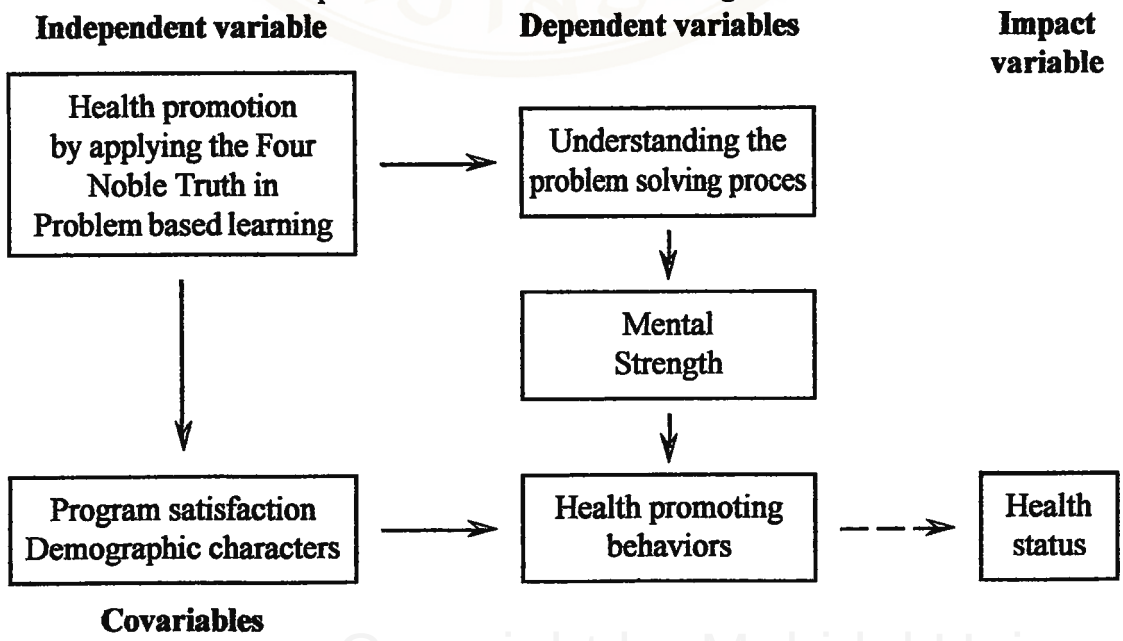


Figure 12 Research conceptual frame work

CHAPTER 3
MATERIALS AND METHODS

This study is a quasi-experimental research providing services as well as a study on the basic requirement and the commitment of living with HIV. The purpose was to promote good health while placing a great emphasis on action-oriented activities in Chiang Mai. There are a variety of medicines, especially herbs, available to HIV/ AIDS patients. Herbs are usually used as a last resort. These medicine do not provide any satisfactory answers to the disease. Therefore, this study integrated the existing medical sectors and the pluralistic medical system. It used herbs as a mediation to gather HIV infected clients together. These clients received a natural therapy which can be explained by the oxidation mechanism in the human body. In addition, this research is mainly based on the Buddhist doctrine.

The program started with a sense of friendliness by the Noble friends. This gave the clients a sense of faith for the activities. It also gave way to apply the Four Noble Truths in solving the problem. It introduced a guideline for behavioral modification, namely, understanding the scope of health problems, causes, conditions. This also included the readiness to practice which benefits one's self and others. This is true holistic behaviors. It helped to achieve the objective of good health promotion under complete self-reliance.

The research topics are presented as follows :

3.1 Research methodology

This quasi-experimental research studies the changing of health behaviors and health status variables under a health education program (pre-test and post-test) in HIV clients. The control groups will receive conventional health education, while the experimental groups will receive health education by applying the Buddhist doctrine. The differences between the control groups post-test and the experimental groups post-test will be compared in order to attain a conclusion explicable by research design and research planning.

The research design : This study was in the field of behavioral science in pluralistic medicine. The design used non-randomized subjects with non-equivalent comparison groups. The following explaims symbols that were used throughout the study : the designed health education program (X_1) and the conventional health educa-

tion (X_9) data collected in pre-test (O_1) before intervention and post-test (O_2), at the fourth month, the end of the project. This is illustrated in figure 13.

Experimental group	O_1	X_1	O_2
Control group	O_1	X_0	O_2

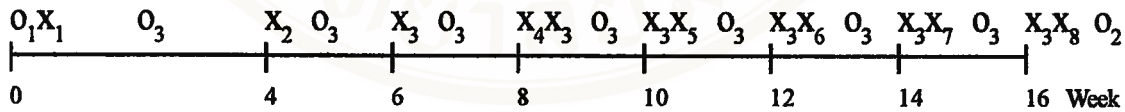
Where X_1 : Health education program by applying Buddhist doctrine
X_0 : Conventional health education
O_1 : Pre-test data
O_2 : Post-test data

Figure 13 Research design

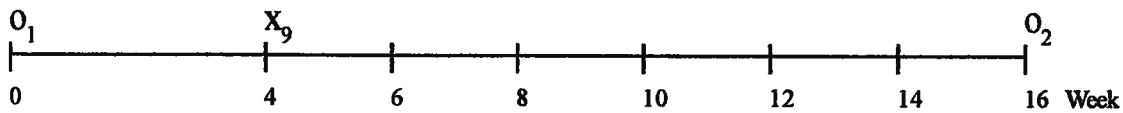
Research planning : This research design was planned to follow up both sample groups every two weeks for a period of four months. Both groups were given pluralistic medicine. The control groups received the conventional health education (X_9) while the experimental group received health education program by applying the Buddhist doctrine every two weeks for eight sessions (X_1 to X_8). The health education program was designed to develop their behavior step by step. The pre-test data of both groups (O_1) regarding health behavior and health status assessment was collected at the beginning and the post-test data (O_2) was collected again as the end of the project in the fourth month.

The health education program by applying the Buddhist doctrine started with building up faith and relationships (X_1), and then problem-based learning (X_2). Then, the behavior level was extended by the practice of exercise and meditation (X_3), religious sermon (X_4) and sharing of experiences during group meetings (X_5 to X_8). see figure 14

Experimental group



Control group



Where O_1 : The assessment of health behavior and health status in pre-test
O_2 : The assessment of health behavior, health status and program satisfaction in post-test
O_3 : Self assessment in every two weeks
X_1 : Building up Faith and relationship
X_2 : Problem-based Learning
X_3 : Exercise and meditation
X_4 : Religious sermon
X_5 : Risk assessment
X_6 : A healthy life schedule
X_7 : Appropriate lifestyle
X_8 : AIDS conclusion
X_9 : Conventional health education

Both sample groups had been followed up every two weeks by only one doctor with the same treatment

Figure 14 Research planning

3.2 Source of data

This research was aimed to study the health promotion of HIV clients. The source of data is as follows :

1. **Target population :** HIV clients in Thailand.

2. **Population sample :** HIV clients in Chiang Mai. Chiang Mai is facing a crisis with a large number of AIDS (12.3% of Thailand's AIDS patients on June 30, 1998). It is reported that 36 HIV-infected groups (out of 52 groups all over the country) live in the 4 upper northern provinces, and more than 20 groups resided in Chiang Mai (The round table seminar for AIDS contribution in Chiang Mai province on September 16, 1995).

Eligibility criteria

- 2.1 Live in the urban and suburban area so that it is easy for the researcher to follow up.
- 2.2 To be examined and diagnosed to confirm the state of infection.
- 2.3 20-50 years of age.
- 2.4 The perception of people, places and time allows easier transition of the client's health behavior on their own.
- 2.5 Willing to join the project entirely without interference of any other activities.
- 2.6 Spend their free time together in groups, but also return to their normal lives independently.
- 2.7 No compensation.

3. **Sample :** The sample size in this research was around 100 persons per group. They were randomly chosen from the population in the urban and suburban areas. The sample selection was based on non-probability and probability sampling (Figure 15), which can be described as the following :

3.1 Quota sampling : To determine the proportion by residence, 2 groups from the urban area and 10 groups from the suburban area.

3.2 Purposive sampling : To participate in this project, one must meet the criteria and assemble at a temple in the community in groups of 15-20 persons.

3.3 Simple random sampling : To draw lots for the experimental group and control group, each one having one subgroup from the urban area and five subgroups from the suburban area.

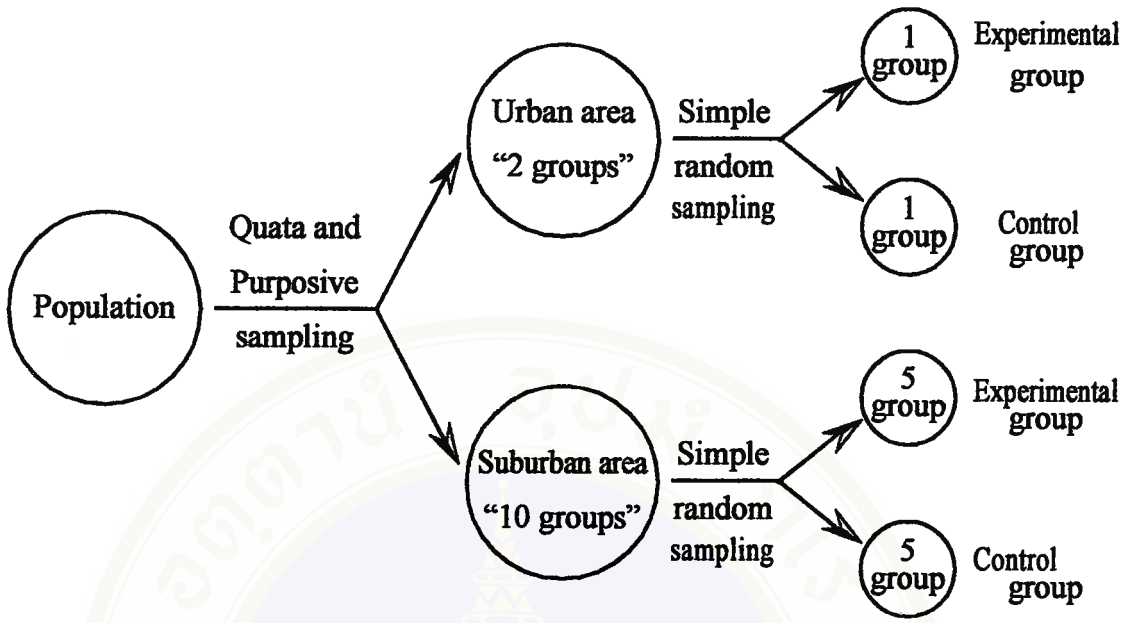


Figure 15 Sample selection

Sample selection : They were divided into 6 experimental groups, consisting of 9, 8, 16, 16, 17 and 9 clients (105 clients in total) and 6 control group of 16, 8, 6, 16, 15 and 7 clients (98 clients in total). The researcher assigned the health education program by applying the Buddhist doctrine to the experimental groups and conventional health education to the control groups.

3.3 Research strategy

The research methodology occurred in the actual situation, Chiang Mai. The following research methodology has been used in this study :

1. Preparatory period
2. Operational period

Preparatory period

The researcher worked together with various sectors to determine the operational plan.

1. Report : The researcher first visited the Provincial Chief Medical Officer of Chiang Mai to present the research planning.

2. The gathering : Currently, the AIDS situation in Chiang Mai remains confidential. The researcher cooperated with twelve HIV infected clients in each community to gather other HIV infected clients (10-15 clients/group) by using the following process :

2.1 To find HIV infected clients in the community with the appropriate criteria

2.2 To explain the project, group activities and duration of the process

2.3 To ask for voluntary participation in the activity.

2.4 To permit clients to select a meeting place that easily accessible, such as a temple in the community.

2.5 To inform the researcher when the group is formed successfully.

3. Sample selection : The researcher drew lots to divide 12 groups into 6 experimental groups and 6 control groups.

4. The Noble Friend setting : The researcher explained the entire project and all activities to the Noble friends including coordinated and facilitated to mobilize sources and decentralize responsibilities, as in the following :

4.1 The physician : To take responsibility for the experimental groups and control groups, namely:

- To prescribe the Thai herbal medicine and follow up ev ery 2 weeks throughout the project.
- To examine the client's physical condition both in the pre-test and post-test.
- To explain the usage and action with scientific docu ments.
- To answer all questions during the activity.
- To coordinate with the folk healer and prepare the in gredients of the hot water extracted herb.
- To purchase the processed herbs, medicine and medical supplies.

4.2 The alternative doctor : To take responsibility only for the ex perimental groups, namely:

- To prepare the handbook for exercise and meditation.
- To train the clients in exercise and meditation in the third activity.
- To select two trainers from each group every two weeks for further teaching.
- To monitor group training by the trainers every two week throughout the project.

4.3 One abbot as each temple where the meeting takes place : To support the place of gathering.

4.4 The monk of Umong temple (Suan Buddhadhamma) in Chiang Mai. To give a religious sermon to only the experimental groups in the fourth acpivity.

5. Appointment: The researcher informed the twelve HIV infected clients of the starting date for the program. They, in turn, notified the other clients.

Operational period

The researcher provided the experimental groups with a combination of learn- ing experiences designed to introduce a new way of living. They received this edution

every two weeks by participatory or interactive learning through action. They learned to assess the events of reality, find out the causes of illness and adapt to a new health behavior. This new health behavior was oriented to the environmental conditions/factors and the guidelines for immunity enhancement. The activities designed for the experimental groups are as follows :

The first activity (at the beginning)	Stage of building up faith and relationship
The second activity (the fourth week)	Problem-based learning
The third activity (the sixth week)	Exercise and meditation
The fourth activity (the eighth week)	Religious sermon
The fifth activity (the tenth week)	Risk assessment
The sixth activity (the twelfth week)	A healthy life schedule
The seventh activity (the fourteenth week)	A appropriate lifest yle
The eighth activity (the sixteenth week)	AIDS conclusion

The first activity : Stage of building up faith and relationship (at the beginning).

The first activity was used to build up the friendliness and security of the clients so they felt trust worthy of each other and could reveal themselves. They certainly learn to give and receive. The steps of the first activity were as follows:

1. Building up faith and relationship
   - 1.1 The researcher introduced herself and the physician.
   - 1.2 The members introduced themselves and shared past history, with liberty and no questions to ask. The activity was aimed at creat ing a mutual base, building up the relationship, releasing anxiety and creating a sense of trust among the members.
   - 1.3 The researcher clearly explained the project : objectives, group processes, activities, appointment schedules and allocated respon sibilities among the members.
   - 1.4 The physician taugh "Introduction AIDS" (Appendix, document 4).

2. Pre-test with the interview form (Appendix, document 1) by the researcher and physical examination by the doctor.

3. The researcher gave the self-assessment form (Appendix, document 2) for learning self-correcting behavior to the clients to complete every two weeks.

4. The researcher gave the clients a leaflet, "How to Live a Healtly Life," (Appendix, document 11) the basic pratice for HIV infected clients.

5. The researcher gave the clients a sticker of Bhikkhu Panyanandha with the saying "Check, censure and rectify yourself" the basis for learning by doing. This encourage the clients to share experiences with each other during subsequent meetings.

6. The researcher assigned the topic. "AIDS - problems and guideline," for the next activity.

Questions preparation for the second activity

Designing question guidelines : The researcher collected the pre-test and studied the problems on the basis of 2 key concepts : problems and solutions of the Four Noble Truths. The researcher then devised 4 general questions and 17 specific questions which emphasized problem-based learning (Appendix, document 3).

Revising question guidelines : The designed question guidelines were tested with 8 HIV infected clients in Chiang Mai. In order to improve the meaning, clearity, sequence of questions and level of difficulty. Finally, the questions were revised and ready to be used for the second activity.

The second activity : Problem-based learning (the fourth week).

The second activity was used to show the importance of principle of action *(karma)*, which depends on the level of action, arise consciousness and responsibility on action. The researcher asked the designed questions, stimulated thinking, while keeping the discussion on track and trying to find the answer on the basis of the designed concepts. The clients stated the problems in their daily lives and attempted to solve the problems together. The steps of the second activity are as follows:

1. All clients completed the self assessment forms and the volunteers collected them.
2. The clients shared their experiences of the herbal suppository and talked about their general appearance in the previous two weeks.
3. Problem-based learning (Appendix, document 5).

    3.1 Problem discussion : The researcher asked 4 general questions and encouraged clients to express their feelings, opinions, experiences and problems in order to grasp reality.

    3.2 Problem-solving discussion : The researcher asked 17 specific questions expecting to develop behavioral concepts as well as having the clients take responsibility for their action.

        3.2.1 The researcher raised the issues of problems with the designed questions guideline. The clients expressed their opinion, listened and accepted others' opitions. Everybody learned to give and receive. There was horizontal interaction and self-directed learning.

        3.2.2 The researcher shared information when necessary by non-directive questions. Brainstorming was encouraged in order to develop critical reflection. It was an arousing, valuable and meaningful experience.

        3.2.3 The researcher summarized the important issues intermittently and unified disjointed ideas. The clients

arose accompanied feelings towards particular problems and attempted to find solutions together.

3.2.4 The clients looked for solutions basing on problem analysis and direct experience regarding health-related behavior. They brainstormed health promotion opinions and considered applying them in their daily life.

3.3 The researcher summarized problem-based learning.

4. The doctor prescribed medicine.

5. The researcher assigned the topic "Exercise and meditation" for the next activity.

The third activity : Exercise and meditation (the sixth week).

Exercise and meditation, an alternative treatment, were introduced by the alternative doctor. By concentrating on breathing and bodily movements, the clients would feel physically and mentally relaxed thereby experiencing tranquility. It advocated being mindful of the reality at the present moment in their daily life. The various steps of the third activitty were as follows :

1. Exercise and meditation (Appendix, document 6)
   1.1 The researcher acted as an interpreter and introduced the alternative doctor.
   1.2 The alternative doctor instructed the clients and gave them a hand book on the basic training of exercise and meditation and a leaf let "Breathing Meditation" (Appendix, document 12). The doctor or also encouraged self practice for 30-45 minutes daily at home.
   1.3 The researcher explained how the well-perfected mind has a good influence on the surroundings". The clients were encouraged to practice this independently in their daily life.
   1.4 Representatives were selected to be leaders for the next activity. Two clients were selected each time and they were rotated every 2 weeks.

2. All clients completed the self assessment forms and the volunteers collected them.

3. The clients shared their experience of problem solving and talked about their general appearance in the previous two weeks.

4. The doctor prescribed medicine.

5. The researcher assigned the topic "Religious Sermon" for the next activity.

The fourth activity : Religious Sermon (the eighth week).

Everyone would like to have a change in their behavior which is for the better. Often times, they did not know how to do it. The monk would advocate realistic behavioral modifications in order to help one develop the right understanding for their life. This created a great change in their lives the required mental strength. The steps of the fourth activity are as follows :

1. Religious Sermon (Appendix, document 7)
   1.1 The group leader asked the monk to give a sermon and talk about the guidelines for behavioral modification based on the middle way.
   1.2 The researcher summarized "The middle way, the way of living with reality" with a leaflet " Mental Development and AIDS" (Appendix, document 13). The researcher also eccouraged the clients to listen to Dharma at least once a week.

2. Two representatives led the exercise and meditation with the alternative doctor as the supervisor.

3. All clients completed the self assessment forms and the volunteers collected them.

4. The clients shared their experience of time allocation for the exercise and meditation, and talked about their general appearance in the previous two weeks.

5. The doctor prescribed medicine.

6. The researcher assigned the topic "Risk assessment" for the next activity.

The fifth activity : Risk assessment (the tenth week).

The clients shared their experience of self-correcting behavior every two weeks. The most important issues discussed were learning about unsafe food and how to select safe food, and learning prohibition which leads to the right action. Most problems were found to be behavioral. The steps of the fifth activity are as follows :

1. Two representatives led the exercise and meditation with the alternative doctor as the supervisor.

2. All clients completed the self assessment forms and the volunteers collected them.

3. The clients shared their experience of listening to the sermon and talked about their general appearance in the previous two weeks.

4. Risk assessment : Learning the cofactors which caused the progression of the disease to worsen (Appendix, document 8).

4.1 Perception of health status : The physician explained the immu nity level in HIV infected clients.

4.2 Perception of environmental status namely

4.2.1 The researcher gave the clients seven news/articles on contaminated food and summarized the important issues that explained the relationship between foods and contaminants.

4.2.2 The researcher gave the clients two reports on toxic foods in HIV/AIDS. They shared experience on un wholesome foods and their allergies. The clients shared experiences compared with the report led to the conclusion of what foods were safe for AIDS.

4.2.3 The researcher raised the topic of other cofactors that might worsen the progression of the disease. The cli ents shared their experiences of these cofactors, such as toxic substances in the air, certain activities, par ticular emotions etc. The researcher added scientific support.

4.3 The clients summarized them experiences with precaution to other HIV infected clients. It consisted of avoiding risk behaviors and living with a con-science.

5. The doctor prescribed medicine.

6. The researcher gave the leaflet "Learning for a New Life" (Appendix, document 14).

7. The researcher assigned the topic "a healthy life schedule" for the next activity.

Model Selecting

The researcher collected all the self-assessment forms (Appendix, document 2), then summed up the health behavior and health status scores for each client in every group. In each group, there were three clients who got the highest score. They would be selected to act as models in the sixth activity.

The sixth activity : A healthy life schedule (the twelfth week).

This activity focused on good health orientation and health promotion. The clients would learn to identify the appropriate behaviors, the right way of living, and adopt them into their daily life. The steps of the sixth activity are as follow :

1. Two representatives led the exercise and meditation with the alternative doctor as the supervisor.

2. All clients completed the self assessment forms the volunteers collected them.

3. The clients shared their experiences of prohibition and talked their general appearance in the previous two weeks.

4. A healthy life schedule.
   4.1 The three models shared their experienced of behavioral modifi cation which emphasized how HIV caused them to better under stand their life. This influenced their lifestyle especially con cerning health promotion and health status.
   4.2 The three models demonstrated time management for all their activities on biological clock (appendix, document 9). This em phasized that HIV is not the problem in life.
   4.3 The clients tried with time schedule on the biological clock.
   4.4 The clients decided that a healthy life schedule was needed to adjust their own lifestyle.

5. The doctor prescribed medicine.

6. The researcher assigned the topic "Appropriate lifestyle" for the next activity.

The seventh activity : Appropriate lifestyle (the fourteenth week).

This activity is aimed at determining a perspective on self and others through change. The client identified generations and principles derived from studying the problem and the empirical situation. This gave a new vision on the practice for HIV infected clients, "AIDS is a lifestyle disease". The steps of the seventh activity are as follow :

1. Two representatives led the exercise and meditation with the alternative doctor as the supervisor.
2. All clients completed the self-assessment forms and the volunteers collected them.
3. The clients shared their experiences of a healthy schedule life and talked about their general appearance in the previous two weeks.
4. The clients shared their experience of an appropriate lifestyle and set the priority of a healthy lifestyle.
5. The doctor prescribed medicine.
6. The researcher assigned the topic "proposal for AIDS conclusion" for the last activity.

The eight activity : AIDS conclusion (the sixteenth week).

This activity involved the evaluation of the progression and changes at the end of the project. The steps of the eighth activity are as follows :

1. Two representatives led the exercise and meditation with the alternative doctor as the supervisor.

2. All clients completed the self-assessment forms and the volunteers collected them.

3. The clients shared their experiences of an appropriate lifestyle and talked about their general appearance in the previous two weeks.

4. The assessment.
   4.1 The clients expressed their feelings and tempers during the group activities. They also gave their concluding thoughts of for AIDS from both their own experiences and the group's experiences.
   4.2 Post-test with the interview form by the researcher and a physical examination by the doctor.

5. The doctor prescribed medicine.

Throughout the 16 weeks of the program, the researcher acted as a group facilitator. The clients learned through experiences which helped create a sense of self-reliance.

3.4 Data collection

The data collection and problems synthesis were derived from collective self-reflection inquiry on various topics throughout the project. In order to obtain a profound research answer, the analysis involved social conditions and relative situations. Both success and obstacles can be explained by reasons and background factors.

The process of data collection can be described as the following :

1. Both samples : They were interviewed and given a physical examination at the beginning of the program in March, 1998 (pre-test), and at the end of the program in August, 1998 (post-test).

2. The experimental groups : They experienced active learning and the data was collected :
   2.1 The researcher collected qualitative data and compiled thought by observing and recording key words from the discussion on the second, fifth, seventh and last activity.
   2.2 The clients completed self correcting forms at home every two weeks. The forms were collected at the meeting every two weeks.

3. Data management : The researcher examined and completed the data. The researcher also analyzed, interpreted, discussed and densed some recommendations.

3.5 Research instrument

1. Instruction instrument :

1.1 Self assessment form was constructed for self examination regarding lifestyle and evaluation of health status. It was used for self learning and was the basic topic for group discussion (activities 2 to 8).

1.2 The sticker of Bhikkhu Panyanandha with the saying , "Check, Censure and Rectify yourself" was a reminder to encourage self learning and self correction (activity 1).

1.3 Leaflets, "How to Live a Healthy Life" (activity 1), "Breathing Meditation" (activity 3), " Mental Development and AIDS" (activity 4) and "Learning for a New Life" (activity 5).

1.4 Designed questions were used as topics for discussion on problem-based learning (activity 2).

1.5 A handbook on the basic training of "Breathing Meditation" : instruction for training of exercise and meditation during group meetings (activities 4 to 8) and to be practiced at home.

1.6 News/articles on contaminated foods that led the clients to con sider the relationship between food and contaminants (activity 5).

1.7 Reports on unwholesome foods for HIV/AIDS. The clients then concluded the safe foods for AIDS (activity 5).

1.8 Biological clock : a picture of 24 hours to be used for one's daily life (activity 6).

2. Data collecting instrument

Part 1 General data : It involved socio-demographic characteristic, such as sex, marital status, education, occupation, income, past history and treatment.

Part 2 Behavioral measurement : It was a health-related behavior measurement which involved their current living condition. It consisted of three behavioral domains, as in the following :

1. An understanding problem solving interview form consisted of two-choice assessment; yes or no. Points were assigned based on the logically true or false. The correct answer gets one Point, while the false answer gets zero.

2. Behavioral interview form consisted of a five-choice assessment, such as eating, clean air, exercise, sleep, communication and emotional relaxation. Clients were asked to consider their behavior from the previous two weeks when answering these questions. Points were assigned based on the frequency of the routine activity, as in the following :

Frequency	Point of practice	Point of precaution
Regularly	5	1
Always	4	2
Sometimes	3	3
Seldom	2	4
Never	1	5

3. The mental strength interview form consisted of the five mental barriers *(Nivarama)*. The five components were assessed with the five-choice Likert scale. Positive and negative statements were collected equally. Points were assigned based on the emotional level, as in thefollowing :

Emotinal level	Point of negative statement	Point of positive statement
Completely agree	1	5
agree	2	4
Uncertain	3	3
Disagree	4	2
Completely disagree	5	1

4. Satisfactory interview form assessed the level of satisfaction in the evidence as follows :

4.1 Noble Friend : This assessed the satisfaction of the Noble Friend ability to arouse self confidence in the clients.

4.2 Activitits : This assessed the satisfaction of the activities' ability to provide the clients with an advantage in their daily life.

Points were assigned based on the satisfaction level, as used in the mental strength interview form.

Part 3 Health status measurement : The physical symptom distress assessment form assessed the physical manifestations as defined in epidemiological surveillance (10 symptoms) Points were assigned based on the level of symptom manifestation as in the following :

Severe	1	point
Moderate	2	points
Mild	3	points
No symptom	4	points

3.6 Quality of research instruments testing

To acquire the most precise and reliable data, the researcher tested and ana-

lyzed the quality of the instruments. The testing was carried out in the following steps :

1. **Validity** : The initial phase of the study involved an explicit articulation of on the instruments used. Instruments were evaluated to ensure the proper research framework. The researcher developed the items through the literature review and the research's operational definition. The proportion of items and content were checked so that the assessment form was constructed appropriately by measuring the variables of the study with construct and content validity.

2. **Power of discrimination and reliability** : 40 HIV infected clients were asked to complete the various trail instrument forms prior to the study. The researcher then analyzed the results, adjusted any items designed the final forms.

2.1 **Power of discrimination** : The researcher analyzed the power of discrimination with the 27% technique, which separated the high-score group and low-score group. The differences between the two groups were tested with student t-test. Items with t value > 1.75 were selected for the study. Thus, each item was able to classify persons with different knowledge and view points.

2.1.1 Dichotomous scale : The understanding of the problem solving process form contained 4 domains consisting of 70 items : 34 items were true statements and 36 items were false statements. Of the 70 items, 41 items had a t-value > 1.75 and 9 items had a t-value < 1.75 but $\overline{X} < 3.00$. Out of these 50 items, 17 items were true statements, while 33 items were false statements, as illustrated in Table 2.

Table 2 Understanding the problem solving process form : Power of discrimination in 40 HIV infected clients in Chiang Mai.

Domain	Overall	Deletion				Remaining		
		t<1.75	t<0	SD=0	total	t>1.75	t<1.75X $\overline{X}$<3.00	total
Condition of problem	**30**	3	0	0	**3**	5	30	**27**
Cause of problem	**13**	1	2	3	**6**	4	13	**7**
Goal of problem solving	**12**	2	0	2	**7**	0	12	**8**
The way of practice	**15**	3	1	3	**7**	0	15	**8**
Total	**70**	9	3	8	**20**	9	70	**50**

2.1.2 Likert scale : The mental strength interview form contained 5 domains consisting of 50 items : 24 items were positive statements and 26 items were negative statements. Out of the 50 items, 43 items had a t-value > 1.75. Out of these 43 items, 18 items were positive statements and 25 items were negative statements. 3 of the negative statements were deleted because they were redundant with other items.

Table 3 Mental strength interview form : Power of discrimination in 40 HIV infected clients in Chiang Mai.

Domain	Overall			Deletion				Remaining		
				t < 1.75		t > 1.75		t > 1.75		
	+	-	Total	+	-	-	Total	+	-	Total
Sensual Desire	3	5	**8**	0	0	0	0	3	5	**8**
Ill-will	4	4	**8**	0	0	1	1	4	3	**7**
Dullness	5	6	**11**	2	0	1	5	3	5	**8**
Anxiety	7	5	**12**	2	1	0	3	5	7	**9**
Doubt	5	6	**11**	2	0	1	3	3	5	**8**
Total	24	26	**50**	6	1	3	10	18	22	**40**

N.B. + means positive statement
- means negative statement

2.2 **Reliability test** : Internal consistency was determined with Cronbach's alpha coefficient (Hull, C.H., 1981 : 256). The results reflected a high degree of internal consistency, as in the following :

2.2.1 Dichotomous scale : Alpha for the 70 items of understanding the problem solving process form was 0.7350 when 17 items were deleted, the Alpha was 0.7352 to 0.7508. The researcher deleted 20 items according to the power of discrimination and the Alpha for the remaining 50 items was 0.8963.

2.2.2 Rating scale : Alpha for the 50 items in the mental strength interview form was 0.8748. When 5 items were deleted, the Alpha was 0.8749 to 0.8751. The researcher deleted 10 items according to the power of discrimination and the Alpha for the remaining 40 items was 0.9035.

3.7 Research statistics

In analyzing the data to find statistically significant differences, the confidence level to accept or reject the research hypothesis must be at least 95%. The statistic of data analysis is explained as follows :

1. Descriptive statistics : percentage, arithmetic mean and standard deviation are used to analyze the frequency of the general data and to explain the characteristics of the clients.

2. The analytical statistics.

2.1 Paired t-test : To test the statistically significant difference of the

arithmetic mean for the understanding of the problem solving process interview form, mental strength interview form and the health status interview form within the group between the pre-test and the post-test. The purpose was to prove that health education by applying the Buddhist doctrine caused these variables in the post-test to be better than in the pre-test (research hypothesis 1.1 to 1.4).

2.2 Student t-test : To test the statistically significant difference of the arithmetic mean for the understanding of the problem solving process interview form, mental strength interview, program satisfaction interview form and health status interview form between the experimental groups and control groups in the post-test. The purpose was to prove that health education by applying the Buddhist doctrine caused these variables to be better than the conventional health education program (research hypothesis 2.1 to 2.5).

2.3 Stepwise Multiple Regression Analysis : To assess the combinate effect of variables on health promoting behavior variation and health status variation (research hypothesis 3 to 4).

Chapter 4
RESULTS

The following is the result of health promoting by applying the Buddhist doctrine. Data collection was based on 12 groups of clients, 16-19 clients for each group, totaling 203 clients. The experimental groups were divided into 6 groups (105 clients) and the control groups were divided into 6 groups (98 clients). During the 4 months of study, the experimental groups followed up more regularly than the control groups. In the experimental groups, 2 groups followed up entired while the other 4 groups had 1 or 2 clients the failed to follow up in the early period of the activities. Therefore 95 clients (90.48%) remained in the experimental groups. In the control groups, 4 to 8 clients in each groups failed to follow up. Therefore, 61 clients (62.24%) remained in the control groups.

The experimental groups participation with the activities showed that the health education by applying the Buddhist Doctrine effected the regularity of the clients as in table 4.

Table 4 Number (percentage) in the experimental and control groups as classified by the series of activities.

Activity	Groups						
	1	2	3	4	5	6	**Total**
				Experimental Groups			
1	19 (100.00)	18 (100.00)	16 (100.00)	16 (100.00)	17 (100.00)	19 (100.00)	**105 (100.00)**
2	18 (94.74)	16 (88.89)	16 (100.00)	15 (93.75)	17 (100.00)	17 (89.47)	**99 (94.29)**
3	18 (94.74)	15 (83.33)	16 (100.00)	14 (87.55)	17 (100.00)	17 (89.47)	**97 (92.38)**
4	18 (94.74)	15 (83.33)	16 (100.00)	14 (87.50)	17 (100.00)	16 (87.47)	**96 (91.43)**
5	18 (94.74)	15 (83.33)	16 (100.00)	14 (87.50)	17 (100.00)	15 (87.47)	**95 (90.48)**
6	18 (94.74)	15 (83.33)	16 (100.00)	14 (87.50)	17 (100.00)	15 (87.47)	**95 (90.48)**
7	18 (94.74)	15 (83.33)	16 (100.00)	14 (87.50)	17 (100.00)	15 (87.47)	**95 (90.48)**
8	18 (94.74)	15 (83.33)	16 (100.00)	14 (87.50)	17 (100.00)	15 (87.47)	**95 (90.48)**
				Control Groups			
1	16 (100.00)	18 (100.00)	16 (100.00)	16 (100.00)	15 (100.00)	17 (100.00)	**98 (100.00)**
2	15 (93.75)	15 (83.33)	14 (87.50)	15 (93.75)	13 (86.67)	16 (94.12)	**88 (89.80)**
3	14 (87.50)	14 (77.78)	13 (81.25)	13 (81.25)	12 (80.00)	14 (82.35)	**80 (81.63)**
4	13 (81.25)	12 (66.67)	12 (75.00)	12 (75.00)	10 (66.67)	14 (82.35))	**73 (74.49)**
5	12 (75.00)	11 (61.11)	10 (62.50)	12 (75.00)	10 (66.67)	13 (82.35)	**69 (70.41)**
6	10 (62.50)	11 (61.11)	9 (56.25)	12 (75.00)	9 (60.00)	13 (76.47)	**64 (65.31)**
7	10 (62.50)	11 (61.11)	8 (50.00)	12 (75.00)	8 (53.33)	13 (76.47)	**62 (63.27)**
8	10 (62.50)	11 (61.11)	8 (50.00)	12 (75.00)	7 (46.67)	13 (76.47)	**61 (62.24)**

This chapter is comprised of three main parts, as shown below :

The first part : General data; socio-demographic characteristics, HIV infection history, medical history and pregnancy history with HIV seropositive compared between the experimental and control groups.

The second part : Analytical data to investigate the research hypotheses.

1. Comparison of the understanding of the problem solving process, mental strength, health promoting behavior, program satisfaction and health status.
2. The influenced factors on health promoting behavior variation and health status variation.

The Third part : Data of discussion in the experimental groups.

1. Problem based learning. (The 2nd activity)
2. Risk assessment. (The 5th activity)
3. Appropriate lifestyle. (The 7th activity)
4. AID conclusion. (The 8th activity)

4.1 General data

4.1.1 Socio-demographic data (Table 5)

The difference in characteristics of both samples was not statistically significant difference as shown in the following :

The majority of the clients were females, the ratio of males to females was 1 : 2.06 in the experimental groups and 1 : 2.39 in the control groups. The majority were between 30-34 years old and 35-40 years old in both the experimental groups (29.47% and 24.21% respectively) and the control groups (32.79% and 24.59%, respectively). The average age was 33.46 years old in the experimental groups and 33.28 years old in the control groups.

The remarkable characteristic was that more than half were widows (52.63% in the experimental groups and 54.10% in the control groups). The majority was childless (41.05% in the experimental groups and 49.18% in the control groups). Others had only one child (44.21% in the experimental groups and 39.34% in the control groups). The number of members in the families ranged from 2 to 4 persons. The average number was 3.44 persons in the experimental groups and 3.46 persons in the control groups.

The majority had primary education (52.63% in the experimental groups and 47.54% in the control groups). Some were even in the workforce as employees (31.58% in the experimental groups and 37.70% in the control groups) with a regular income of 3,000-4,999 baht (40.00% in the experimental groups and 40.98% in the control groups). A number of them were unemployed (16.84% in the experimental groups and 13.11% in the control groups). The average income was 4,487.37 baht in the experimental groups and 4,488.52 baht in the control groups. The majority said their budget was tight (45.26% in the experimental groups and 34.43% in the control groups), while

some of them earned just enough to cover the expenses with no money left for savings (24.21% in the experimental groups and 32.97% in the control groups). Half of the clients were responsible for others (52.36% in experimental groups and 47.54% in the control groups).

Table 5 Number (percentage) in the experimental and control groups as classified by socio-demographic characteristic.

Socio-demographic characteristic	Exp. groups No.(%)	Cont.groups No.(%)	P-value
Sex			
Male	31 (32.63)	18 (29.51)	
Female	64 (67.37)	43 (70.49)	0.682
Proportion of males to females	**1 : 2.06**	**1 : 2.39**	
Age group (year)			
20-24	5 (5.26)	3 (4.92)	
25-29	21 (22.11)	13 (21.31)	
30-34	28 (29.47)	20 (32.79)	
35-40	23 (24.21)	15 (24.59)	
> 40	18 (18.95)	10 (16.39)	0.991
	$\bar{X}$ = 33.46	$\bar{X}$ = 33.28	
	SD = 5.98	SD = 5.45	
Marital status			
Single	6 (6.32)	6 (9.84)	
Married	28 (29.47)	17 (27.87)	
Widow	50 (52.63)	33 (54.10)	
Divorced / Separated	11 (11.58)	5 (8.20)	0.787
Education level			
Primary level	50 (52.63)	29 (47.54)	
Secondary level	23 (24.21)	17 (27.87)	
Secondary level	12 (12.63)	9 (14.75)	
Graduate level	10 (10.53)	6 (9.84)	0.913
Number of children (person)			
0	39 (41.05)	30 (49.18)	
1	42 (44.21)	24 (39.34)	
> 2	14 (14.74)	7 (11.48)	0.590
Number of family members (person)			
1	6 (6.32)	3 (4.92)	
2	25 (26.32)	18 (29.51)	
3	18 (18.95)	10 (16.39)	
4	23 (24.21)	14 (22.95)	
5	15 (15.79)	11 (18.03)	
> 5	8 (8.32)	5 (8.20)	0.991
	$\bar{X}$ = 3.44	$\bar{X}$ = 3.46	
	SD = 1.46	SD = 1.46	

Table 5 (cont.) Number (percentage) in the experimental and control groups as classified by socio-demographic characteristic.

Socio-demographic characteristic	Exp. groups No.(%)	Cont.groups No.(%)	P-value
Occupation			
Bureaucrat	11 (11.68)	5 (8.20)	
Farmer	16 (16.84)	12 (19.67)	
Merchant	7 (7.37)	6 (9.84)	
General employee	30 (31.58)	23 (37.70)	
Company employee	7 (7.37)	6 (9.84)	
Contract	8 (8.41)	4 (6.56)	
Unemployed	16 (16.84)	8 (13.11)	0.902
Income (baht)			
0	15 (15.79)	8 (13.11)	
< 3,000	17 (0.00)	10 (16.39)	
3,000-4,999	38 (40.00)	25 (40.98)	
5,000-10,000	13 (13.70)	12 (19.67)	
> 10,000	12 (12.63)	6 (9.84)	0.858
	$\bar{X}$ = 4,487.37	$\bar{X}$=4,488.52	
	SD = 4,502.35	SD=4,306.08	
Adequacy of income			
Comfortable	3 (3.16)	2 (3.28)	
Enough	23 (24.21)	20 (32.79)	
Tight budget	43 (45.26)	21 (34.43)	
Inadequate	11 (11.58)	10 (16.39)	
Unemployed	16 (16.84)	8 (13.11)	0.445
Responsibility			
Self reliance	17 (17.89)	14 (22.95)	
Responsible for others	50 (52.63)	29 (47.54)	
Depend on each other	9 (9.47)	10 (16.39)	
Depend on others/the government	19 (20.00)	8 (13.11)	0.370

4.1.2 HIV Infection History (Table 6).

The majority of the clients had the result of HIV seropositive for 3 months (43.16% in the experimental groups and 60.66% in the control groups). Several were widows who were initially hesitant to take a blood test, eventually decided to because they wanted to join the program (9.5% in the experimental groups and 6.56% in the control groups). Some clients took the blood test because their spouse was infected, sick or deceased (47.37% in the experimental groups and 54.10% in the control groups). Some clients gave for caking a blood test owing to pregnancy (26.32% in the experimental groups and 21.31% in the control groups). After finding out one's HIV seropositive status, some clients told others, while some kept it confidential. Almost half of the clients stated that the general public knew of their HIV seropositive status (49.47%

in the experimental groups and 54.10% in the control groups). The rest remained fairly confidential. Some only told their close relatives (20.00% in the experimental groups and 27.87% in the control groups).

Table 6 Number (percentage) in the experimental and control groups as classified by HIV infection history.

HIV infection history	Exp.groups No.(%)	Cont.groups No.(%)	P-value
Duration since Anti-HIV$^+$(month)			
First-time , for this program	9 (9.50)	4 (6.56)	
1-3 monthes ago	41 (43.16)	37 (60.66)	
4-12 monthes ago	19 (20.00)	7 (11.48)	
13-36 monthes ago	17 (17.89)	3 (4.92)	
> 36 monthes ago	9 (9.47)	4 (6.56)	0.297
Reasons for Anti-HIV testing			
Spouse was infected/sick/deceased	45 (47.37)	33 (54.10)	
Pregnancy	25 (26.32)	13 (21.31)	
Child became sick	1 (1.05)	3 (4.92)	
Suspected symptoms	14 (14.74)	6 (9.84)	
Uncertain	4 (4.21)	1 (1.64)	
Accident	2 (2.11)	3 (4.92)	
Job application	0	1 (1.64)	
Insurance	2 (2.11)	1 (1.64)	
Blood donation	2 (2.11)	0	
Exposure of HIV status			
General	47 (49.47)	33 (54.10)	
Relatives	19 (20.00)	17 (27.87)	
Spouse and relatives	13 (13.68)	4 (6.56)	
Spouse, relatives and friends	6 (6.32)	1 (1.64)	
Relatives and friends	4 (4.21)	1 (1.64)	
Close friend	2 (2.11)	2 (3.28)	
Spouse	3 (3.16)	1 (1.64)	
Only oneself	1 (1.05)	2 (3.28)	

4.1.3 Treatment History (Table 7)

More than half of the clients sought some type of treatment (60.00% in the experimental groups and 54.10% in the control groups). In both the experimental and control groups, clients received both Western and herbal medicine (26.32% in the experimental groups and 31.15% in the control groups). The majority the clients who received western medicine, also received herbal medicine (58.14% in the experimental groups and 67.86% in the control groups). In addition, the majority of the cilents who received herbal medicine, also received western medicine (64.10% in the experimental groups and 79.17% in the control groups).

Comparing the expenses of treatment found that western medicine (45.26% in the experimental groups and 45.90% in the control groups) was much higher than herbal medicine (41.05% in the experimental groups and 39.34% in the control groups). Most of the clients who used western medicine did not have to pay (74.42% in the experimental groups and 50.00% in the control groups). The average expenditure for western medicine was 7,147.37 baht in the experimental groups and 9,885.25 baht in the control groups. The average expenditure for herbal medicine was only 263.16 baht in the experimental groups and 1,081.97 baht in the control groups.

It was found that a number of the clients encountered problems regarding medical expense. Some sold resolved to sell their golden necklaces (22.81% in the experimental groups and 21.21% in the control groups), while others sought a loan (10.53% in the experimental groups and 6.06% in control groups) to help cover medical expenses. The rest tried a combination of ways to cover their expenses (14.04% in the experimental groups and 6.06% in the control groups).

Table 7 Number (percentage) of in the experimental and control groups as classified by the medical treatment history.

Medical treatment	Exp.groups	Cont.groups
	No. (%)	No. (%)
History of medical treatment		
No treatment	**38 (40.00)**	**28 (45.90)**
Some treatment	**57 (60.00)**	**33 (54.10)**
Western and herbal medicine	25 (26.32)	19 (31.15)
	(or 58.14%of western)	(or 67.86% of western)
	(or 41.86% of herbal)	(or 79.19% of herbal)
Western medicine only	18 (18.95)	9 (14.75)
Herbal medicine only	14 (14.74)	5 (8.20)
Western medicine : Expenses (Baht)	**43 (45.26)**	**28 (45.90)**
0	32 (74.41% of 43)	14 (50.00% of 28)
< 5,000	1 (2.33% of 43)	0
5,000-9,999	1 (2.33% of 43)	5 (17.86% of 28)
10,000- 49,999	5 (11.63% of 43)	2 (7.14% of 28)
50,000-100,000	1 (2.33% of 43)	3 (10.71% of 28)
> 100,000	3 (6.98% of 43)	4 (14.29% of 28)
	$\bar{X}$ = 7,174.37	$\bar{X}$ = 9,885.25
	SD = 1,437.19	SD = 5,682.74
Herbal medicine : Expenses (Baht)	**39 (41.05)**	**24 (39.34)**
0	12 (30.77% of 39)	9 (37.50% of 24)
< 3,000	9 (23.08% of 39)	7 (29.17% of 24)
3,000-49,999	11 (28.21% of 39)	3 (12.50% of 24)
50,000-100,000	6 (15.38% of 39)	3 (12.50% of 24)
> 100,000	1 (2.56% of 39)	2 (8.33% of 24)
	$\bar{X}$ = 263.16	$\bar{X}$ = 1,081.97
	SD = 1,201.69	SD = 4,344.71

Table 7 (cont.) Number (percentage) in the experimental and control groups as classified by the medical treatment history.

Medical treatment	Exp.groups	Cont.groups
	No. (%)	No. (%)
Sources of expenditure		
Savings	30 (52.63% of 57)	20 (60.61% of 33)
Selling golden necklaces	13 (22.81% of 57)	7 (21.21% of 33)
Made a loan	6 (10.53% of 57)	2 (6.06% of 33)
Selling cars	3 (5.26% of 57)	2 (6.06% of 33)
Selling electrical appliances	1 (1.75% of 57)	0
A combination of sources	8 (14.04% of 57	2 (6.06% of 33)

The analysis of the medical classification found that there was no statistically significant difference between the experimental and control groups as shown in table 8 to 10 as the following :

1. Western medicine : Clients who received western medicine (45.26% in the experimental groups and 45.90% in the control groups) were divided into 4 groups.

1.1 Anti-HIV drugs : Some clients received anti-HIV drugs (15.79% in the experimental groups and 22.95% in the control groups). The majority received these medicine for less than 3 months (60.00% in the experimental groups and 57.14% in the control groups) because of the side effects from taking the medicine(46.67% in the experimental groups and 64.29% in the control groups) as well as the uncertainty of drug effectiveness.

1.2 Antifungal drugs : Some clients received antifungal drugs (9.47% in the experimental groups and 14.75% in the control groups) for different periods of time. Most of the clients in the experimental groups received these drugs for less than 3 months (66.67%), while most of the clients in the control groups received these drugs for 4-6 months (44.44%). Often times, the drugs were too expensive to continue (44.44% in the experimental groups and 66.67% in the control groups).

1.3 Anti-tuberculosis drugs : Some of the clients received prophylactic anti-tuberculosis drugs (28.42% in the experimental groups and 24.59% in the control groups). Some clients received these drugs for less than 3 months (51.81% in the experimental groups and 46.67% in the control groups), while a few of them received these drugs for 4-6 months (14.81% in the experimental groups and 13.33% in the control groupss). Clients stopped the midication because of the uncertainty of the drug effectiveness (44.44% in the experimental groups and 40.00% in the control groups), and because it caused side effects (22.22% in the experimental groups and 20.00% in the control groups). The others were prescribed for the full course of 9 months (33.33% in the experimental groups and 40.00% in the control groups).

1.4 Prophylactic drugs for lung disease : Some clients received prophylactic drugs for lung disease (16.84% in the experimental groups and 21.31% in the control groups) for different periods of time. A number of the clients in the experimental groups received these drugs for less than 3 months (43.75%), while others received these drugs for 12 months (37.50%). The majority of the clients in the control groups received these drugs for less than 3 months (84.62%). The reasons for stopping treatment was the uncertainty of the drug effectiveness (50.00% in the experimental groups and 61.54% in the control groups) and the side effects (31.25% in the experimental groups and 15.38% in the control groups).

2. Herbal medicine : Some clients received herbal medicine (41.05% in the experimental groups and 39.34% in the control groups) for different periods of time ranging from 1 to 12 months. A number of clients with side effects were different (33.33% in the experimental groups and 8.33% in the control groups) due to the various herbs. The only similarity was most of them were not confident in the herbs (66.67% in the experimental groups and 75.00% in the control groups) and requested to stop using it.

Table 8 Number (percentage) in the experimental and control groups as classified by drugs prescribed.

Classification of drugs	History of treatment (%)		P-value
	Never received	received	
Anti-HIV drugs			
• Exp. groups	80 (84.21)	15 (15.79)	
• Cont. groups	47 (77.05)	14 (22.95)	0.262
Antifungal drugs			
• Exp. groups	86 (90.53)	9 (9.47)	
• Cont. groups	52 (85.25)	9 (14.75)	0.314
Anti-tuberculosis drugs			
• Exp. groups	68 (82.11)	27 (28.42)	
• Cont. groups	46 (75.41)	15 (24.59)	0.312
Prophylactic drugs for lung disease			
• Exp. groups	79 (83.16)	16 (16.84)	
• Cont. groups	48 (76.69)	13 (21.31)	0.484
Herbal medicine			
• Exp. groups	56 (58.95)	39 (41.05)	
• Cont. groups	37 (60.66)	24 (39.34)	0.775

Table 9 Number (percentage of the prescribed clients) in the experimental and control groups as classified by the duration of treatment.

Classification of drug	Duration of treatment (%)		
	< 3 months	4-6 months	7-12 months
Anti-HIV drugs			
• Exp. groups	9 (60.00)	5 (33.33)	1 (6.67)
• Cont. groups	8 (57.14)	5 (35.71)	1 (7.14)
Antifungal drugs			
• Exp. groups	6 (66.67)	2 (22.22)	1 (11.11)
• Cont. groups	3 (33.33)	4 (44.44)	2 (22.22)
Anti-tuberculosis drugs			
• Exp. groups	14 (51.81)	4 (14.81)	9 (33.33)
• Cont. groups	7 (46.67)	2 (13.33)	6 (40.00)
Prophylactic drugs for lung disease			
• Exp. groups	7 (43.75)	3 (18.75)	6 (37.50)
• Cont. groups	11 (84.62)	0	2 (15.38)
Herbal medicine			
• Exp. groups	16 (41.03)	14 (35.90)	9 (23.08)
• Cont. groups	11 (45.83)	8 (33.33)	5 (20.83)

Table 10 Number (percentage of the prescribed clients) in the experimental and control groups as classified by the reasons for stopping the treatment.

Classification of drug	Reasons for stopping the treatment (%)			
	Side effects	Doctor's order	Finance problem	Uncertainty
Anti-HIV drugs				
• Exp. groups	7 (46.67)	2 (13.33)	0	6 (40.00)
• Cont. groups	9 (64.29)	0	0	5 (35.71)
Antifungal drugs				
• Exp. groups	1 (11.11)	1 (11.11)	4 (44.44)	3 (33.33)
• Cont. groups	0	2 (22.22)	6 (66.67)	1 (11.11)
Anti-tuberculosis drugs				
• Exp. groups	6 (22.22)	9 (33.33)	0	12 (44.44)
• Cont. groups	3 (20.00)	6 (40.00)	0	6 (40.00)
Lung prophylactic drugs				
• Exp. groups	5 (31.25)	3 (18.75)	0	8 (50.00)
• Cont. groups	2 (15.38)	3 (23.08)	0	8 (61.54)
Herbal medicine				
• Exp. groups	13 (33.33)	0	3 (7.69)	23 (66.67)
• Cont. groups	2 (8.33)	0	4 (16.67)	18 (75.00)

4.1.4 Pregnancy history with HIV seropositive (Table 11)

Female samples (51.56% in the experimental groups and 41.86% in the control groups) who were pregnant found they were HIV seropositive when they took the blood test. The infection had different effects on their childern. Only 40% of the children in both groups were found uninfected. A number of them were still waiting for their blood test (18.18% in the experimental groups and 22.22% in the control groups). Several female clients had abortions (21.21% in the experimental groups and 16.67% in the control groups). Some children were infected (24.24% in the experimental groups and 22.22% in the control groups). Some infected children died (12.12% in the experimental groups and 5.56% in the control groups) while some infected children lived (12.12% in the experimental groups and 6.67% in the control groups). The living in fected children would be a burden to their mother.

Table 11 Number (percentage) of children born to HIV infected mothers in the experimental groups (33* pregnant females) and the control groups (18** pregnant females).

Condition of children	Exp. groups	Cont. groups
	No. (%)	No. (%)
1. Non-HIV infected child	**12 (36.36)**	**7 (38.87)**
2. HIV infected child	**8 (24.24)**	**4 (22.22)**
- Living child	4 (12.12)	3 (16.67)
- Deceased child	4 (12.12)	1 (5.56)
3. Waiting for blood testing (15 months)	**6 (18.18)**	**4 (22.22)**
4. Aborted child	**7 (21.21)**	**3 (16.67)**

* 51.56% of 64 females in the experimental group.
** 41.86% of 43 females in the control group.

Conclusion : By random sampling, it was found that the socio-demographic data, HIV infection history, history of medical treatment, and pregnancy history with HIV seropositive of both samples were homogeneous. The clients were eligible for the study on health promotion program by applying the Buddhist doctrine versus the conventional health education program.

4.2 Investigation of hypothesis.

4.2.1. Comparing understanding of the problem solving process, mental strength, health promoting behavior, promgram satisfaction and health status.

4.2.1.1 Pre-test comparison between groups.

The results from the comparison of understanding of the problem solving process, mental strength and health promoting behavior between the experimental groups and the control groups in the pre-test are as follows :

Understanding of the problem solving : In the pre-test, the mean scores of understanding the causes of the problem, the goal of solving the problem and the way of practice in the experimental groups were less than the middle score. Also, the mean scores of understanding the cause for the problem and the way of practice in the control groups were less than the middle score. For the remaining variables, the mean scores of each group were slightly more than the middle scores. The overall mean score and each of the four items mean score in the experimental groups were not statistically significant different from those of the control groups.

Mental strength : In the pre-test, all the mean scores of each item in both groups except sensual desire in the control groups were less than the middle scores. In the post-test, all the mean scores of each item in both groups except anxiety in the control groups were more than the middle scores. The overall mean score and each of the five items mean score in the experimental groups were not statistically significant difference from those of the control groups.

Health promoting behavior : In the pre-test, the mean scores of exercise and emotional relaxation of each groups were less than the middle scores. For the remaining variables, the mean scores of each groups were more than the middle scores. The overall mean score and each of the six items mean score in the experimental groups were not statistically significant different from those of the control groups.

Table 12 Comparison of the understanding of the problem solving process, mental strength and health promoting behavior between the experimental group and the control groups in the pre-test.

Variables	Middle score	Exp. Groups		Cont. Groups		P-value
		$\bar{X}$	SD	$\bar{X}$	SD	
Understanding the problem solving process.	**25.0**	**26.58**	**5.54**	**27.05**	**4.72**	**0.585**
The condition of the problem	13.5	15.91	3.16	16.21	2.57	0.449
The cause of the problem	3.5	3.11	1.23	3.18	1.20	0.709
The goal of solving	4.0	3.96	1.29	4.08	1.24	0.552
The way of practice	4.0	3.61	1.30	3.57	1.19	0.859
Mental strength	**100.0**	**87.87**	**15.32**	**87.44**	**13.86**	**0.859**
Sensual desire	20.0	19.94	2.52	20.25	3.56	0.557
Ill-will	17.5	15.28	2.63	15.02	3.63	0.619
Dullness	20.0	18.31	3.53	18.34	3.46	0.946
Anxiety	22.5	18.43	3.63	18.15	3.47	0.628
Doubt	20.0	15.92	3.36	15.69	2.76	0.660
Health promoting behavior	**170.0**	**205.29**	**38.46**	**215.66**	**51.49**	**0.180**
Eating wisely	75.0	96.62	18.12	100.90	18.46	0.155
Clean air	17.5	24.22	6.41	25.93	7.77	0.154
Exercise	15.0	10.37	2.90	10.98	4.04	0.305

Table 12 (cont.) Comparison of the understanding of the problem solving, mental strength and health promotion behavior between 95 experimental groups and 61 control groups in the pre-test.

Variables	Middle score	Exp. Groups		Cont. Groups		P-value
		$\bar{X}$	SD	$\bar{X}$	SD	
Health promoting behavior (cont.)						
Adequate rest and sleep	22.0	28.86	6.04	30.34	7.94	0.216
Emotional relaxation	22.5	21.28	5.00	22.44	6.75	0.252
Good communication	18.0	23.94	4.64	25.05	7.58	0.306

The results from the comparison of health status between the experimental groups and the control groups in the pre-test are as follows : Both groups had various symptoms. The three most common symptoms in each group were persistent dermatitis (58.95% in the experimental groups and 63.93% in the control groups), fever (56.84% in the experimental groups and 50.82% in the control groups), and oral candidiasis (54.10% in the experimental groups and 36.84% in the control groups). The next most common symptoms were CNS dysfunction (46.32% in the experimental groups and 39.34% in the control groups), asthenia (38.95% in the experimental groups and 44.26% in the control groups), diarrhea (27.37% in the experimental groups and 36.07% in the control groups), and lymphadenopathy (13.68% in the experimental groups and 6.39% in the control groups). A few of each group had herpes zoster (2.11% in the experimental groups and 4.92% in the control groups). Most of the symptoms in both groups were mild and some cilents in each group did not have any symptom. Thus, all the mean scores were high. The overall mean scores of these symptoms in the pre-test of both groups were not statistically significant difference.

In addition more than half of the samples in both groups had weight loss (67.37% in the experimental groups and 65.57% in the control groups). The body weight loss in the experimental groups was not statistically significant difference from that of the control groups. Therefore, the overall mean score of health status was not statistically significait difference, as noted in table 13.

Table 13 Comparison of the health status between the experimental and control groups in the pre-test.

Variables	Middle score	Exp Groups		Cont groups		P-Value
		n^1	$\bar{X}\pm SD$	n^1	$\bar{X}\pm SD$	
Oral candidiasis	12.0	35	22.91 ± 2.55	33	22.57 ± 2.83	0.449
Herpes Zoster	2.0	2	3.94 ± 0.43	3	3.93 ± 0.31	0.970
CNS dysfunction	14.0	44	26.83 ± 1.96	21	26.87 ± 2.10	0.910

Table 13 (cont.) Comparison of the health status between the experimental and control groups in the pre-test.

Variables	Middle score	Exp Groups		Cont groups		P-value
		n[1]	$\bar{X}$±SD	n[1]	$\bar{X}$±SD	
Diarrhea	2.0	26	3.65 ± 0.67	22	3.59 ± 0.59	0.550
Fever	2.0	54	3.20 ± 0.85	31	3.07 ± 1.05	0.402
Asthenia		37	3.45 ± 0.78	27	3.34 ± 0.83	0.412
Persistent dermatitis	10.0	56	18.24 ± 2.62	39	18.10 ± 2.60	0.738
Persistent cough	2.0	41	3.39 ± 0.83	24	3.23 ± 1.12	0.338
Lymphadenopathy	2.0	13	3.76 ± 0.74	10	3.84 ± 0.58	0.486
Body Weight loss[2]	0	64	-1.98 ± 0.72	40	-2.11 ± 3.09	0.795
Total	**48.0**	-	**83.37 ± 8.55**	-	**82.84 ± 8.05**	**0.519**

1 number of clients with symptoms.
2 The difference in body weight between in the pre-test and normal.

Conclusion : Pre-test data analysis between the experimental groups and the control groups indicates that both groups had no difference in research variables and that they were suitable for testing the research hypotheses.

4.2.1.2 Pre-test and post-test comparison within the groups.

The results from the comparison of understanding of the problem solving process, mental strength and health promoting behavior between the pre-test and the post-test within the experimental groups (table 14), and within the control groups (table 15) are as follows :

Understanding of the problem solving process : In the post-test, all mean scores of both groups were more than the middle scores. The overall mean score and each of the four items mean score in both groups were higher in the post-test than in the pre-test with a statistically significant differance. ($P < 0.001$).

This relates to **hypothesis 1.1** which proposed that the experimental groups understood the problem solving process better in the post-test than in the pre-test.

Mental strength : In the post-test, all mean scores of both groups except anxiety in the control groups were more than the middle scores. The overall mean score and each of the five items mean score in both groups were higher in the post-test than in the pre-test with a statistically significant differance ($P < 0.001$).

This relates to **hypothesis 1.2** Which proposed that the experimental groups had better mental strength in the post-test better than in the pre-test.

Health promoting behavior : In the post-test, all mean scores in both groups were more than the middle score. The overall mean score and each of the six items mean score in both groups were higher in the post-test than in the pre-test with a statistically significant differance ($P < 0.001$).

This relates to **hypothesis 1.3** which proposed that the experimental groups had better health promoting behaviors in the post-test than in the pre-test.

Table 14 Comparison of the understanding of the problem solving process, mental strength and health promoting behavior in the experimental groups between the pre-test and the post-test.

Variables	Middle score	Experimental Groups		P-value
		Pre-test	Post-test	
		$\bar{X}$±SD	$\bar{X}$±SD	
Understanding the problem solving process.	**25.0**	**26.58 ± 5.54**	**42.13 ± 4.76**	**<0.001*** **
The condition of the problem	13.5	15.91 ± 3.16	22.84 ± 2.48	<0.001***
The cause of the problem	3.5	3.11 ± 1.23	5.69 ± 1.28	<0.001***
The goal of solving	4.0	3.96 ± 1.29	6.45 ± 1.40	<0.001***
The way of practice	4.0	3.61 ± 1.30	7.14 ± 1.11	<0.001***
Mental strength	**100.0**	**87.87 ±15.32**	**129.32 ±25.45**	**<0.001*** **
Sensual desire	20.0	19.94 ± 2.52	25.68 ± 5.71	<0.001***
Ill-will	17.5	15.28 ± 2.63	24.32 ± 4.96	<0.001***
Dullness	20.0	18.31 ± 3.53	27.87 ± 4.22	<0.001***
Anxiety	22.5	18.43 ± 3.63	26.83± 6.46	<0.001***
Doubt	20.0	15.92 ± 3.36	24.61 ± 5.47	<0.001***
Health promoting behavior	**170.0**	**205.29 ±38.46**	**264.54 ±24.36**	**<0.001*** **
Eating wisely	75.0	96.62 ±18.12	126.58 ± 9.92	<0.001***
Clean air	17.5	24.22 ± 6.41	28.66 ± 4.38	<0.001***
Exercise	15.0	10.37 ± 2.90	17.08 ± 6.16	<0.001***
Adequate rest and sleep	22.0	28.86 ± 6.04	35.61 ± 4.81	<0.001***
Emotional relaxation	22.5	21.28 ± 5.00	28.10 ± 4.68	<0.001***
Good communication	18.0	23.94 ± 4.64	28.49 ± 3.01	<0.001***

*** $p < 0.001$

Table 15 Comparison understanding the problem solving, mental strength and health promotion behavior within control groups between the per-test and post-test.

Variables	Middle score	Control Groups		P-value
		Pre-test	Post-test	
		$\bar{X}$±SD	$\bar{X}$±SD	
Understanding the problem solving process.	**25.0**	**27.05 ± 4.72**	**40.52 ± 4.92**	**<0.001*** **
The condition of the problem	13.5	16.21 ± 2.57	22.61 ± 2.82	<0.001***
The cause of the problem	3.5	3.18 ± 1.20	5.46 ± 1.10	<0.001***
The goal of solving	4.0	4.08 ± 1.24	6.15 ± 1.38	<0.001***
The way of practice	4.0	3.57 ± 1.19	6.31 ± 1.58	<0.001***
Mental strength	**100.0**	**87.44 ± 13.86**	**113.57 ± 14.92**	**<0.001*** **
Sensual desire	20.0	20.25 ± 3.56	25.23 ± 2.87	<0.001***
Ill-will	17.5	15.02 ± 3.63	20.03 ± 3.44	<0.001***
Dullness	20.0	18.34 ± 3.46	23.16 ± 4.47	<0.001***
Anxiety	22.5	18.15 ± 3.47	22.33 ± 3.23	<0.001***
Doubt	20.0	15.69 ± 2.76	22.82 ± 3.94	<0.001***
Health promoting behavior	**170.0**	**215.66 ± 51.49**	**258.77 ± 26.39**	**<0.001*** **
Eating wisely	75.0	100.90 ± 18.46	122.03 ± 10.35	<0.001***
Clean air	17.5	25.93 ± 7.77	28.77 ± 4.75	<0.001***
Exercise	15.0	10.98 ± 4.04	17.36 ± 3.16	<0.001***
Adequate rest and sleep	22.0	30.34 ± 7.94	34.49 ± 4.52	<0.001***
Emotional relaxation	22.5	22.44 ± 6.75	27.31 ± 4.22	<0.001***
Good communication	18.0	25.05 ± 7.58	28.80 ± 4.46	<0.001***

*** $p < 0.001$

The results from the comparison of health status between the pre-test and the post-test within the experimental groups (table 16) and within the control groups (Table 17). The results are as follow :

a. The experimental groups : The number in the experimental groups with the following symptoms were remarkably lower in the post-test as compare to the pre-test : fever (pre-test 56.84%, post-test 9.47%), persistent cough (pre-test 43.16%, post-test 14.74%), diarrhea (pre-test 27.37%, post-test 1.05%), asthenia (pre-test 38.95%, post-test 12.63%), oral candidiasis (pre-test 36.84%, post-test 15.79%), CNS dysfunction (pre-test 46.32%, post-test 25.26%), and persistent dermatitis (pre-test 58.95%, post-test 49.47%). The mean scores of these symptoms were higher in the post-test than in the pre-test with a statistically significant differance ($p < 0.05$, $p < 0.001$). In addition, the mean body weight was higher in the post-test than in the pre-test with a statistically significant differance ($p < 0.001$).

The number in the experimental groups with lymphadenopathy was slightly lower in the post-test than in the pre-test (pre-test 13.68%, post-test 9.47%). The two clients with herpes zoster were recovered in the post-test. The mean scores of these two symptoms were higher in the post-test than in the pre-test with no statistically significant difference. Overall mean score of health status in the post-test was higher than in the pre-test with statistically significant difference ($p < 0.001$).

This relates to **hypothesis 1.4** which proposed that the experimental groups had a better health status in the post-test than in the pre-test.

Table 16 Comparison of the health status in the experimental groups between the pre-test and post-test.

Variables	Middle score	Pre-test		Post-test		P-value
		n	$\bar{X} \pm SD$	n	$\bar{X} \pm SD$	
Oral candidiasis	12	35	22.91 ± 2.55	15	23.64 ± 1.05	<0.001***
Herpes zoster	2	2	3.94 ± 0.43	0	4.00 ± 0	0.158
CNS dysfunction	14	44	26.83 ± 1.96	24	27.21 ± 1.87	0.001***
Diarrhea	2	26	3.65 ± 0.67	1	3.99 ± 0.10	<0.001***
Fever	2	54	3.20 ± 0.85	9	3.88 ± 0.38	<0.001***
Asthenia	2	37	3.45 ± 0.78	12	3.81 ± 0.33	<0.001***
Persistent dermatitis	10	56	18.24 ± 2.62	47	18.56 ± 1.96	0.050*
Persistent cough	2	41	3.39 ± 0.83	14	3.82 ± 0.46	<0.001***
Lymphadenopathy	2	13	3.76 ± 0.74	9	3.74 ± 0.79	0.482
Body weight	-	-	52.30 ± 7.51	-	137.78 ±14.06	<0.001***
Total	-	-	**136.06 ±13.70**	-	**137.78 ±14.06**	**6.87**

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$
n : number of the clients with symptoms

b. The control groups : The number in the control groups with the following symptoms were remarkably lower in the post-test as compare to the pre-test : persistent cough (pre-test 39.34%, post-test 19.67%), fever (pre-test 50.82%, post-test 39.34%), and asthenia (pre-test 44.26%, post-test 32.79%). The mean scores of these symptoms were higher in the post-test than in the pre-test with a statistically significant differance ($p < 0.001$).

The number in the control groups with oral candidiasis, CNS dysfunction and persistent dermatitis did not decrease in the post-test as compare to the pre-test (54.10%, 34.43% and 63.93% respectively). The mean scores for these symptoms were higher in the post-test than in the pre-test with a statistically significant differance ($p < 0.05$, $p < 0.01$).

The mean body weight was higher in the post-test than in the pre-test with a statistically significant differance ($p < 0.05$, $p < 0.001$).

The number in the control groups with diarrhea was slightly higher in the post-test as compared to the pre-test (pre-test 36.07%, post-test 39.34%), but the mean score was higher in the post-test than in the pre-test. All three clients in the control groups with herpes zoster recovered in the post-test. The mean scores of these two symptom were higher in the post-test than in the pre-test without a statistically significant differance. The control groups with lymphadenopathy had no change.

The overall mean score of health status was higher in the post-test than in the pre-test with a statistically significantly differance ($p < 0.001$).

Table 17 Comparison of health status in control groups between pre-test and post-test.

Variables	Middle score	Pre-test		Post-test		P-value
		n^1	$\bar{X} \pm SD$	n^1	$\bar{X} \pm SD$	
Oral candidiasis	12	33	22.57 ± 2.83	33	22.93 ± 1.63	0.035*
Herpes zoster	2	3	3.93 ± 0.31	0	4.00 ± 0	0.103
CNS dysfunction	14	21	26.87 ± 2.10	21	27.07 ± 1.69	0.045*
Diarrhea	2	22	3.59 ± 0.59	24	3.61 ± 0.49	0.658
Fever	2	31	3.07 ± 1.05	24	3.52 ± 0.67	<0.001***
Asthenia	2	27	3.34 ± 0.83	20	3.64 ± 0.05	<0.001***
Persistent dermatitis	10	39	18.10 ± 2.60	39	18.48 ± 1.84	0.004**
Persistent cough	2	24	3.23 ± 1.12	12	3.72 ± 0.16	<0.001***
Lymphadenopathy	2	10	3.84 ± 0.58	10	3.84 ± 0.58	-
Body weight	-	-	53.70 ± 5.64	-	54.86 ± 5.34	<0.001***
Total	-	-	**136.09 ±10.22**	-	**137.25 ±10.02**	**<0.001*** **

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$
n^1 : number of the clients with symptoms

Conclusion : The research found that both groups performed better in the post-test than in the pre-test on each item score and the overall score for understanding the problem solving process, mental strength and health promoting behavior. It also found that the overall health status and 7 of the 10 items of health status in both groups were better in the post-test than in the pre-test. This indicated that both groups were better in the post-test. An additional test was organized to prove whether the experimental groups were better than the control groups in the post-test.

4.2.1.3 Comparison between groups in the post-test :

The results from the comparison of understanding the problem solving process, mental strength, health promoting behavior and program satisfaction between the experimental and control groups in the post-test (Table 18) are as follows :

Understanding of problem solving : In the post-test, all the mean scores for both groups were more than the middle scores, and all the mean scores for the experimental groups were higher than the control groups. Only the mean score of the way of practice and the overall mean score in the experimental groups were higher than the control groups with a statistically significant differance ($p < 0.05$, $p < 0.001$).

This relates to **hypothesis 2.1** which proposed that the experimental groups have a better understanding of the problem solving process than the control groups in the post-test.

Mental strength : In the post-test, all the mean scores for both groups except anxiety in the control groups were more than the middle scores. All the mean scores in the experimental groups were higher than the control groups. The mean scores of ill-will, dullness, anxiety, doubt and the overall mean score of the experimental groups were higher than the control groups with a statistically significant differance ($p < 0.01$, $p < 0.001$). But the sensual desire mean score of the experimental groups were higher than the control groups with no statistically significant difference.

This relates to **hypothesis 2.2** which proposed that the experimental groups have better mental strength than the control groups in the post-test.

Health promoting behavior : In the post-test, all the mean scores for both groups were more than the middle score. In addition, the mean score of eating, sleeping, emotinal relaxation, and the overall mean score in the experimental groups were higher than the control groups. Only the mean score of eating in the experimental groups was higher than the control groups with a statistically significant differance ($p < 0.01$, $p < 0.001$)

This relates to **hypothesis 2.3** which proposed that the experimental groups have better eating habit than the control groups in the post-test.

Program satisfaction : In the post-test, the mean score for both groups was more than the middle score. The mean score in the experimental groups was higher than the control groups with a statistically significant differance ($p < 0.001$).

This relates to **hypothesis 2.4** which proposed that the experimental groups have more program satisfaction than the control groups in the post-test.

Table 18 Comparison of the understanding the problem solving process, mental strength, health promoting behavior and program satisfaction between the experimental and control groups in the post-test.

Variables	Middle score	Exp. Groups Post-test $\bar{X} \pm SD$	Cont. groups Post-test $\bar{X} \pm SD$	P-value
Understanding the problem solving process.	**25.0**	**42.13 ± 4.76**	**40.52 ± 4.92**	**0.045***
The condition of the problem	13.5	22.84 ± 2.48	22.61 ± 2.82	0.584
The cause of the problem	3.5	5.69 ± 1.28	5.46 ± 1.10	0.239

Table 18 (cont.) Comparison of the understanding the problem solving process, mental strength, health promoting behavior and program satisfaction between the experimental and control groups in the post-test.

Variables	Middle score	Exp. Groups Post-test $\bar{X}\pm SD$	Cont. groups Post-test $\bar{X}\pm SD$	P-value
Understanding the problem solving process. (cont.)				
The goal of solving	4.0	6.45 ± 1.40	6.15 ± 1.38	0.183
The way of practice	4.0	7.14 ± 1.11	6.31 ± 1.58	0.002**
Mental strength	**100.0**	**129.32 ± 25.45**	**113.57 ± 14.92**	**<0.001***
Sensual desire	20.0	25.68 ± 5.71	25.23 ± 2.87	0.512
Ill-will	17.5	24.32 ± 4.96	20.03 ± 3.44	<0.001***
Dullness	20.0	27.87 ± 4.22	23.16 ± 4.47	<0.001***
Anxiety	22.5	26.83 ± 6.46	22.33 ± 3.23	<0.001***
Doubt	20.0	24.61 ± 5.47	22.82 ± 3.94	0.019**
Health promoting behavior	**170.0**	**258.77 ± 26.39**	**264.54 ± 24.36**	**0.165**
Eating wisely	75.0	126.58 ± 9.92	122.03 ± 10.35	0.007**
Clean air	17.5	28.66 ± 4.38	28.77 ± 4.75	0.885
Exercise	15.0	17.08 ± 6.16	17.36 ± 3.16	0.713
Adequate rest and sleep	22.0	35.61 ± 4.81	34.49 ± 4.52	0.149
Emotional relaxation	22.5	28.11 ± 4.86	27.31 ± 4.22	0.285
Good communication	18.0	28.49 ± 3.01	28.80 ± 4.46	0.635
Total	**50.0**	**74.62 ± 8.08**	**66.46 ± 8.39**	**<0.001***

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

The results from the comparison of health status between the experimental and control groups in the post-test (Table 19) are as follows : The number in the experimental groups with the following symptoms in the post-test were remarkably lower as compare to the control groups : oral candidiasis (15.79% in the experimental groups and 54.10% in the control groups), diarrhea (1.05% in the experimental groups and 39.34% in the control groups), fever (9.47% in the experimental groups and 39.34% in the control groups), and asthenia (12.63% in the experimental groups and 32.79% in the control groups). The mean scores of these symptoms in the experimental groups were higher than the control groups with a statistically significant difference ($p < 0.01$, $p < 0.001$).

In addition, the number in the experimental groups with body weight loss in the post-test was less than the control groups (9.84% in the experimental groups and 23.16% in the control groups). The mean score of body weight gained in the experi-

mental groups was higher than the control groups with a statistically significant differance ($p < 0.05$).

Other symptoms in the post-test were found to be similar for both groups : CNS dysfunction (25.26% in the experimental groups and 34.43% in the control groups), persistent cough (14.74% in the experimental groups and 19.67% in the control groups), lymphadenopathy (9.47% in the experimental groups and 16.39% in the control groups) and persistent dermatitis, which still remained a problem in both groups (49.47% in the experimental groups and 63.33% in the control groups). The mean scores of these symptoms in the post-test of both groups were not statistically significant differance.

The overall mean score of health status in the post-test in the experimental groups was higher than the control groups with a statistically significant differance ($p < 0.005$), as demonstrated in Table 19.

This relates to **hypothesis 2.5** which proposed that the experimental groups have a better health status than the control groups in the post-test.

Table 19 Comparison of the health status between the experimental and control groups in the post-test.

Variables	Middle score	Exp.Groups (n = 95) Post-test		Cont.groups (n = 61) Post-test		P-value
		n[1]	$\bar{X}\pm SD$	n[1]	$\bar{X}\pm SD$	
Oral candidiasis	12	15	23.64 ± 1.05	33	22.93 ± 1.63	0.003**
Herpes zoster	2	0	4.00 ± 0	0	4.00 ± 0	-
CNS dysfunction	14	24	27.21 ± 1.87	21	27.07 ± 1.69	0.624
Diarrhea	2	1	3.99 ± 0.10	24	3.61 ± 0.49	<0.001***
Fever	2	9	3.88 ± 0.38	24	3.52 ± 0.67	<0.001***
Asthenia	2	12	3.87 ± 0.33	20	3.64 ± 0.55	0.001***
Persistent dermatitis	10	47	18.56 ± 1.96	39	18.48 ± 1.84	0.783
Persistent cough	2	14	3.82 ± 0.46	12	3.72 ± 0.61	0.277
Lymphadenopathy	2	9	3.74 ± 0.79	10	3.84 ± 0.58	0.399
Body weight gain[2]	-	6	1.73 ± 2.45	22	1.16 ± 1.21	0.050*
Total	**48**	-	**90.45 ± 5.09**	-	**88.36 ± 4.84**	**0.012***

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

1 number (percentage) of clients with sypmtoms.

2 the difference in body weight between the pre-test and the post-test.

Conclusion : The post-test data analysis between the experimental and control groups found that the experimental groups had a better understanding of the way of practice, overall problem solving, mental strength and the health promoting behavior of eating wisely. Also the overall health status and five of the ten items of health status were

better in the experimental groups than in the control groups. This indicates that the improvement was definitely due to the research intervention.

4.2.2 The influence of variables or predicting health promoting behavior for HIV infected clients.

Multiple regression is used to make predictions of health promoting behavior from the overall independant variables. The regression model assesses the combination of understanding the problem solving process, mental strenght and educational level. These factors will significantly effect the health promoting behavior of HIV infected clients (Hypothesis 3).

The study assessed the simultaneous effect of all 3 variables on predicting health promoting behavior : understanding the problem solving process, mental health and educational level. The variances predicted health promoting behavior about 81.6% of the time. The multiple linear regressien equation was statistically significant and all three variables were statistically significant. The multiple regression coefficient for understanding the problem solving process, mental strength and educational level were 3.771, 0.467 and 5.065 respectively, as shown in table 20.

Table 20 Multiple Regression of understanding the problem solving process, mental strength and educational level on predicting health promoting behavior.

Variables	Multiple Regression Coefficient Analysis		
	Cof	SE	P-value
Constant	7.847	11.168	0.483
Understanding the problem solving	3.771	0.445	<0.001***
Mental strength	0.467	0.093	<0.001***
Educational level	5.065	1.468	0.001***

Sources	Analysis of Variance				
	df	SS	MS	F	P-value
Regression	3	151443.436	50481.145	224.336	<0.001***
Residual	152	34203.712	225.024		
R^2	0.816				

*** $p < 0.001$

Based on these results, the research shows that understanding the problem solving process, mental strength and educational level are important in predicting health promoting behavior. There may be some other variables that affect health promoting behavior that are missing from the regression equation.

4.2.3 The influence of variables on predicting health status for HIV infected clients.

Multiple regression is used to make predictions of health status from the overall health promoting behaviors. The regression model assessed the combination of eating behavior and air pollution avoidance. These factors will significantly effect the health status of HIV infected clients (Hypothesis 4).

This study assessed the simultaneous effect of all 2 variables on predicting health status : eating behavior and air pollution avoidance. The variance predicted health status about 20.20% of the time. The multiple linear regression equation was statistically significant and all 2 variables were statistically significant. The multiple regression coefficient for eating behavior and air pollution avoidance were 0.699 and 0.328 respectively, as shown in table 21.

Table 21 Multiple Regression of eating behavior and air pollution avoidance on predicting health status.

Variables	Multiple Regression Coefficient Analysis		
	Cof	SE	P-value
Constant	119.700	11.166	<0.001***
Eating behavior	0.699	0.162	<0.001***
Air pollution avoidance	.328	0.117	0.007**

Sources	Analysis of Variance				
	df	SS	MS	F	P-value
Regression	3	434.558	144.853	7.337	<0.001***
Residual	57	1125.376	19.743		
R^2	0.202				

** $p < 0.01$, *** $p < 0.001$

Based on these results, the research shown eating behavior and air pollution avoidance are important in predicting health status. There may some other variables that affect health status that are missing from the regression equation.

4.3 Data of discussion in the experimental group.

4.3.1 Problem based learning (The second activity) is divided into 2 parts as follows :

Part I Problem discussion : To discuss problems from 4 general questions. The results of the discussion are in table 22 to 26.

The first question was **"what problems have you had since you were infected?"** The result of the discussion divided the problem into 3 parts (table 22) as shown below :

A. Physical problem : When the physical problems were assessed by the definition of epidemiological surveillance (10 symptoms), it was found that 17 clients in the experimental groups (17.89%) were without any symptoms. The discussion found that they suffered from various other problems. They experienced hypersensitivity to mosquito / insect bites, allergic rhinitis, chemical allergy and food-allergy easier than normal (88.42%, 66.32%, 51.58% and 33.68% respectively). The next most common physical problems were anorexia and sleep disturbances (49.47% and 46.32% respectively). Some had sensory problem of the eyes, ears, tongue, nose (27.37%, 21.05%, 15.79% and 11.58% respectively) and menstrual problems in female (22.11%). Other important problems were myalgia , arthralgia and hair loss (74.74%, 72.63% and 55.79% respectively). The most interesting problem the discussion was that one's skin got darked (23.16%).

B. Mental problem : There were three issues of discussion. **First** was the desire for living. Everyone had similar feelings that arose frequently during the day, such as the feeling of living death (100.00%) and being afraid of death (94.74%). Half of them felt that the life must be hidden (50.53%), while others felt that they were abandoned (40.00%). Some simply wanted to end it all or wanted to flee from reality. Some even thought of committing suicide (25.26%). Others felt that the existing treatment treated them like guinea pigs (11.58%). **Second** was the feelings toward others. Women got angry with their husbands who carried HIV (42.21%). They also became angry because they were rejected (32.64%) and felt that health care providers did not appropriately take care of HIV/AIDS patients (27.37%). **Third** was the expression of feelings. HIV/AIDS patients would like to run away from it all, but can find any place to go. Some shouted at the heavens demanding to know why they have such a miserable existence. They expressed feelings such as withdrawal (36.84%), weeping (31.58%), talking alone like being mad (17.89%) and some even had nightmares (14.74%).

C. Social problem : The main problem with the neighbors was a decline in : communication (56.84%). Some widows returned to their birthplaces after their husbands died (32.63%) and some spouses divorced or separated after getting their blood test results (12.36%). Often times, children of HIV infected parents were without a baby-sitter (9.47%) or were rejected at school (5.26%). Some HIV infected clients were unemployed (12.63%) or retired (3.16%). Different clients seeked different types of treatment. Some tried several kinds of supplementary foods which were very expensive (20.00%). Some tried herbs that they heard about on the news (11.58%). Some even tried a combination of 13 western drugs from a doctor in Payow Province through the mail (2.11%).

Table 22 Numbers (percentage) in the experimental groups on the discussion of the question "what problems have you had since you were infected?"

Results of discussion	No. (%)
Physical problems	
1. Hypersensitivity	
- Mosquito/insect bites	84 (88.42)
- Allergic rhinitis	63 (66.32)
- Chemical allergy	49 (51.58)
- Food allergy	32 (33.68)
2. G.I. disturbance : anorexia, nausea, dyspepsia	47 (49.47)
3. Sleep disturbance : insomnia, drowsiness, sleeplessness, awaken easily at night	44 (46.32)
4. Abnormal sensations	
- Blurred vision, diplopia	26 (27.37)
- Hard of hearing, deafness, tinnitus	20 (21.05)
- Decrease in taste	15 (15.79)
- Decrease in smell	11 (11.58)
5. Leucorrhea, irregular menstrual period, less quantity, dark-reddish in color	21 (22.11) (or 32.81% of 64 females)
6. Other problems	
- Myalgia, arthralgia	71 (74.74)
- Tired easily	69 (72.63)
- Hair loss more than normal	53 (55.79)
- Skin gets darker	22 (23.16)
7. No problem	9 (9.47)
Mental problems	
1. Desire for living.	
- Feeling like living death, feeling like dying before death, worthless, meaningless, hopeless, future torn apart, waiting to die, living day by day.	95 (100.00)
- Fearfulness, afraid of sickness, afraid of abandonment, afraid of death.	90 (94.47)
- Life must be concealed and hide, did not desire to be suspected of secret	48 (50.53)
- feeling abandoned, lonely, being in a dark corner, friendless, no support.	38 (40.00)
- Thinking of suicide.	24 (25.26)
- Life like guinia-pigs.	11 (11.58)
2. Feelings toward others people.	
- Angre with their husbands who carried HIV and spread it to her/child.	42 (42.21)
- Angre about rejection.	31 (32.64)

Table 22 (cont.) Numbers (percentage) in the experimental groups on the discussion of the question "what problems have you had since you were infected?"

Results of discussion	No. (%)
Mental problems (cont.)	
- Angre with health provider who did not appropriately take care of HIV/AIDS patients.	26 (27.37)
3. Expression of feelings.	
- Being withdrawn, shy, keep in all bottled up.	35 (36.84)
- Weeping, regretting	30 (31.58)
- Talking alone like being mad	17 (17.89)
- Nightmare	14 (14.74)
Social problem	
1. Relationship with others	
- Communication declined, society repeled	54 (56.84)
- Returned to her birthplace after her husband died.	31 (32.63) (or 65.96% of 47 widows)
- Divorce/separate after knowing result of blood.	11 (11.58) (or 32.29% of 28 spouses)
2. Effect on the children.	
- No baby-sitter	9 (9.47) (or 28.13% of 32 persons whose child is pre-school age)
- Being rejected from teacher/parents of students	5 (5.26) (or 20.00% of 25 persons whose child is school age)
3. Occupation	
- Unemployment	12 (12.63)
- Retirement	3 (3.16)
4. Seeking treatment	
- Trying several expensive supplementary food	19 (20.00)
- Trying herbal medicine on news	11 (11.58)
- Trying 13 combined drug from medical clinic delivered through the mail.	2 (2.11)
- Trying injection from the medical clinic to prevent HIV vertical transmission	1 (1.05)
5. No problem	11 (11.58)

The discussion of the clients' problems described various kind of problems : physical, mental and social problems. The main problem was the mental problem ($\overline{X}$ = 57.89%). Most clients weighed the mental problem as 40-80% of their overall problem. The mental problem was the only one where clients weighed it as 90-100% of the overall problem (10.53%). The social problems were the second most common prob-

lems ($\overline{X}$ = 42.74%). Clients weighed these problems as 30-50% of their overall problem. There were 11.58% of the clients did not have social problems. The last was the physical problem ($\overline{X}$ = 7.89%). Most of the clients weighed it as 10% and some up to 20%. There were 31.58% of the clients did not have physical problems. See table 23.

Table 23 Numbers (percentage) in the experimental groups in weighing the size of each type of problem by percentages.

Weighing the size of the problem (%)	Type of problem		
	Mental (%)	Social (%)	Physical (%)
0	0	11 (11.58)	30 (31.58)
10	2 (2.11)	9 (9.47)	55 (57.89)
20	6 (6.32)	9 (9.47)	10 (10.53)
30	6 (6.32)	12 (22.11)	0
40	11 (11.58)	17 (17.89)	0
50	16 (16.84)	13 (13.68)	0
60	21 (22.11)	6 (6.32)	0
70	12 (12.63)	6 (6.32)	0
80	11 (11.58)	3 (3.16)	0
90	4 (4.21)	0	0
100	6 (6.32)	0	0

$\overline{X}$ of mental problem = 57.89%
$\overline{X}$ of social problem = 42.74%
$\overline{X}$ of physical problem = 7.89%

The second question was **"What has caused the problems that you have had ?"** Most of the clients discussed the external causes, especially the severity of HIV. Most felt like HIV was incurable (80.00%) or that it destroyed every part of the body (47.37%). Other problems identified were the public relation about AIDS (34.79% to 50.53%) and the health care providers' performance (27.37% to 42.11%). Many still felt that soceity did not understand (60.00%). Very few clients felt that behavior was the cause (9.47%) as table 24.

Table 24 Numbers (percentage) in the experimental groups on discussion the question "What has caused the problems that you have had ?"

Results of discussion	No. (%)
1. Severity of HIV	
- Incurable.	76 (80.00)
- Destroys every part of the body.	45 (47.37)
2. Public relation about AIDS.	
- Present terrible pictures of the last stage, in spite of mostly being normal.	48 (50.53)

Table 24 (cont.) Numbers (percentage) in the experimental groups on discussion the question "What has caused the problems that you have had ?"

Results of discussion	No. (%)
2. Public relation about AIDS. (cont.)	
- Interview the back side of HIV infected persons or in the dark corner.	39 (41.05)
- Emphasize a fear of AIDS for prevention, stigmatization.	34 (34.79)
3. Health care providers' performance	
- put on gloves / mask while taking care of HIV / AIDS	40 (42.11)
- Discriminating evidence.	31 (32.63)
- Wrapped the corps of HIV/AIDS patients with red bag.	26 (27.37)
4. Society does not understand. They fear, hate and reject HIV infected persons..	57 (60.00)
5. HIV infected persons can not cope, accept or understand problems.	9 (9.47)

The third question was **"What was the goal of solving the problem in the past ?"** Because most lacked awareness, they preferred the negative mind as their final goals such as selfishness, greed, sensuality and covetousness. Most identified curative goals. They wanted to recover (84.21%) and wanted negative seroconversion (77.89%). Others wanted welfare in case of illness (52.63%). They also wanted the government to support herbal medicine (43.16%) and protect the drug-consumer (36.84%). From a social goal, they wanted acceptance from the society (80.00%), and wanted to keep their HIV status confidential (50.53%). Others wanted the government to be an employment bureau (32.61%). Some wanted the government to stop the negative media of AIDS (29.47%) and wanted health care providers to be as models in accepting HIV/AIDS (22.11%). Spouses with children wanted their child to be accepted (23.16%), and have a chance for them to be educated (10.47%). The minority had a goal of good health orientation (15.79%). Some just wanted to die in peace (7.37%), while others had no goals (6.32%). See table 25.

Table 25 Numbers (percentage) in the experimental groups on the discussion of the question, "What was the goal of solving the problem in the past ?"

Results of discussion	No. (%)
1. Curative goal	
- Recover from evil disease.	80 (84.21)
- Negative seroconversion.	74 (77.89)
- Welfare for illness.	50 (52.63)
- Government support of herbal medicine	41 (43.16)
- Drug consumer protection from delusion	35 (36.84)

Table 25 (cont.) Numbers (percentage) in the experimental groups on the discussion of the question, "What was the goal of solving the problem in the past ?"

Results of discussion	No. (%)
2. Social goal.	
- Be accepted, no rejection.	76 (80.00)
- Keep HIV status confidential.	48 (50.53)
- Employment insured by the government.	31 (32.61)
- Stop negative media.	28 (29.47)
- Health care provider as a model for HIV/AIDS acceptance.	21 (22.11)
3. Goals pertaining to children.	
- Be accepted from relatives after dying.	22 (23.16) (or 38.60% of 57 clients who had child)
- Have a chance to be educated.	14 (10.74) (or 24.56% of 57 clients who had child)
4. Healthy goal	
- Have good health without sickness.	15 (15.79)
- Die in peace without suffering and physical change.	7 (7.37)
5. No goal.	6 (6.32)

The fourth question was **"How did you deal with the problems in the past ?"** The result of the discussion was divided into 2 parts : treatment and self-care. For treatment, 60% of the clients sough some type of treatment. Most were treated with both western and herbal medicine (26.32%). For self-care, it was found that all of the 31 males stopped promiscuity. In general living, more than half acted as usual (61.05%), some were aware and took care of their health (30.53%), some information about the treatment (16.84%), and some did anything they wanted good or bad (8.42%). In mental care, some got rid of bad luck by making merit by sprinkling holy water on their head or by other means (20.00%). In social care, half of them avoided communicating with someone who rejected AIDS (56.84%), while others tried to keep things confidential until the end (50.53%). Some widows were rejected and had to return to their birthplace after their husbands died (32.63%). Some spouses divorced / separated (11.58%). The minority received welfare from the government (15.79%). See as table 26.

Table 26 The number (percentage) in the experimental groups on the discussion the question, "How did you deal with the problem, in the past ?"

Results of discussion	No. (%)
Treatment	
1. No treatment	38 (40.00)
2. Treatment	57 (60.00)
- Western and herbal medicine	25 (26.32) (or 58.14% of 43 clients with western medicine) (or 64.10% of 39 clients with herbal medicine)
- Western medicine only	18 (18.95) (or 41.86% of 43 clients with western medicine)
- Herbal medicine only	14 (14.74) (or 35.90% of 39 clients with herbal medicine)
Self care	
1. Stopped promiscuity	31 (32.63) (or 100.00% of 31 male)
2. General living	
- Act as usual, did not desire to be suspected of AIDS	58 (61.05)
- Took care of their health.	29 (30.53)
- Follow the information about treatment	16 (16.84)
- Eat/do anything. They wanted good or bad.	8 (8.42)
3. Mental care	
- Make merit to get rid of bad luck and extend life.	19 (20.00)
- Meditation	6 (6.32)
4. Social care	
- Avoid people who rejects AIDS.	64 (56.84)
- Keep HIV status confidential to the end	48 (50.53)
- Move to birthplace after their husband died, the relatives rejected	31 (32.63) (or 65.96% of 47 widows)
- Receive social welfare such as money, child's milk	15 (15.79)
- Divorce/separate after knowing the blood test.	11 (11.58) (or 39.29% of 28 spouses)

The result of discussion showed the true evidence of the problems. Most were the mental and social problems which related to each other. The physical problem was only minimal. The mind is not as concrete and objective as the body. They gave only little concern to their minds, taking more interest in their physical problem. The HIV/ AIDS patients dealt with these problems by integrating western medicine, herbal medicine and self care. This was different from the treatment of other illnesses because AIDS has not been accepted by society yet. The behavioral causes of the problems (9.47%) were hardly discussed, as well as the behavioral goals of solving the problem (15.79%).

Conclusion : HIV/AIDS clients believed that suffering existed in their minds all the time because their body was not perfect. They were willing to go to any lengths to improve or perfect their physical bodies by using any means available, including special diet, western and herbal medicines. They were unable to resolve the cause of the problem. They continued to suffer. They were hopeless and their lives were filled with anguish and despair as the result of the inaccurate information of AIDS. Because of their ignorance, their solution was usually only a partial solution. While attempting to resolve their problems by seeking treatment. The government could not protect them from being deceived. They often escaped to an isolated island in order to evade these situations Unfortunately, they did not detach from their problems. As the result, they were unable to solve their problems, and frequently created more problems and greater suffering. This vicious cycle goes on and on.

Therefore, learning must be clarified into the condition of the problem, the cause of the problem, the goal of solving the problem and the way of practice as in the following discussions.

Part II Discussion of the problem solving process

a) Discussion on the condition of the problems.
b) Discussion on the causes of the problem
c) Discussion on the goal of solving the problem.
d) Discussion on the way of practice.

a) Discussion on the condition of the problems : To discuss 3 specific questions. The results of the discussion are in table 27 to 29.

The first question was **"What does HIV infection feel like ?"** The discussion found several views which reflected the HIV/AIDS client's feeling in a variety of ways. The great mistake they made was by considering HIV an enemy. It was over whelming that no one could correct. It destroyed the entire body, likes lead the water into the depth and let the enemy into the country. They saw society as unkind and health care providers as unwilling to take care of them. See table 27.

Table 27 The number (percentage) in the experimental groups on the discussion of the question, "What does H.I.V. infection feel like ?"

Results of discussion	No. (%)
1. H.I.V. infected person image.	
- Like a drowned man, like a wreaked raft, like a leaking ship.	13 (13.68)
- Like a prisoner whose sentenced is death, like going hunted.	10 (10.53)
- Like living death, like dying before death, like go into a woeful state of hell.	8 (8.42)
- Like hanging by a thread.	7 (7.37)

Table 27 (cont.) The number (percentage) in the experimental groups on the discussion of the question, "What does H.I.V. infection feel like ?"

Results of discussion	No. (%)
1. H.I.V. infected person image. (cont.)	
- Like a burden being compelled to shoulder, like being struck	4 (4.21)
by lightening.	3 (3.16)
- Like a nightmare, like a dream.	
- Like leading an enemy into the house, must be aware all the time, blame oneself being the victim of the action	3 (3.16)
2. HIV image.	9 (9.47)
- Like a time bomb, like an aerolite	9 (9.47)
- Like a plant louse, like a termite.	7 (7.37)
- Like a house on fire.	
- Like a thief in the house, like a spy in the country, like	5 (5.26)
a communist.	2 (2.11)
- Like the god of death.	
3. Social image about AIDS.	
- Like in the cloud or dark, like being separated from	11 (11.58)
society, like living in different world	6 (6.32)
- Like being stigmatized, like sin / evil.	5 (5.26)
- Like some disgust, like a leprosy dog.	
4. Health care provider image about AIDS.	
- Like a monster, like a zoo, like goods on display.	8 (8.42)
- Like a guinea pig.	3 (3.16)

The second question was **"What is the target of destruction in a war?" and "What is the target of HIV ?"** It was found that the target of destruction in a war helped clients discuss the target of HIV. Almost half talked widely about the body's immunity (40.00%). Others talked about the white blood cells (23.16%) and the CD4 cell (2.11%). Some understood that HIV spoiled the blood (13.68%). Some understood that the target of HIV was the body as a whole (8.42%), and some had no answer (12.63%). See table 28.

Table 28 The number (percentage) in the experimental groups on the discussion of the question, "What is the target of destruction in a war?" and "What is the target of HIV ?"

Results of discussion	No. (%)
Target of destruction in the war.	
- The main location in the states : the military base, army.	47 (49.47)
- Transportation : road, railway, airport, dock.	22 (23.16)
- Telecommunication : telephone, telegram, satellite.	17 (17.89)

Table 28 (cont.) The number (percentage) in the experimental groups on the discussion of the question, "What is the target of destruction in a war?" and "What is the target of HIV ?"

Results of discussion	No. (%)
Target of destruction in the war. (cont.)	
- Cultural source : temple, historical location.	9 (9.47)
Target of HIV.	
- Body immunity.	38 (40.00)
- White blood cells.	22 (23.16)
- All blood systems in the body.	13 (13.68)
- All organs in the body.	8 (8.42)
- CD4 cells.	2 (2.11)
- Unknown.	12 (12.63)

The third question was **"Who grabs an opportunity during a war" and "What are the opportunistic infections in AIDS?"** The discussion on complicated status during a war helped the clients when discussing opportunistic infection. They shared the experience of the other diseases that can infect the body since it's immunity is decreased. The clients identifide 9 types of the opportunistic infection : colds and amoebas were the most ones discussed (72.63% and 67.37% respectively). Next were fungus in mouth and on the skin and herpes zoster (43.16%, 36.84% and 25.26% respectively). Opportunistic infections that were often the cause of death were also discussed namly lung tuberculosis (55.79%) cryptococal meningitis (18.95%) and pneumocystis carinii pneumonia (10.53%). See table 29.

Table 29 The number (percentage) in the experimental groups on the discussion of the question, "Who grabs an opportunity during a war?" and "What are the opportunistic infections in AIDS?"

Results of discussion	No. (%)
Who grabs an opportunity during a war	
- Thief, robber	62 (65.26)
- Merchant	43 (45.26)
The opportunistic infections in AIDS	
- A cold	69 (62.63)
- Amoeba.	64 (67.37)
- Lung tuberculosis	53 (55.79)
- Fungus in the mouth	41 (43.16)
- Fungus on the skin	35 (36.84)
- Herper zoster	24 (25.26)
- Cryptococal meningitis	18 (18.95)
- Pneumocystis carinii pneumonia	10 (10.53)
- Herpes simplex	5 (5.26)

The result of the discussion on the condition of the problem found that the clients could identify opportunistic infections. They not only learned about HIV, but they also shared the reality of problem about other in fections. This leads to the discussion of the cause of the problem.

Conclusion : At the beginning of problem discussion, the experimental group started to have a thorough understanding of the conditions of the problems and began to see the problems realistically. They realized for themselves, through their own experience, the true conditions of the problems, both physical and psychosocial. They also realized the differance between the types of problems. They had a thorough understanding of the progression of the disease and the body's mechanism. Therefore, they could continue their discussion in the right direction.

b) Discussion on the cause of the problem : To discuss 6 specific questions. The results of the discussions are in tables 30 to 35.

The first question was **"Why do some HIV infected clients get well, while some get sick and others die ?"** The question on the different states of the disease introduced the discussion on the cause of the problem. The most discussed causes were pathological (60.00% to 85.26%) and those caused by society (58.95%). More importantly, they discussed the behavioral causes. They identified mental condition (75.79%), self-care (21.05%) and understanding AIDS (37.89%) as possible causes to the progression of the disease. In addition, they discussed the causes of western medicine (20.00%) as well as herbal medicine (23.16%) that caused AIDS in different condition. See table 30.

Table 30 The number (percentage) in the experimental groups on the discussion of the question, "Why do some HIV infected clients get well, while some get sick and others die?"

Results of discussion	No. (%)
1. Pathological causes	
- Period of HIV seroconversion	81 (85.26)
- Viral load	66 (69.47)
- Type of HIV	57 (60.00)
- Physical strength	6 (6.32)
2. Behavioral causes	
- Mental condition	72 (75.79)
- Self-care	20 (21.05)
- Understanding AIDS	36 (37.89)
3. Social causes	56 (58.95)
4. Treatment causes	
- Lumbar puncture and Amphoteracin B intravenous drip made the progression of the disease worse.	28 (29.47)
- Herbal medicine caused wet AIDS where exudation of toxic substances through the skin.	22 (23.16)

Table 30 (cont.) The number (percentage) in the experimental groups on the discussion of the question, "Why do some HIV infected clients get well, while some get sick and others die?"

Results of discussion	No. (%)
- Western medicine caused dry AIDS where skin turns darker.	19 (20.00)
- Native herbal medicine improved symptoms.	13 (13.68)

The second question was**"Why was there a HIV infected widow club in Chiang Mai?"** The HIV infected widow club in Chiang Mai was developed because of a higher death rate in males than females. Most of the discussion emphasized the pathological causes in the duration of the infection (95.79%) and the viral load in males (87.37%). Many believed that HIV attacked males more than females (31.58%). For example, several wives were not infected from their HIV/AIDS husbands. Furthermore, four behavioral causes were discussed. The first two topics discussed were risk behavior in males (82.11%) and healthy behavior in females (74.74%). The other two topics were working condition in males (55.79%) and the mental strength condition in females (15.79%). They were interested in which gender possessed a stronger mental condition. The last topic was the belief about menstruation (60.00%). See as table 31.

Table 31 The number (percentage) in the experimental group on the discussion of the question, "Why was there a HIV infected widow club in Chiang Mai?"

Results of discussion	No. (%)
1. Pathological causes:	
- The duration of infection in males is longer than in females.	91 (95.79)
- Viral load in males is higher than in females.	83 (87.37)
- HIV attacked males more than females.	30 (31.58)
2. Behavioral causes:	
- Risk behavior: men receive infection all time.	78 (82.11)
- Health behavior: women take care of themselves better than men.	71 (74.74)
- Working behavior: men work harder physically.	53 (55.79)
- Mental condition: female possess increased mental strength.	(15.79)
3. Monthly menstruation, a way of driving out the spoiled blood, cause women to be healthier than men.	57 (60.00)

The third question was **"What is your experience with the saying 'Mind is the chief, body is the servant' ?"** During the discussion, everyone shared a similar experience. When first informed of begining HIV seropositive, they had difficulty ad-

justing. They often experienced behavior deviation and abnormal expressions. Whenever they heard AIDS news, they were startled or frightened (88.42%). Some were anorexic (76.84%) and developed insomnia (72.63%). Some even suddenly manifested all of the symptoms related disease (22.11%). Some developed diarrhea intermittently (15.79%). See table 32.

Table 32 The number (percentage) in the experimental groups on the discussion of the question? "What is your experience with the saying 'Mind is the chief, body is the servant?"

Results of discussion	No. (%)
1. Behavior deviation and abnormal expression, be startled / terrified when hearing AIDS news.	84 (88.42)
2. Anorexic, nausea, flatulency, weight loss.	73 (76.84)
3. Insomnia, easily awaken at night, nightmare.	69 (72.63)
4. Makes mistakes all the time, loss self confidence.	57 (60.00)
5. Living like living death, no vitality, being inactive and depressed.	44 (46.32)
6. Confusion, dizziness, headache.	33 (34.74)
7. All of the sudden, they show all of the related symptoms.	21 (22.11)
8. Withdrawn, speak to ownself just like a neurosis.	17 (17.89)
9. Intermittent diarrhea.	15 (15.79)

The fourth question was **"Do you believe that all the symptoms were caused by yourself, or not ?"** The discussion aimed at the result of one's actions. Everyone agreed that being promiscuous as well as being unable to accept having HIV caused the sickness (100.00%). Some clients also believed that taking certain medications advertised from various media induced sickness (80.00%). Moreover, some felt that certain potentially harmful chemical foods triggered their sickness (64.21%). It created interesting among the clients. There was no definite answer for this "unwholesome" food because not all of the clients got sick when eating the same food. In general, most folk healers strictly prohibited many unwholesome food even those as simple as glutinous rice. Western medicine only restrict half-cooked food and fermented food. Furthermore, 41.05% of the clients talked about negligence of one's own health caused their illness. See table 33 for details.

Table 33 The number (percentage) in the experimental groups on the discussing of the question, "Do you believe that all the symptoms were caused by yourself, or not ?"

Results of discussion	No. (%)
1. Rejecting HIV caused the illness.	95 (100.00)
2. Being promiscuity caused the illness.	95 (100.00)
3. Taking all advertised herbs caused the illness.	76 (80.00)

Table 33 (cont.) The number (percentage) in the experimental groups on the discussing of the question, "Do you believe that all the symptoms were caused by yourself, or not ?"

Results of discussion	No. (%)
4. Eating unwholesome foods caused the illness.	61 (64.21)
5. Lacking of self-care caused the illness.	39 (41.05)

The fifth question was "What kind of mistakes have you committed that caused your illness?" This discussed led to the following list of food and substances. The HIV/AIDS clients felt like these food caused symptoms within 4 hours.

1. Fermented food. Crab sauce (54.84%) caused various symptoms, such as a widespread rash and serious vertigo. Some had symptoms by only smelling the bad odor. Another fermented food was pickled vegetables/pickled fruit (35.79%). This type of food caused rashes, stomachaches and severe diarrhea which required intravenous fluid replacement.

2. Meat : Frog meat (46.67%) caused a burning sensation inside the body and then developed into a widespread rash. Other meats that caused problems were field crab/snail (39.13%), half-cooked meat (25.81%), seafood (25.26%) and beef (20.83%). All of these caused similarly severe reactions, such as vomiting, headache, and chest tightness. One client even came down with convulsions and unconsciousness.

3. Vegetables : Cha-om (acacia) caused severe diarrhea, dizziness, rash, and fatigue (25.93%). Some lived near cha-om farms. As a consequence, its smell in the rainy season was a big problem for those who had allergies. Another example is wild mushrooms (16.00%). Most had agricultural experiences that led the discussion to the contaminants in vegetables. Finally, the last discussed item involved male tum-leong (8.42%), this was claimed to cause diarrhea.

4. Fruits : Durian (16.84%) and its smell caused fever, chest tightness, rashes, and dizziness. Water melon (15.79%) caused stomachaches and diarrhea. Some fruits with latex such as jackfruit (13.68%) and langsat / longgong (11.58%) caused fever, chest tightness, rash, vomiting, and dizziness. Ripe mango (11.58%) and longan /lichee (9.47%) caused similar reactions, i.e., stomatitis, diarrhea, and fever.

5. Canned / packaged food (15.38%). It caused a variety of symptoms, such as numbness of the tongue and limbs, aches or joint pain and diarrhea. One case suffered from jerky convulsions.

6. Chemical substances : Alcohol (36.84%) caused severe headaches, muscle weakness and one case of unconsciousness. All seven clients with an alcohol allergy

manifested the symptoms after a celebration and were taken to a hospital. The next substance discussed was thinner (22.86%) which caused dizziness, aching and joint pain, fatigue, and chest tightness. Herbicides (20.83%) caused similar symptoms as previously mentioned. In addition to those substances, one went into convulsion twice after taking the smell of yeast for paving (18.52%). The vapor of gasoline and carbon monoxide (11.58%) caused skin rashes, vertigo, and fatigue. One worked as an accountant at a pump and had to quit his job. All five of the clients had to leave their jobs because of illness. See table 34.

Table 34 The number (percentage) in the experimental groups on the discusstion of the question, " What kind of mistakes have you committed that caused your illness?" classified by some toxic substances.

Results of discussion	Receiver	No. with allergy (%)
Fermented food:		
- Crab sauce and its odor	31	17 (54.84)
- Pickled vegetable/fruit	95	34 (35.79)
- Preserved fish	60	14 (23.33)
- Fermented noodle	87	13 (14.94)
- Fermented pork	73	8 (10.96)
Meat:		
- Frog meat	15	7 (46.67)
- Crab/snail in the paddy-field	23	9 (39.13)
- Half-cooked meat	31	8 (25.81)
- Seafood	95	24 (25.26)
- Beef	48	10 (20.83)
- Fish without scales: catfish, eel	47	9 (19.15)
- Duck, goose	21	4 (19.05)
- Chicken	95	15 (15.79)
- Dried food: salted meat, salted fish	95	11 (11.58)
- Entrails	95	10 (10.53)
Vegetables:		
- Cha-om and its odor	81	21 (25.93)
- Wild mushrooms	50	8 (16.00)
- Vegetables in the paddy-field.	33	5 (15.15)
- Vegetables with high chemical agents: cowpea,cucumber,cabbage	95	10 (10.53)
- Tum-leung (male)	95	8 (8.42)
Fruits:		
- Durian and its odor	95	16 (16.84)
- Water melon	95	15 (15.79)
- Jackfruit	95	13 (13.68)
- Langsat, Longgong	95	11 (11.58)
- Ripe mango	95	11 (11.58)
- Longan, lichee	95	9 (9.47)

Table 34 (cont.) The number (percentage) in the experimental groups on the discusstion of the question, " What kind of mistakes have you committed that caused your illness?" classified by some toxic substances.

Results of discussion	Receiver	No. with allergy (%)
Canned food, packaged food	52	8 (15.38)
Chemical substances:		
- Alcohol	19	7 (36.84)
- Thinner, shellac, paint, spraypaint, nail enamel	35	8 (22.86)
- Herbicides, insecticides	48	10 (20.83)
- Yeast for paving	27	5 (18.52)
- Gasoline, carbon monoxide	95	11 (11.58)
- Propane, chlorine, biological gas	95	5 (5.26)

The sixth question was **"Is it true that HIV alone does not cause the illness?** Everyone agreed that only HIV does not cause the illness. There are other factors that cause the illness and the most significant one was self-conduct (100%). Other factors were mental condition (75.76%), unwholesome food / toxic substances (63.16%) and social conditions (58.95%). In addition, factors of western medicine (36.84%) and health status (6.32%) were also discussed. See table 35.

Table 35 The number (percentage) in the experimental groups on the discussion of the question, "Is it true that HIV alone does not cause the illness?"

Results of discussion	No. (%)
1. Self conduct	95 (100.00)
2. Mental condition	72 (75.76)
3. Unwholesome food / toxic substances	60 (63.16)
4. Social condition	56 (58.95)
5. Western medicine	35 (36.84)
6. Health status	6 (6.32)

During the discussion, it was found that all actions led to a certain results, every action produced a reaction. The discussion supported the analysis of cofactors which caused the progression of the disease. One of the cofactors was the psychological factor. The clients discussed how some got well, some got sick and some died. They also shared their difficulty in adjusting when first diagnosed with HIV. The other co-factor was the behavioral factor. This discussion showed the different behaviors between males and females. It identified some individual actions that caused a variety of symptoms. Next, the issue of unwholesome food was discussed. Finally, they concluded that HIV alone does not cause the illness. This conclusion led to the discussion of the goal of problem solving.

Conclusion : The Buddha pointed out that knowing ourselves is better than knowing other things. The experimental groups began to recognize themselves and their daily life. The discussion reflected that "We are the owners of our action, whatever happens is done by our action." They realized that the real cause was within themselves. Finally, there was no doubt that "Good actions yield good results and bad actions yield bad results."

c) Discussion of the goal of problem solving : To discuss 4 specific questions. The results of the discussion are on tables 36 to 39.

The first question was **"What do you think about the saying 'Health is better than wealth' and how it relates to HIV infection without illness ?"** The discussion of the Buddhist proverb directly relates to being HIV positive without being ill. Their thoughts divided them into three groups. **The first group** (46.32%) agreed that being HIV positive without being ill was a great fortune. They believed that as long as they lived, there would be hope (40.00%). Some drugs must be discovered sooner or later. Some felt that they were luckier than others who suffered from being ill (34.74%). Some felt they could keep their HIV status a secret and live a normal life (28.42%). Some moved to their birthplace and lived independently again (26.32%). Some thought they had learned more about human value (8.42%). In addition, some felt fortunate that their children were not infected (18.95%). **The second group** (31.58%) admitted that they were fortunate to be without illness, but not entirely. They were still worried that they might be come sick one day (28.42%). Some worried about being exposed (22.11%). Some felt fortunate to be accepted by their relatives (14.74%). Some expected their child to be HIV seronagetive (10.53%). **The third group** (22.11%) perceived the condition as a stigma. Although there were not any symptoms, the society did not accept them (20.00%), the mental status is worse than when it got sick. Some had to leave their jobs (12.63%). In addition, their child was treated as a victim in this matter, which led to problems involving schools and baby-sitters (14.74%). Some children were infected and died (11.58%). Other infected parents had abortions (8.42%). Some felt guilty because they infected their wives (4.21%). The results are shown in table 36.

Table 36 The number (percentage) in the experimental groups on the discussion of the question, "What do you think about the saying 'Health is better than wealth' and how it relates to HIV infection without illness ?"

Results of discussion	No. (%)
Certainly agree	**44 (46.32)**
- There is still some hope as long as there are no symptoms. Research is being conducted worldwide.	38 (40.00)
- They are luckier than others who got sick.	33 (34.74)
- They can still keep their HIV status a secret and live a normal life.	27 (28.42)
- The widows moved to their birthplace and lived independently	25 (26.32)

Table 36 (cont.) The number (percentage) in the experimental groups on the discussion of the question, "What do you think about the saying 'Health is better than wealth' and how it relates to HIV infection without illness ?"

Results of discussion	No. (%)
Certainly agree (cont.)	
- They felt fortunately that their child was not infected.	18 (18.95) (or 38.30% of 47 pregnancy)
- It is a way to learn about human value.	8 (8.42)
Agree	**30 (31.58)**
- They worried about becoming sick. They felt disturbed and without peace of mind.	27 (28.42)
- They worried about being exposed.	21 (22.11)
- They felt fortunately be accepted by their relatives.	14 (14.74)
- They expected their child to be HIV seronegative. It would be a great fortune if their child was not infected.	10 (10.53) (or 21.28% of 47 pregnancy)
Disagree	**21 (22.11)**
- Although there are no symptoms, the society does not accept it.	19 (20.00)
- It caused some problems for their children : School problems (5 persons) and baby-sitter problems (9 persons).	14 (14.74) (or 33.33% of 42 pregnantcy)
- It led to unemployment	12 (12.63)
- It caused their child to be HIV seropositive (8 persons) and / or cause their child to die (3 persons).	11 (11.58) (or 23.40% of 47 pregnancy)
- It let to an abortion.	8 (8.42) (or 17.02% of 47 pregnancy)
- It caused his wife to be HIV seropositive.	4 (4.21) (or 28.57% of 14 couples)

The second question was **"Which is more likely, being totally cured or not being sick. ?"** The discussion was aimed at discovering the possible goal of problem solving. Everyone agreed that it was move likely not to be sick then to be totally cared. Several opions were discussed with this question. Some believed that self-care was safer (41.05%). Some wanted to wait for approved treatment (35.79%). Furthermore, there was a discussion on herbs and western medicine. As for the discussion on herbs, some felt that the consumers had been insufficiently protected (29.47%) and the herbs remained inadequately approved (22.11%). Regarding western medicine, some stated that doctors insisted that all drugs were still in the trail (26.32%) and the drug cost was high (32.63%). Some clients, apeaking from their own experiences, found that other HIV/AIDS infected persons got worse and often died from herbs (18.95%) or from

western medicine (14.74%). This activity aimed at educating the clients on the reality of their immune system and the environment. It also enabled them to conclude the prohibitions for the HIV infected persons. See table 37.

Table 37 The number (percentage) in the experimental groups on the discusstion of the question "Which is more likely, being totally cured or not being sick. ?"

Results of discussion	No. (%)
1. Self-care is safer.	39 (41.05)
2. Not being sick gives clients a chance of waiting for certain approved treatment, their life is not a guinea pig.	34 (35.79)
3. Herbal medicine for AIDS:	
- No protection, no control, much deception.	28 (29.47)
- No approval of herbs only advertisement and propaganda.	21 (22.11)
- After taking herbs, some were not improved, some stopped it and some died.	18 (18.95)
- Expensive.	7 (7.37)
- Long distance to travel.	5 (5.26)
4. Western medicine for AIDS	
- Doctors insisted that all drugs were still in the trail.	25 (26.32)
- Expensive.	31 (32.63)
- After taking medicine, some were not improved, some worsened, some stopped it using and some died.	14 (14.74)

The third question was **"What is your goal of living during this three months research period ?"** By specifying a fixed period, the discussion of the goal of living was practical. Everyone wanted to have good health (100.00%). The next goal was to develop self-confidence (83.16%) and self-reliance (73.68%). Moreover, some clients believed they must initiate good things, while avoiding the bad things (65.26%) and some set the goal to attend all appointments (50.53%). At the end, some wanted to be able to accept the HIV status (38.95%) and social reaction (34.74%). This discussion was an essential requirement to start this short-term planning. See table 38 for results.

Table 38 The number (percentage) in the experimental groups on the discussion of the question, "What is your goal of living during this three month research period ?"

Results of discussion	No. (%)
1. To have good health, without symptoms.	95 (100.00)
2. To develop self-confidence.	79 (83.16)
3. To establish self-reliance, self-responsibility, and self control.	70 (73.68)
4. To show initiation of some things and avoidance of others	62 (65.26)
5. To attend all appointment.	48 (50.53)

Table 38 (cont.) The number (percentage) in the experimental groups on the discussion of the question, "What is your goal of living during this three month research period ?"

Results of discussion	No. (%)
6. To accept the HIV status.	37 (38.95)
7. To accept social reaction.	33 (34.74)

The fourth question was **"How are you ready to modify your way of life ?"** everyone discussed a willingness to participate, but for different reasons. More than half of them were willing to follow the instructions (68.42%). Some felt that their way of life was a crucial factor in the progression of the disease (62.11%). Some viewed that only oneself can take responsibility for one's own actions (52.63%). More than one-fourth viewed a healthy lifestyle as the best alternative (46.32%). It was the best and safest way to improve oneself (37.89%) because of society's reaction to HIV (31.58%). Furthermore, some viewed that the medication should help them change their way of life (18.95%). Some wanted to change in order to have a better life (17.89%). Some have changed partially without understaning how right it was (17.89%). Finally, some were ready to follow any instructions because the death was inevitable (11.58%). Some were even ready because they were unemployed (5.26%). See table 39.

Table 39 The number (percentage) in the experimental groups on the discussion of the question, "How are you ready to modify your way of life ?"

Results of discussion	No. (%)
1. They were ready to follow any instructions because they needed treatment.	65 (68.42)
2. The way of life is a crucial factor in the progression of the disease. It is worthless to get sick.	59 (62.11)
3. Only oneself can take responsibility for one's own actions	50 (52.63)
4. The best alternative to prolong life is the maintaining a healthy lifestyle.	44 (46.32)
5. A healthy lifestyle is the best and safest to improve oneself. Consequently, everything will improve as well.	36 (37.89)
6. It is necessary to change one's self because of the social reaction to HIV.	30 (31.58)
7. The medication should help them to change their way of life.	18 (18.95)
8. Their way of life needs to change in order to have a better life, one that is worthwhile and hopeful.	17 (17.89)
9. Their way of life has changed partially.	17 (17.89)
10. They are ready to follow any instructions because death is inevitable.	11 (11.58)

Table 39 (cont.) The number (percentage) in the experimental groups on the discussion of the question, "How are you ready to modify your way of life ?"

Results of discussion	No. (%)
11. They are ready to follow any instructions because of unemployment.	5 (5.26)

The discussion on finding the goals of problem solving found that 77.90% of the participants agreed that being HIV positive without being ill was a great fortune. After analyzing the possible goals, everyone realized that it was more likely not to be sick than to be totally cured. Consequently, this conclusion helped the clients to set up goals of living more clearly with in a short period of time. Finally, everyone was ready to follow any recommended instructions. This agreement led to the next discussion on the way of practice.

Conclusion : When the Dhamma is clearly understood one will develop a more realistic perspective. Keeping with the Buddhist spirit of wisdom and understanding does serve some practical purpose. The experimental group realized that today is AIDS situation could neither be prevented nor controlled completely. It could only be resolved through the practice of maintaining their lives in a healthy way in order to have a longer symptom free life.

d) Discussion on the way of practice : To discuss 5 specific questions. The results are in tables 40 to 44.

The first question was **"Do you agree with trying the herbs on the news as a treatment ?"** The participants were divided into two groups. The first group disagreed (58.95%). Several issues were raised and discussed. Some found it was too risky (31.58%). Some found it too commercialized (26.32%) and felt like they were prone to be decieved for commercial ends. Some felt that the government shifted the burden to HIV infected clients alone (20.00%), did not any protect the HIV/AIDS persons (17.89%) and treated the HIV/AIDS person as a guinea pig (14.74%). Some viewed that this situation was influenced by various mass media (12.63%) and other HIV infected clients (6.32%). Some felt that they should not waste their time (8.42%).

The second group was agreed (41.05%). Some felt they were forced to look for practical alternative and solution (13.68%). Some felt like it was better to do something rather than nothing (10.53%). Some thought herbs cure several diseases, so it might cure AIDS (10.53%). Some viewed herbs were not enough potent, they will not be harmful if they fail (9.47%). It was also a way of self help (7.37%). Finally, some thoughtp the infected clients as a drowning man (8.42%). The results are shown in table 40.

Table 40 The number (percentage) in the experimental groups on the discussion of the question "Do you agree with trying the herbs on the news as a treatment ?"

Results of discussion	No. (%)
Disagree :	**56 (58.95)**
- It is a leap in the dark, it is too risky.	30 (31.58)
- It is too commercialized, they felt like they were prone to be deceived.	25 (26.32)
- The government shifted the burden to HIV infected clients alone.	19 (20.00)
- No protection from the government.	17 (17.89)
- HIV / AIDS patients are treated like a guinea pig, life is worthless, there are no alternatives.	14 (14.74)
- Mass media has a great influence on decision making, yet takes no responsibility for the consequences.	12 (12.63)
- It is a waste of time.	8 (8.42)
- The rumors are spread by HIV infected clients. The deceased ones cannot correct the rumors and the deceived ones do not want to be revealed.	6 (6.32)
Agree:	**39 (41.05)**
- It is an alternative, it is also the last hope, it is a human's right.	13 (13.68)
- It is better to do something rather than nothing. The cleints may find some medicine to cure HIV. There is nothing to lose.	10 (10.53)
- Herbs were used for several diseases, including cancer and paralysis. May be AIDS can cure?	10 (10.53)
- Herbs property are not so potent as western medicine. They will not be harmful if they fail.	9 (9.47)
- A HIV infected person like a drowning man. Herbs may be some hope.	8 (8.42)
- It is the last choice, it means self help.	7 (7.37)
- To sacrifice one's life, others may gain.	3 (3.16)

The second question was **"Which is the best way to solve a problem, by self correction or social correction ?"** The discussion found that everybody agreed that the best way to solve a problem is self-correction. The discussion was divided into two parts. The first part discussed self-correction. Approximately half (45.25%) agreed with the teaching of Bhikkhu Panya nandha. Approximately a quarter discussed 3 other topics. It is important to modify one's way of life (35.79%). It is better to make one's own health better by self correction (27.37%). It is also important to take responsibility for one's self (24.21%). Furthermore, other topics were discussed. Some believed that nobody loves one more than oneself (17.89%). Some felt that self reliance was impor-

tant (13.68%). Some felt that keeping up one's appearance would decline social reaction (8.42%). Lastly, some felt that self-help would add self-value (6.32%).

The second part of the discussion was about the obstacles of social correction. Some felt that even health care providers reject AIDS (29.47%). The fear of AIDS is difficult to be changed (20.00%). There is still the belief that AIDS is incurable (12.63%). Other discussions included the facts that the AIDS problem is HIV/AIDS's responsibility (7.37%). Society as a whole would be difficult to correct secondary to the many diverse aims of life in the public (5.26%). Many also felt that the government can hardly be held responsible (4.21%). It's human right to do whatever they want (2.11%). The results are shown in table 41.

Table 41 The number (percentage) in the experimental groups on the discussion of the question, "Which is the best way to solve a problem, by self correction or social correction ?"

Results of discussion	Number (%)
Problem solving by self correction	
- Agree with saying "Check, censure and rectify yourself".	43 (45.25)
- It is important to modify one's way of life.	34 (35.79)
- It is important to make one's health better by self correction.	26 (27.37)
- Take responsibility for one's self, it is an individual's problem, it's an individual's life. One must try and solve it oneself.	23 (24.21)
- Nobody loves one more than oneself; nobody takes care of one better than oneself.	17 (17.89)
- You are your own refuge, who else could be your refuge?	13 (13.68)
- Keeping up one's appearance would decline social reaction.	8 (8.42)
- Self-help would add self-value.	6 (6.32)
Obstacles of problem solving by social correction	
- Health care providers still reject AIDS. Public relations can not correct this image.	28 (29.47)
- The irrational fear of AIDS, it is without rhyme and reason, just like as a fear of ghost, that is difficult to be changed.	19 (20.00)
- AIDS is incurable, nobody wants to be infected everyone has self- protection, it is difficult for people to accept AIDS.	12 (12.63)

Table 41 (cont.) The number (percentage) in the experimental groups on the discussion of the question, "What do you think is the best way to solve a problem, by self correction or social correction ?"

Results of discussion	No. (%)
Obstacles of problem solving by social correction (cont.)	
- AIDS problem is HIV/AIDS's responsibility, others only take the responsibility to prevent HIV infection.	7 (7.37)
- It involves the public that is difficult to correct because of the different aims in life.	5 (5.26)
- It arises from a variety of causes and conditions for which the government can hardly be held responsible.	4 (4.21)
- It is a human right that cannot be solved by others.	2 (2.11)

The third question was **"How is living with AIDS ?"** The discussion on the adjustment of living with AIDS focused in the topic of acceptance, hope and life. Some discussed behavioral concepts, i.e., item 5 emphasizes self conduct (17.89%), item 6 life awareness (14.74%), item 7 enhancing and maintaining immunity (13.68%), and lastly, item 10 precaution and proper conduct (5.26%). See shown table 42 for specifics.

Table 42 The number (percentage) in the experimental groups on the discussion of the question "How is living with AIDS ?"

Results of discussion	No. (%)
1. Life is birth, age, sickness and death.	58 (61.05)
2. New medicines are being discovered all over the world, hope to carry on living.	41 (43.16)
3. All the present time, HIV / AIDS cases are increasing more, and more most of them can live, and so can I.	39 (41.05)
4. Whoever has HIV seropositive should accept HIV has be come so integrated with the life.	26 (27.37)
5. Self conduct can determine whether one becomes sick or not.	17 (17.89)
6. The HIV infection is a warning sign, it reminds one how life should be, and how previous life is.	14 (14.74)
7. Being alive means the condition of being immune to protect against AIDS, so one should enchance and maintain the immunity to protect against AIDS.	13 (13.68)
8. There are various diseases that must be taken care of through one's life.	11 (11.58)
9. Everybody has various problems in the life, HIV is just one of them.	9 (9.47)

Table 42 (cont.) The result in number (percentage) of 95 experimental groups discussing the question "How about living with AIDS is ?"

Results of discussion	No. (%)
10. There are precaution and proper conduct in all diseases, one must reorganize one's life to live with HIV.	5 (5.26)
11. Whenever one has no symptom, it is only a problem. Whenever one gets sick, it is only a disease. Whenever one dies, it is the nature.	1 (1.05)
12. Live with HIV as their friend. It is the last thing that remains with them until they die.	1 (1.05)

The fourth question was **"What is important to consider when thinking about self care in HIV infected clients ?"** The discussion on self care found that one should let bygones be bygones. Everyone agreed that the infected should not be exposed anymore infection (100%). There was also a lot of emphasize on proper diet (100.00%). As for other physical self care, more than a quarter of the clients discussed taking precautions with chemical agents (36.84%) and making time to relax (28.49%). Furthermore, the discussion on the mental aspect emphasized the importance of willpower (23.16%), self-reminder to live for one's own beloved (15.79%), and meditation (13.68%). Regarding the social aspect, more than a quarter of the clients agreed with the association of someone who accepts AIDS (28.42%). Another quarter felt like confidential was the best (25.24%). The other interesting topic was self-reliance (20.00%). See table 43 for details.

Table 43 The number (percentage) in the experimental groups on the discussing of the question "What is important to consider when thinking about self care in HIV infected clients ?"

Results of discussion	No. (%)
Physical aspect	
- Do not expose anymore infection.	95 (100.00)
- To eat a nutritious diet, and to take precautions with potentially harmful chemical food.	95 (100.00)
- Take precautions with chemical substances, such as insecticide, paint, cleaning solutions	35 (36.84)
- Get enough rest and sleep.	28 (28.49)
- Stay active and exercise regularly, strengthen the body.	20 (21.05)
- Do not get overworked.	14 (14.74)
Mental aspect	
- Self willpowerment, no discouragement, to cope the problems, unruffled by worldly conditions	22 (23.16)

Table 43 (Cont.) The number (percentage) in the experimental groups on the discussing of the question "What is important to consider when thinking about self care in HIV infected clients ?"

Results of discussion	No. (%)
Mental aspect (cont.)	
- Self reminder to survive for one's own beloved.	15 (15.79)
- Meditate and keep the mind calm.	13 (13.68)
- Lead a virtuous life and make merit. Go to temples, listen to sermons, offer foods to monks, follow religious precepts and teachings, pray.	8 (8.42)
- Make time for leisure and relaxation by taking a hobby, exercise or keep busy.	7 (7.37)
Social aspect	
- Share the problems. Talk it over with someone who accepts AIDS.	27 (28.42)
- Keep secret do not expose oneself.	24 (25.26)
- Build up self-reliance, self help, stand on one's own feet.	19 (20.00)
- Stop seeking herbs on news.	16 (16.84)

The fifth question was **"What should the mental condition be when someone is faced with AIDS today ?"** The discussion on the mental condition of someone diagnosed with AIDS focused on three main points. One should be firm and unruffled by worldly conditions (25.26%). One must also accept AIDS (22.11%) and have willpowerment (20.00%). In addition, topics of confidence on well-being by self care (14.74%) and hope for an AIDS cure (12.63%) were discussed. See table 44.

Table 44 The number (percentage) in the experimental groups on the discussion of the question "What should the mental condition be when someone is faced with AIDS today ?"

Results of discussion	No. (%)
1. Keep firm, unruffled by worldly conditions, be enduring to the reactions.	24 (25.26)
2. Accept AIDS, do not reject AIDS, do not fear AIDS.	21 (22.11)
3. Have willpowerment, mental strength, do not discourage.	19 (14.74)
4. Have confidence on well-being by self care.	14 (14.74)
5. Be confident that AIDS is curable in order to have some hope.	12 (12.63)
6. Be realistic about the present and the future, accept the fate.	7 (7.37)
7. You are your own refuge.	4 (4.21)
8. Forgive and forget, understand the apprehensive reaction of AIDS.	3 (3.16)

The discussion on the way of practice found that the clients felt differently when discussing herbs as treatment. Some agreed and some did not. However, everybody agreed with the method of problem solving by self correction. Further discussion led to the adjustments of living with HIV, pointed out the importance of acceptance, hope and life. The discussion also thoroughly covered what one should do in order to take care of oneself physically, mentally and socially. The final discussion was on the topic of what the mental condition should be when someone is faced with AIDS today.

Conclusion : The learning experience in the second activity ; the problem based learning, for the experimental groups was arranged. So there was a broad discussion on experiences of individual problems and ways of life. Then it was followed by the discussion of problem solving in more specific topics. This led the participants to a better understanding of AIDS. The participants learned the cofactors that worsen the progression of the disease. They were also able to establish their goals of living and conduct to take care of themselves.

Those wishing to have a longer span of symptom free life or those seeking to attain a better life were frequently encouraged to follow the health promoting behaviors. Some would experience confusion, even despair, by attempting to practice in this healthy lifestyle manner. Many factors as well as the amount of time were required to make this healthy lifestyle a habit by participating closely at the whole process, they would be able to see how they experienced results proportionate to the actions. However, most realized that a healthy lifestyle is the way of truth to be practiced by all people.

4.3.2 **Risk assessment for HIV infected clients** (the fifth activity).

The results of learning the cofactors that worsen the progression of the disease in the fifth activity led to the concluding topic of the precaution for HIV infected clients. Some of the following examples were discussed. The HIV infected clients should not being exposed to anymore infections, especially through promiscuity (100.00%). They should not visit any patients (46.32%). The discussion involved the responsibility shifting from the government to the HIV infected clients. They must take care of themselves even once admitted to the hospital. Another extremely important discussion was to encourage the practice of self-restraint which is of utmost importance in self training (100.00%). The next crucial topic was not to spread the infection (94.74%) in order to live happily with others. One does not take the potentially harmful chemical foods (89.47%), air pollution, especially the chemically polluted atmosphere (77.89%) or any medications claiming to have properties to cure AIDS (54.74%). The discussion pointed out the effect of shopping around for medications for oneself, relatives and others, this created a reminder, an action committed with the best of intentions may not bring the desired result for either the doer or the recipient. Furthermore, the clients found it very important to keep their HIV status confidential (46.32%) because of social rejection, which negatively affected their mental health and social support. This created the middle way that it is not necessary to hide or to expose to society. One should not be near the stall or mushroom growing sites (36.84%). They disagreed with some funds that supported the HIV infected clients to breed pigs and grow Lhin stue mushroom. One should

not take lumbar puncture (29.47%), because nobody has ever survived. Lastly, one should not be overworking and/or sleeping too late at night (22.11%). See table 45.

Table 45 The number (percentage) in the experimental groups on the discussing of the topic of "Precautions for HIV infected clients."

Results of discussion	No. (%)
1. Do not get anymore infections:	
- Do not have promiscuity.	95 (100.00)
- Do not take intravenous drug abuse.	58 (61.05)
- Do not visit patients at hospitals or at home.	44 (46.32)
2. Do not think nagatively : discouragement, thought of commiting suicide, blaming the victim or oneself, unruffled mind.	95 (100.00)
3. Do not spread infections through sexual intercourse, mucus, saliva, wound or blood transfusion.	90 (94.74)
4. Do not take potentially harmful chemical in foods.	85 (89.47)
5. Do not being in polluted environment:	
- polluted chemical air, insecticide, paint, or gas.	74 (77.89)
- crowded places.	36 (37.89)
6. Do not shop around for any medications.	52 (54.74)
7. Do not expose oneself.	44 (46.32)
8. Do not being near mushroom growing sites.	35 (36.84)
9. Do not take lumbar puncture or Amphoteracin B intravenous drip	28 (29.47)
10. Do not be too hard on yourself.	21 (22.11)

4.3.3 **Appropriate lifestyle for HIV infected clients** (the seventh activity).

After sharing experiences on the conduct of living for HIV infected clients in the seventh activity, the clients then prioritized the factors that influenced their life. The obtained results varied as about half of the clients (45.26%) considered food to be the first priority, while others ranked it second (22.11%) or third (17.89%). The next most common choice for first priority was emotion (17.89%), while others ranked it second (28.42%) or third (30.53%). The clients considered clean air to be second (26.32%), third (20.00%) or fourth (20.00%). However, some clients still ranked it as the first priority (14.74%). As for sleeping, the clients ranked it differently ranging from first (20.00%) to last (12.63%). Exercise was ranked mostly as fourth (34.74%) or fifth (27.37%). The priority of elimination was most commonly considered sixth (30.53%) and seventh (26.32%). About half of clients (48.42%) ranked the importance of water as the last priority to all the earlier mentioned factors. See table 46.

Table 46 The number (percentage) in the experimental groups on prioritizing the factors that influenced their life.

Factors / Priority	Food	Emotion	Clean air	Sufficient sleep	Exercise	Elimination	Water
1	43 (45.26)	17 (17.89)	14 (14.74)	19 (20.00)	2 (2.11)	0	0
2	21 (22.11)	27 (28.42)	25 (26.32)	12 (12.63)	4 (4.21)	4 (4.21)	2 (2.11)
3	17 (17.89)	29 (30.53)	19 (20.00)	11 (11.58)	5 (5.26)	12 (12.63)	2 (2.11)
4	8 (8.42)	10 (10.53)	19 (20.00)	11 (11.58)	33 (34.74)	6 (6.32)	8 (8.42)
5	4 (4.21)	6 (6.32)	10 (10.53)	16 (16.84)	26 (27.37)	19 (20.00)	14 (14.74)
6	2 (2.11)	6 (6.32)	6 (6.32)	14 (14.74)	15 (15.79)	29 (30.53)	23 (24.21)
7	0	0	2 (2.11)	12 (12.63)	10 (10.53)	25 (26.32)	46 (48.42)

4.3.4 AIDS conclusion (The eighth activity).

After four months of learning, the clients identified with four different aspects of living. The first aspect concerned the self care perspectives (33.68%). Some took the teaching of Bhikkhu Panyanandha in consideration (10.53%), while others considered living in the Buddhist way, i.e., self-reliance (7.37%) and conscious living (6.32%). The second aspect concerned the mental perspectives (25.26%). The crucial point of this perspective was mental strength (9.47%). The third aspect concerned the living perspectives (22.11%). These were in accordance with Buddhism : must not long for the past, nor worry about the future, do the best today (6.32%), and hold onto the Natural Law of birth, age, illness and death (5.26%). The last aspect concerned the AIDS perspectives (18.95%) which is the proposal on how to take care of oneself. See table 47. For details.

Table 47 The number (percent) in the experimental groups on the AIDS conclusion.

Results of discussion	No. (%)
Self care perspectives	**32 (33.68)**
- "Check, censure and rectify yourself" the teaching of Panya.	10 (10.53)
- "You are your own refuge", stand on one's own feet	7 (7.37)
- Always be aware, conscious life, be mindful at all times.	6 (6.32)
- Try to live with HIV, choose healthier alternatives.	6 (6.32)
- Start a new life, learning the precaution and the proper conduct.	3 (3.16)
Mental perspectives	**24 (25.26)**
- Mental strength, unruffled by worldly conditions, do	

Table 47 (cont.) The number (percent) in the experimental groups on the conclusion of living with AIDS.

Results of discussion	No. (%)
Mental perspectives (cont.)	
not be discouraged, keep willpower as the most important.	9 (9.47)
2 The survival of the fittest must be adaptive, dare to face the problems, accept the problems.	6 (6.32)
3 HIV is not only our problem but also a worldwide one.	5 (5.26)
4 Every problem can be solved. Deal constructively with nagative feelings	2 (2.11)
5 Do not object, condemn, blame, or be worthless to oneself.	2 (2.21)
Living perspectives	**21 (22.11)**
1 The past is a lesson, the mistake is a teacher, the past should let bygones be bygones, do the best today and do not have any regrets later.	6 (6.32)
2 Life is birth, age, sickness, and death. All experiences in life are unavoidable and inevitable.	5 (5.26)
3 Life is the fight and HIV is a tonic. HIV provides a chance to correct the way of life.	4 (4.21)
4 Life is not a guinea pig. Waiting for an approved treatment is better than trial and error.	3 (3.16)
5 There are a lot of problems in our lives, AIDS is only one. Do not worry about AIDS, some may die with other causes.	3 (3.16)
AIDS perspectives	**18 (18.95)**
1 AIDS is just one of the many diseases that can be controlled by oneself. Comparatively, AIDS is similar to other diseases that are yet to be curable.	8 (8.42)
2 AIDS is an immune deficiency disease. If we can keep up our immunity by self care, we will not get AIDS. If we can avoid infection or maintain good health, we will not get sick.	7 (7.37)
3 HIV is just a warning sign for self care: pay attention to health, and change the way of life, it is not a death sentence.	8 (8.42)

Conclusion : The experimental groups were constantly confronted with statements and generalizations about social and moral problems. One must be able to make a distinction between statements that have evidence to support it and those that do not in

order to clearly think about these problems. Evidence may be lacking because it is unavailable or so controversial that it can not support the statement. The clients expressed many different conclusions by interacting in groups for the activities. Listening to the reasons others presented gave valuable insights in recognizing statements that were provable.

CHAPTER 5
DISCUSSION, CONCLUSING AND RECOMMENDATIONS

5.1 Discussion

This study is a Quasi-Experimental Research, aimed to study the health promotion program of HIV infected clients by applying the Buddhist doctrine as the conceptual framework.

The samples in this study were 156 HIV infected clients in urban and suburban area in Chiang Mai province. They were divided into 6 experimental groups totaling 95 clients and 6 control groups totalling 61 clients. The experimental groups participated in the health education by applying the Buddhist doctrine and the control groups received conventional health education. Both groups received the same herbal medicine every two weeks during the research period. The difference in the post-test between the groups were the result from the differences in the health education program.

The health education program by applying the Buddhist doctrine attempted to show the clients a new way of life. First it built faith in accordance with the Noble friends. Second, it used critical thinking as the problem solving process according to the Four Noble truths. Last, it taught a new way of life according to the Noble Eightfold Path. The clients shared their experiences every 2 weeks for a total of 8 times.

The data was collected by using and interview method, physical examination and body weight measuring in the pre-test and the post-test. The comparison study of the understanding in problem solving, mental strength, health promoting behavior and health status was analyzed by using SPSS/PC software (statistic package for the social science) for testing the hypothesis. The student t-test and paired t-test were used to compare the mean difference of the variables, Stepwise Multiple Regression Analysis was used to analyze the variables which influenced the mean variation of health promoting behavior and health status. In addition, there were four records of group discussion within each experimental group. The result of the research and discussions are described in detail in the following:

5.1.1 General data of samples

Socio-demographic date (table 5 to 6) : Both groups had similar demographic characteristics. Almost 80% of both groups were of working age (25-39 years) in accordance with Epidemiological surveillance reported by the Ministry of Public health since 1989 and other studies. This is an important age group because it has the responsibility of remittance.

The number of female in the groups were twice the number of males (female : male is 2.06 : 1 in the experimental groups and 2.39 : 1 in the control groups) and

approximately half were widows (49.47% in the experimental groups and 52.46% in the control groups). This differed from the Epidemiological surveillance report and other studies which had more males than females and most were married. This study accessed the HIV infected clients in the community where their HIV status was confidential. This limited the research to those who were willing to expose themselves or those who were already exposed, such as the group of widows could not keep a secret when their husbands died from AIDS. However, the report of Epidemiological Surveillance was found that the proportion of female increased from 8.29 : 1 in 1984-1991 to 6.02 : 1 in 1991-1992,4.93 : 1 in 1994-1995,3.56 : 1 in 1996-1997 and 2.92 : 1 in 1998 because the male death rate was higher. The widow status of the clients showed that the epidemic of HIV had spread to the family since 1989, and at present it was in reverse epidemiological transition. In 1982, there was a HIV infected widow club (now called the Women Friendship group) in Chiang Mai. The widows were impacted the most because they were responsible for taking care of their husbands until death, and they must also carry the responsibility of their family alone.

The above mentioned phenomena minimizes the family size, which consists of only two persons, a widow and a child. This creates the problem of who takes care of the patient during their sickness. Therefore the HIV infected clients must learn to live in a health promoting way in order to have a longer symptom-free life. This differs from other studies Wattradul, D. (1994) found that 60% of HIV infected clients lived together with their spouse and / or their child, and Kutchamach, V. (1997) found that 49.35% and other 42.86% live together with their parents, spouse, child and relatives. Sitichai, K. (1997) found that 86% lived together with their spouse. Pavanaporn, V. and Chancharoen, K. (1997) found that 46.3% had 4-6 members in the family.

Approximately half of the clients had a primary education, general employment and were farmers. The clients reported their salary was about 3,000-5,000 baht / month (average 4,500 baht / month). These characteristics reflect the Thai demographic proportion and other studies. Half of the clients carry the responsibilitly for other members also.

The unemployment rate was 15.79% in the experimental groups and 13.11% in the control groups. The studies of Homsapaya, T. (1995), Khongsuriyanavin, V. (1997), Kaewsawang, K. (1997), Kutchamach, V. (1997) and Pongsomboon, J. (1996) found that the unemployment ranged from 23.38% and 24.40% . Ratanasombat, S. (1997) and Pavanaporn, V. and Chancharoen, K. (1997) found that the unemployment was only 5.0% and 6.7% respectively. The unemployment rate of HIV infected clients was higher than the national unemployment rate which is only 4.5% (The National statistic Institute : November 1998). This negatively affected society's view of HIV infected clients. The question, "Is it the employers' right to recruit only healthy employees?", was often asked. This topic was the most popular argument, but a satisfactory answer has not been found. Therefore, the exposed HIV infected clients had a greater chance of being rejected than the general public.

HIV infection history (table 6) : Both groups had little difference in the duration of known HIV seroconversion. Most of them had known they were HIV serop-

ositive for 3 months (43.16% in the experimental groups and 60.66% in the control groups). A second group had known it for 4-6 months and the rest had known it for 1-7 years, which is in the intermediate (or infected. For example, some women whose husbands were infected never had a blood test (9.47% in the experiment groups and 6.56% in control groups). These women often accepted that they were HIV positive without being tested.

The reasons for having blood test by the clients differed. Some had a blood test because of suspicious symptoms and sickness (14.74% in the experimental groups and 9.84% in the control groups). Most had blood tests for other reasons. Approximately half of the clients who had blood tested did so because their husband or wives had HIV seropositive, were sick or even died. One fourth of the clients had blood test because of pregnancy. The study found that those who had HIV with or without symptoms took different amount of time to adjust and accept the fact. It also varied in different conditions.

All HIV infected clients tried to hide their infections any way possible. They would not be confidential unless it was inevitable such as oneself or spouse got sick or died. Approximately half of the clients were exposed and were known in the village. This differs from the studies of Kaewsawang, K. (1997) and Sitichai, K. (1997), found that HIV infected clients kept their HIV status to themselves or spouse and exposed it to only close relatives. However, the existing phenomena in Chiang Mai and the increasing HIV infected rate in the community exposed. The family and the community to AIDS related issues.

Treatment history (table 7 to 10) : More than half of the clients sough treatment and 26.32% in the experimental groups and 31.15% in the control groups received conbined western and herbal medicine. In conventional medicine, the clients would select the service which was able to respond to their need although it was uncertain, or just for the opportunistic infection prophylaxis. In herbal medicine, they sought one herb after another without knowing it. It was hazardous. This showed the clients' thinking system and their attempt to have a longer symptom free and prolonged life. The result of this study was accordant with the study of 630 HIV infected clients who continued to attend for 1 year at conventional medical clinic, Out-patient departments in 63 hospitals, Thailand. There were 22.7% having self-medication and 48.8% used herbs (Pavanaporn, V., & Chancharoen, K., 1997 : 44-46). And 184 HIV-positive patients who continued to attend conventional medical clinics in the Philadelphia area. The study describes the specific alternative therapeutic modalities that were more commonly sought by the respondents. There were 40% of patients reported having used alternative or complementary therapies. There were 42% of respondents who had been enrolled in clinical trials had used alternative therapies at some stage (Andersin, et al, 1993 : 561-5). It differed from other studies of HIV infected patients in outpatient departments at Chulalongkorn Hospital by Duangkamol Wattradul (1994) and Ramathibodi Hospital by Vatinee Kutchamach (1997). The 2 studied looked at all stages of HIV infected patients. They found that about of the patients at Chulalongkorn Hospital 64.40% and 67.53% of the patients at Ramathibodi Hospital had never been cured. This research was different because there were more than 20 groups of HIV

infected patients in Chiang Mai. The clients in this research faced the problem of uncertain treatments, so they would often seek alternatives. At the same time, they appealled to the government to provide more accessible services. The seeking for better health via conventional means by using herbs was higher in Chiang Mai than other provinces.

This study differed from other studies, it reflected the impact to the family as opposed to the hospital cost. The study of Pitayanon, S., et al.(1994) found that patients and their families carried the responsibility for the most of the cost, Conversely, this study showed that more than half of the conventional cost was covered by the governmental welfare and the opportunistic infection prophylaxis project. However, the clients carried the responsibility for the rest of the cost which was between 2,000-200,000 Baht. This showed that the provided governmental services did not cover all the cost and it was shifting the cost to the clients rather than sharing it.

In herbal medicine, more than one fourth was naturally occurring herbs. Those herbs did not cost anything. The herb of the folk healer cost 1,000-20,000 baht depending on the duration of treatment. The clients continued to seek better herbs, but none could solve their health problem. This was in accordance with Somrongthong, R.'s study (1996, abstract) that showed HIV / AIDS patients alternated between popular, traditional and western medicine. These expences impacted the family because the clients often had to sell the existing property or borrow from others to pay for a better health plan. Since the goverment had a limited budget, the clients had to share the cost.

The conventional medicine consisted of opportunistic infection prophylaxis and antiretroviral drugs. It was found that most of the clients took them for no more than 3 months because of different reasons. The main reason was because of the side effects of antiretroviral drugs. All HIV infected clients worried about any symptoms relating to their sickness. The problems of long term treatment are forgetting to take drugs, missing appointments, losing confidence and finally stopping treatment. This problem was found in a lot of samples who took Anti-TB drug and Pneumocystis carinii pneumonia prophylaxis drugs. Although anti-TB drugs was well packaged and periodically monitored and evaluated, only some samples could take the full course of 9 months. Another reason for lack of treatment was the expense. For example, missing follow-up was very commom. Anti-fungal drugs were expensive. The clients would have to pay so they could only take them for a short time. This phenomena reflected that the prevention and treatment was not worth investing. It is due to low coverage and uncontinuous treatment which is the issue to improve health service in the future.

There are many formulas of herbal medicine. The duration of treatment was three to twelve months. The clients had no follow-up because they often searched drugs without scientific approval. Conversely the clients used them longer than conventional medicine. This showed that not only the specialists in the world attempted to search for new technology, but also HIV infected clients attempted to search alternative by using herbs. It was the principle of self-reliance in the folk way.

Pregnant history with HIV seropositive (table 11) : Approximately half of the female clients discovered that they were HIV seropositive during pregnancy. The

differences in coping with the problem in both groups were similar. It was found that some clients decided to have an abortion (21.21% in the experimental groups and 16.67% in the control groups) mostly in the 1st trimester. This was less than in the beginning. This shows that the trend to cope with the problem in HIV infected clients is getting better. Moreover, the prevention and the intervention to reduce the risk of HIV-1 vertical transmission at present is a success to a certain extent.

Most of the samples carried through with the pregnancy until labor (78.79% in the experimental groups and 16.67% in the control groups). There was a difference in coping with the problem after the child was born. The first group waited for the anti-HIV test in their children (18.18% in the experimental groups and 22.22% in the control groups), the second group found that the children had symptom and die before 15 months (12.12% in the experimental groups and 5.56% in the control groups) and the third group was coping with two different problems after being informed about the result of the anti-HIV test in their children. The uninfected children (36.36% in the experimental groups and 38.87% in control groups) were not accepted by society, were predicted to be orphans and had social problems in the future. The HIV infected children (12.12% in the experimental groups and 16.67% in the control groups) were predicted to be sick and become a social burden. The lives of the uninfected children and the infected children must be studied further.

The discussion of the clients' characteristics showed that the families were highly impacted from all aspects because they had no experience before. Women had to carry the responsibilitly for the family burden. The most severe impact was on both the infected children and the uninfected children as previously mentioned. The problem of carrying the family burden is an important condition for all HIV infected clients. This is the opportunity to modify behaviors toward a health promoting lifestyle to have a longer symptom-free life.

5.1.2 Discussion based on the findings related to the hypothesis

In the pre-test, both groups had an understanding of the problem-solving process, mental strength, health promoting behavior and health status. There was no statistically significant difference. Both groups had the proper qualifications for the study in that. They lived in a similar society and culture. There was no statistically significant difference in demographic characteristics. Thus, the perception, evaluation and the response to the illness were similar in accordance with the concept of Mechanic (1968) and Klienman (1980). They concentrated on the patient's adjustments to the illness depending on their social and cultural context.

In the post-test, the experimental groups placed great emphasis on wisdom and understanding. When the understanding was more developed, they realized what should be done. When they realized the right way and put it into practice, it led to a better health status, as shown in the following :

Understanding of the problem solving process : The experimental groups understood the problem solving process better in the post-test than in the pre-

test (Hypothesis 1.1). In the post-test, the experimental groups understood the problem solving process better than the control groups (Hypothesis 2.1). Both statements show a statistically significant difference.

In the pre-test, both groups had an understanding of the problem-solving process with no statistically significant difference. They did not fully understand the AIDS problem solving process. They were often ignorant and could not identify the causes and conditions of HIV/AIDS. This became a vicious cycle. In general, when people encounter a situation, they will interpret, decide on that situation, set a purpose and take actions to respond to their need. They are often ignorant and frequently make mistakes by acting in inappropriate ways. It seems to blind them and problems in society continue to multiply. The most important point in the pre-test was that both groups were confused about the problem-solving process because they had an overabundance of information. The information was unclear, weak and lacked an idea. At the present time, people fall into the situation of no self development and self reliance. They depend on others for thinking and decision-making. They are also susceptible to deception which is often worse than depending on others.

In the post-test, the experimental groups learned the fact about AIDS. The activities covered the real problems and the causes that make the progression of disease worse. They also discussed the purpose of extinguishing all the problems and the way of practice, according to the Buddhist doctrine for developing life. It depends on the basic concept that states once the causes and conditions of a problem are identified, especially by humans, they can be solved. In this study, the way of practice was the only item it understanding the problem solving process that changed significantly when comparing the experimental and control groups. All the items are discussed in detail below as in the following:

a) AIDS problem : The experimental groups understood the AIDS problem better in the post-test than in the pre-test with a statistically significant difference. In the post-test, there was no statistically significant difference between the experimental and control groups.

In the pre-test, the understanding of the AIDS problem in both groups involved the epidemiology, biomedicine and spiritual aspect. Their understanding about their health status deviated from the facts. The HIV infected felt like death was inevitable. They saw AIDS as a horrible and virulent epidemic disease; it is incurable. Therefore, the HIV infected, the victims, were rejected. This phenomena is accordance with Somrongthong, R.'s study (1996). This is due to the AIDS epidemic in the initiate. AIDS is frightened by the thought of the hell and was managed with panic and fear. Some clients rejected conventional medicine in the hospital because of the negative attitude of the health care provider. This shows that the universal precaution technique is still a necessary practice to protect patients. This is in accordance with the studies of Somrongthong, R. (1996) and Elford (1987). The infected victims have subsequently been forced to look for a practical alternative and solution in various commercialized herbal medicines. Jarusap, P.'s study (1997) found that the influence of media made the AIDS image a double stigmatization as the sociocultural disease. Although they at-

tempted to delete that image later on, it was impossible. In addition to this, it connected the hopeless to the retribution / fate without any action. In the beginning of sharing, the experimental groups shared their experiance (table 22-23). They felt that AIDS threatened their life; it is like a nuclear bomb or aerolite, like an aphis so it is called Aphis disease, like a house on fire, like a spy and like the god of Hell. The patients perceived AIDS as being divided into two categories: wet AIDS and dry AIDS which is in accordance with Somrongthong, R.'s study (1996). The discussions showed that they gave only little concern to their minds, taking more interest in thier physical forms and appearances.

In the post-test, the experimental groups shared their real-life experiences in order to learn about the stages of the progression of the disease and the relationship between the immunity level and the opportunistic infection. There was no statistically significant difference between the experimental and control groups. The sharing by the experimental groups (table 27-29) found that the clients knew not only the physical problems but also the mental and social problems associated with HIV/ AIDS. They could define the size of the problem clearly. The physical problems were due to oxidative stress such as hyperallergies, arthalgia, myalgia, fatigue, falling hair, and the psychological stress, the psychosomatic such as anorexia, insomnia and dysmenorrthea. The majority of the problems identified were the mental and social problems. There made the clients realize that the real problem in life, was the mental problems. This study was in accordance with other articles such as the fate of AIDS (Hongviwut, T., et al. 1993), and the record of New Life Friend (Pongphit, S., 1995). Similar studies have also been conducted. Ragsdale & Morrow's study (1990) found that 95 HIV infected persons in any stage had more sociomental impact than physical impact. This is in accordance with the studies of Lubeck & Fries (1993), Noimunvai, P. (1993) and Hantrakul (1993). The experimental groups shared their feeling about asymptomatic HIV infection. Most of them were satisfied and felt better. This provides a great opportunity to enhance health promotion to a new life for a longer symptom-free according to the research objective.

b) Cause of the problem : The experimental groups understood the cause of the problem better in the post-test than in the pre-test with a statistically significant difference. In the post-test, there was no statistically significant difference between the experimental and control groups.

In the pre-test , both groups understood the different causes that makes the progression of the disease worse. Most of them knew about the pathogenesis from the prevention campaigns and from the public health service. At the same time, they still be accepted the concepts of folk healer by connecting the cause of sickness or symptoms with the impurity of blood, which is based on the balance of four elements (Humoral theory). The samples believed that menstruation excreated the polluted blood in order to relieve or delay the progression of the disease. They would often take drugs to enhance the expulsion of menses. The clients believed that if men removed their blood would be similar to a woman's menstruation. These theories are not true. These study was in accordance with Somrongthong, R.'s study (1996). The fact that some wives of HIV infected husbands were not infected lead to the beleif that gender was an

important factor in sickness and death. The study found that the HIV's penetration into white blood cells depends on the CCR_5 co-receptor. Whoever has no co-receptors can not get HIV because it can not penetrate into the human's cell. An example is the male blood donators found HIV seropositive but 45% of their partners in Chiang Mai were found to be HIV seronegative. Prostitutes in Gambia and in Chiang Rai had many sexual transmitted disease but were found to be HIV seronegative. Siriraj and Rachvithi Hospital found that the pregnant women were HIV seropositive while their husbands were HIV seronegative (26.5% and 29.02% respectively) (1994). (Bangkok Collaborative Perinatal HIV Transmission Trial group : 1994).

The clients' understanding was based on retribution, sin / virtue as the cause of sickness. This is based on Thai culture and is in accordance with the study of Somrongthong, R. (1996) and Eliza Sobo (cited in Mark Nicher : 1990). Due to lack of knowledge and understanding, they confused the death of cryptococcal meningitis patients with an unrelated lumbar puncture. It made wrong conclusion and judgement on the treatment. It was a mistake that lumbar puncture is the cause of death. This showed that health education in patients / relatives about the investigation and treatment is necessary. Other fallacies were that meditation was the gathering of mental power to get rid of HIV, exercise caused exhaustion and the sedative drugs caused the body to rest. They lacked the knowledge for avoiding sources of infection. There were few the knowledge of behavioral causes. In the beginning, (table 24), the experimental groups reflected the public media during the discussion. It interviewed some HIV infected patients in a darkened view, showing the horrible image and the discrimination in health care service. This caused double stigmatization to HIV infected persons and made the progression of the disease worse.

In the post-test, the experimental group shared their real life experiences about the cause of the problem. They learned about co-factors and what should be avoided. There was no statistically significant difference between the experimental and control groups. The sharing by the experimental groups found that the clients had varied experiences in the topic of the behavioral cofactor, especially in a potentially harmful chemical foods and continuous drug trials. They noticed the behavioral difference among the asymptomatic, the symptomatic and the dead, especially between females and males. Females experienced symptoms and death later than males. This brought about the widows group in Chiang Mai (table 30-31). They understood that the physical problem is only pain, and that the mental problem is desire to be totally cured. They realized that the mental feeling was the cause of the problem. Initially upon finding out that one is HIV positive, they know what the seroconversion is. They instantly felt sick mentally. This often leads to becoming physically sick. This is the psychosomatic disorder (table 32). In the present AIDS situation, HIV infected persons have too much stress and worry. This fight or flight mechanism constructs the body for a long period. This stimulates the brain and the adrenal gland (hypothalamic-pituitary-adrenal system). It excretes stress hormones (adreno-cortico steroid) to suppress the immune system that is susceptible to sickness. This physiological mechanism, according to Hans Sayles (1950), a Noble scientist, shows that the mental status is a very important predisposing factor. Since then, the later studies have supported this discovery. It is in accordance with the Buddhist doctrine says that life consists of the body and

the mind that work together, "Mind is the boss, body is a servant" and "the happy mind is on a healthy body". The result of the experience sharing by the experimental groups made them realize that the progression of the disease was due to behavior (table 33-34). Their conclusion was that HIV alone does not cause AIDS (table 35).

c) The goal of solving the problem : Both the experimental and control groups understood the goal of problem-solving better in the post-test than pre-test with a statistically significant difference. In the post-test, there was no statistically significant difference between the experimental and control groups.

In the pre-test , Both groups understood the goal of the problem in terms of disease oriented. They only aimed at HIV seronegative which was not possible. This false theory was used by some groups to make a profit by causing confusion and misconceptions in the public. In addition, both groups had no self-reliance goal. They depended on external factors such as doctors, medicine, technology, and government welfare. Since the beginning the government has managed everything by centralization or a top-down approach such as education, resource mobilization and public health service. The people lost self-confidence, had poor decision making and became dependent. In the terminal stages of life, the clients wanted to depend on the temple as the hospice, but this is not the real Buddhist way. This showed that both groups misunderstood the goal of problem solving which effected how the problem solving was defined. In the beginning, (table 25) the experimental groups shared discussions reflected that they wanted herbal protection from deception, and herbal support by the government. They relied on others like the government to help them without looking at themselves. At the present time, there are many types of herbs that claim to cure AIDS. One of the goals was to stop the negative media in the village. They tried to escape, but there was no place to go. Another goal was that the health care providers should be a model in accepting HIV / AIDS patients. Also, the government should insure their jobs because the employers would not hire HIV infected employees or would hire them once they started. Few clients had health related goals.

In the post-test, the experimental groups shared experiences selected the goals of problem solving to improve quality of life. Their goal was to have a symptom-free life and live with hope. This is consistent with the international AIDS's symbol "keep your fingers cross" and "when I live, I hope." There was no statistically significant difference between the experimental and control groups. The sharing by the experimental groups (table 36-39) found many goals for solving the problem. They focused on the safety and how dangerous it was to try to kill HIV by conventional and herbal medicines. They clearly defined their goal in life, adjusting their life in a health promoting way.

d) The way of practice : The experimental groups understood the way of practice better in the post-test than in the pre-test. In the post-test, the experimental groups understood the way of practice better than the control groups. Both statements show a statistically significant difference.

In the pre-test, both groups understood the way of life but with some

uncertainty, which is in accordance with Trimarkka, S.'s study (1996). Because the HIV related problems increase according to the situation and timing, there must be an continuous information source ready. In addition, both groups knew little about health promotion. They sought and used herbs as alternatives to kill HIV. They depended on drugs. This is in accordance with Nantachaiphun, P.'s study (1994) which found that self-care meant taking care of only the sickness. Conventional medicine holds the medical paradigm and states that AIDS is incurable, which means HIV can not be killed. At the present time, there are no drugs to cure AIDS. The folk healer holds the illness paradigm and states that AIDS can be cured, which means one can recover from the symptoms. The HIV/AIDS patients should consider both ideas about the treatment for HIV/AIDS. In addition both groups still lacked the proper direction for life. They suffered from social illness because people were biased. They felt disgusted and very uncertain about the proper conduct and the precaution, especially the potentially harmful chemicals in foods. Most of them had actual experiences that they could learn from, but there was no scientific support.

In the post-test, the experimental groups learned step-by-step thinking process for cause and effect according to the Four Noble Truths. They explored the problems and prioritized then. Then, they made an analysis of the cofactors and considered the goal of living a symtom-free life. When one's understanding is more developed, one will realize what should be done. One can not solve the problem until they realize the right way and put it into practice. The experimental groups shared experiences (table 40-44), it was found that the way of practice included living with AIDS, and the mental status was needed to confront the AIDS situation. They learned the importance of self correcting behavior and learned the obstacle of social correction. The way of practice became clearer, including self-care in physical, mental and social health. They learned the precaution first because the topic of proper conduct was unlimited. Thinking about the dangers of the precaution will remind people not to be heedless. The chosen models of HIV infected clients. Explained the way to simplify the conduct. All clients were trained in meditation and took a self-examination every two weeks. As a result, the experimental groups gained confidence in performance. This showed that learning by applying the Buddhist doctrine made the experimental groups understand the way of practice better than the conventional teaching experienced by the control groups. When one understands the right way of practice, there is a chance for the right action to develop as well.

Conclusion : The discussion questions are the conceptual frame for problem based learning. The three effective sources of knowledge are integrated in health education process. Knowing the truth through listening is used to utilize information and create obvious knowledge. Knowing the truth through thinking is used to arrange knowledge in order and lead to decision making. Lastly, knowing the truth through direct experience is used to realize one's own action and lead to Buddhist wisdom. By using this process, the experimental groups showed some improvements over the control groups in understanding the condition of the problem, the cause of the problem and the goal of solving the problem. The experimental group showed a great improvement over the control groups in the way of practice. This study showed that HIV/AIDS clients should be aware of the harm and dangers of the problem because it leads to the right way of the

practice continuously. In order to solve the problem, one must thoroughly understand the truth of the problem : the condition of the problem, the cause of the problem, the goal of solving the problem and the way of practice.

Mental strength : The experimental groups had a better mental strength in the post-test than in the pre-test (Hypothesis 1.2). In the post-test the experimental groups had better mental strength than the control groups (Hypothesis 2.2). Both statements show a statistically significant difference.

In the pre-test : both groups had a mind "ruffled by worldly conditions". How susceptible they were worldly conditions. They are so sensitive to the way other people treat them. It is like a dead fish flowing along the river. Since the beginning of AIDS, those infected often had many negative thoughts that lead to unreasonable thinking. Both groups became more and more annoyed and that lead to some fallacies. Both groups reaction to the HIV infection showed and obvious fear of death, a disgusted terminal state and social rejection. This caused and uncalm mind and decreased mental strength. This feeling or the Five Hindrances happened by instinct. It is the basic concept of negative daily life. When any of the Five Hindrances are present, it causes a person to be unreasonable, ignorant and unable to have wisdom. When one does not have right understanding one this obsessed by the wordly conditions Buddha once said that the Five Hindrances are the nutriment ignorance. It was in accordance with other studies. They found that the HIV infected client encountered both symptoms and psychosocial problems, such as lost self-esteem, lost empowerment and worry about stigmatization of the sexually transmitted disease (Korniewiez, O'Brien & Lason 1990 : 14-21). The interrelationship between society and HIV/AIDS patients changed. HIV/AIDS patients became frustrated, alone, rejected and abandoned (Flaskerud 1992 : 255). They had to encounter the psychological distress because AIDS is the disease of death. They expressed the fear of death, worry, depression, guilt, suicidal attempt, loneliness, lost self confidence and desperation (Nontapathamadul, K., 1992 : 225; Homsapaya, T., 1994 : 25; Kelly, & Lawrance, 1988 : 100-130; Valente, Saunder, & Uman, 1993 : 15). In addition, they had to encounter the uncertainty of life (Weitz, 1989). The uncertain progress of the disease and sickness caused stress and destroyed the hope and purpose of living (Weitz, 1989). At the same time they had to encounter the uncertainty of conventional medicine that caused them to seek alternative treatments (Hongviwat, T., et al., 1996). This study was in accordance with a similar study that showed the 3 main anxieties were :- the uncertainty of the future, the maintenance of physical and mental health, and the social unacceptance (Long, Sprooss & Locke 1990 : 21-26). The pre-test, it was found that the first 2 obstacles of mental strength in both groups were anxiety and doubt. It showed that the AIDS situation at the present time confuses them. The next obstacles were ill will and dullness. The last was sensual desire because they passed the crisis for a period and tried to seek some methods to release the stress.

In the the post-test, it was found that the most obvious problem was mental disturbance, being without peace of mind. The experimental groups realized the characteristic of all feelings or concocted emotions. These emotions would arise for a brief time and then pass away. They were not present in the mind at all times and were

unworthy to attach to the mind. The clients did not suffer from any of these feelings when they arose in the mind. At that moment, the experimental groups' mind could be instantly changed to the neutral state. Therefore, the Five Hindrances could be realized and overcome in the daily lives of the experimental groups better than control groups. In the post-test, it was found that the first 2 obstacles of mental strengts in both groups were still anxiety and doubt. 4 of the 5 obstacles, ill will, dullness, anxiety and doubt decreased considerately in the experimental groups when it compared to the control group. As in the following :

a) Sensual Desire : The sensual desire of the experimental groups was decreased more in the post-test than in the pre-test with a statistically significant difference. In the post-test, there was no statistically significant difference between the experimental and control groups.

In the pre-test , both groups felt that all events influenced their lives. They craved all sensual desire and felt enjoyment anything that responsed to their needs. they could not decide or a adapt their daily lives and often attached to figures, taste, smell, sound and touch. Some acted normally, while some ate or did everything they wanted. Some attached to their neighbors constantly. HIV/AIDS patients were victims of temptation, especially to food. Food eat necessary for life but HIV / AIDS patients, must be cautions, because they are sensitive to the harmful chemical foods. In the general population, when sensual desire arises in the mind, the mind will attach to a positive condition becoming tired, tormented, excited, anxious and without peace. This causes the mind to be distracted or to wander about, never fixing on one point. This is desire or craving. Whoever has a feeling of desire is always painful.

In the post-test , the experimental group realized the benefit of renunciation. This showed that the learning of the precautions and proper conduct for HIV / AIDS patients provided them some hope to be cured. Although some did not expect to be cured, the precautions and proper conduct gave them an alternative. They were satisfied and willing to live. It is a human's natural desire to want to keep their life. Therefore, they were ready to reduce, refrain and stop some behavior according to the precautions and proper conduct for living with AIDS. There was no statistically significant difference between the experimental and control groups.

b) Ill will : The illwill of the experimental groups was decreased more in the post-test than in the pre-test. In the post-test, illwill was decreased more in the experimental groups than in the control groups. Both statements show a statistically significant difference.

In the pre-test , both groups perceived themselves and the HIV infection as threatening their welfare and life. This threatened feeling caused them to respond negatively toward society. They were annoyed, angered and revenged with anyone who unsatisfied them, such as the husband who spread HIV to her and / or the child, the relatives / friends who rejected them, the health care providers who rejected them and shifted the responsibility of care to the relatives during hospitalization. When ill will is present in the mind, the mind goes to a negative condition becoming angry, full of hatred and revenge.

In the post-test the experimental groups discussed Dharma "learning suffering, being happy". This reminded them not to be heedless. They perceived living with HIV as being a warning sign for death and realized that they must follow the right way of life with kindness and compassion. The experimental groups learned problem-solving by self-correction and therefore, decreased the sense of blame to others. They perceived objects with thoughts of goodwill or optimism. They realized other's feelings about AIDS and perceived the advantage of forgiveness. As a result the illwill was decreased more in the experimental groups than in the control groups.

c) Dullness : The dullness of the experimental groups was decreased more in the post-test than in the pre-test. In the post-test, dullness was decreased more in the experimental groups than in the control groups. Both statements show a statistically significant difference.

In the pre-test , both groups were dull with the double stigmatized HIV. They felt like a drowned man, like and executed prisoner, like a time bomb. They felt despair like being in the dark, having no friends or often crying lonely. They often thought of suicide to escape the social disgust and rejection. They have suffered mentally since they knew HIV seropositive. Some were depressed and felt like they were treated like a guinea pig. They often felt like animals in a zoo tour when group of people would come by. HIV/AIDS clients were often doll with triple stigmatization; his wife and / or his child were infected with HIV. The child would encountered school problems and difficulty with baby-sitters. It was sinful to consider an abortion. When dullness is present in the mind, the mind goes to a negative condition becoming lazy, apathetic and drowsy.

In the post-test, the experimental groups shared the encountered problems. They learned new experiences from sharing with other HIV clients, the fellow being, subject to the same problem. This united feeling built an intimate relationship and gave each of them willpower. They were active, alert and aware. They perceived oneself positively, they were ready to encounter the problems and improve oneself for living with AIDS. As a result, the dullness was decreased more in the experimental groups than in the control groups.

d) Restlessness or Anxiety : The anxiety of the experimental groups was decreased more in the post-test than in the pre-test. In the post-test, anxiety was decreased more in the experimental groups than in the control groups. Both statements show a statistically significant difference.

In the pre-test , both groups were anxious. At this present time, they did not accept their HIV status. They were worried about the behavior of oneself / husband which initially caused them to get HIV. They were worried about sickness or being abandoned in the future. They imagined being wrapped in a red plastic bag when they die at the hospital and nobody comes to their cremation. They were afraid the neighbors would find out their secret of HIV infection. Some talked to oneself like a mad man and some had nightmares. They also felt that everything was unmanageable. There was medicine available, but only the government could afford it. The HIV/AIDS

patients could not afford it and the government could not help them. When anxiety is present in the mind, the mind goes to a positive condition becoming restless distracted and worried.

In the post-test, the leading question helped the experimental groups to arrange their experiences according to cause and effect. They learned to define the goal and readiness to have a longer symptom-free life. They learned meditation which enables them to reach a calm state of mind. Meditations allows the mind to focus on a single object. This prepares the mind for working. They learned to be the mindful of the proper conduct. They learned not to be afraid if someone finds out, but it is not necessary to tell anyone. This prepares them for the reality of being exposed once symptoms appear. As a result, the restlessness or anxiety was decreased more in the experimental groups than in the control groups.

e) Doubt : The doubt of the experimental groups decreased more in the post-test than in the pre-test. In the post-test, doubt was decreased more in the experimental groups than in the control groups. Both statements show a statistically significant difference.

In the pre-test , both groups were doubtful and hesitate toward conventional medicine, life and survival. They sought all the herbs available without knowing the consequences. They felt uncertain about whether or not their relatives and neighbors would accept them. This lead to the clients not going out to public. They were also uncertain about the unwholsome food. When skeptical doubt is present in the mind, the mind goes to a condition of indifference becoming uncertain, hesitant and reluctant.

In the post-test, the experimental groups learned step-by-step the thinking process according to cause and effect, they also learned the behavioral cofactors that made the progression of the disease worse. This made them understand the problem and see the solution clearly, especially in the potential chemicals in food and the health seeking behavior. Learning according to causes and effects can extinguish the suspect and build confidence in order to promote health for a longer symptom-free life. As a result, the doubt was decreased more in the experimental groups than in the control groups.

Conclusion : The Five Hindrances acts in a like manner causing suffering to arise. The mind cannot experience real peace when these Five Hindrances are present. The experimental groups learned to observe their own minds and realize for themselves that the Five Hindrances they were experiencing at that moment were their enemie. With reasoning such as this, they did not allow the Five Hindrances : to arise in the mind and manifest through their external behaviors. This study showed that the experimental groups realized the characteristic of all feelings or concocted emotions. They also noticed any of the Five Hindrances and thought to oneself, "Why do I insist on feeling angry?", "Why do I insist on feeling anxious?", "Why do I continue with apathy?". They realized the harmfulness and danger of the Five Hindrances along with the benefits of a neutral state of mind. They could change the temperament of the mind from the Five Hindrances to a neutral state.

Health promoting behavior : The experimental groups had better health promoting behavior in the post-test than in the pre-test with a statistically significant difference for all six items (Hypothesis 1.3). In the post-test, eating behavior was better in the experimental groups than in the control groups with a statistically significant difference (Hypothesis 2.3).

In the pre-test , both groups often practiced health promoting behavior insufficiently, irregularly or not at all. They neglected the fact of stimulating the body's immunity. This was in accordance with Nuntachaipan, P.'s study (1996 : 3) found that HIV infected clients' self care only addressed the illness and few had health promoting behavior. Porter, et al.'s study (1993 : 20) found that 49% of HIV infected clients lacked any health care. Both groups acted normally because they did not want to be noticed or appear suspicious. It was a mental mechanism to cope with the problem that was in accordance with the study of Somrongtaung, R. (1996). Both groups sought treatment everywhere, using every method imaginable. This was the real cause of problem. They became drug dependent, seeking both western medicine and herbs. This is in accordance with the study of Hongviwat, T., et al. (1996) and Nuntachipan, P. (1994). Today, all kind of drugs are being researched, but the long-term effects are unknown. It is necessary to have some protection against improper treatment and adapt self care to the right way. Both groups still depended on external factors, according to their beliefs and values, and did everything for survival. This was in accordance with the study of Somrongthong, R. (1996) which showed that the mentioned behaviors did not support health promotion and caused the disease to get worse. In the pre-test, it was found that the first three most important health promoting behavior practiced by both groups were air pollution avoidance, communication and sleeping. The next most common was they paid attention to eating with ambiguity. The emotional relaxation and exercise were the two least common health promoting behaviors practiced by both groups.

In the post-test, all 6 of the health promoting behaviors improved because the understanding and mental strenght also improved (Payuto, P.A., 996:2-8). The most interesting topic was food. The experimental groups learned and became conscious about which foods should be avoided. This study found that eating behavior changed significantly in the experimental groups when it was compared with the control groups, as in the following :

a) Eating behavior : Eating behavior of the experimental groups was better in the post-test than in the pre-test. In the post-test, eating behavior was better in the experimental groups than in the control groups. Both statements show a statistically significant difference.

In the pre-test, both groups were susceptible to the harmful chemicals in foods. Today, the industrial agricultural system adds chemicals to the agriculture which makes the food different from nature. The chemical fertilizer application makes the organisms in the soil imbalanced. The abundance of pesticide application makes some insects resistant to pesticides. This makes some insects become a new problem so more pesticide to be applied. The mentioned chemical substance is not only absorbed in vegetables and fruits but it spreads into the river and enters the human food

chain. Some kinds of chemical substances are applied to daily foods in order to appear nicer and to make a sale. The modern agricultural scheme is hazardous and weakens the body's immunity. It causes humans to get sick easily especially HIV infected clients who decrease immunity. They must be careful and aware of the posible chemicals in foods. There are some arguments between folk healers and medical doctors. Folk healors identify very strictly with food precautions and xenobiotics, but medical doctors do not consider taking any precautions. This problem caused HIV infected clients to loss confidence in food precautions and they ate everything as usual. It showed that both groups and health care providers lacked the knowledge of toxicology. They could not understand how harmful the chemically contaminated foods were. They continued to eat food without considering any precautions.

In the post-test, the experimental groups had holistic views on eating with mindfulness and clarity of mind. This form of meditative practice is wholesome because it is accompanied by awareness and wisdom. The experimental groups had some experiences that caused them to be sick. Everyone shared their experiences and ideas about foods, contaminants and the complicated process of food transformation with chemical residual. It was the idea sharing that caused a more obvious understanding, thinking and communication about unwholesome food for HIV infected clients. The experimental groups understood the importance of selecting safe food, understood the pesticide and learned how to reduce the pesticide residue in vegetables and fruits as long as the chemical-free vegetables are not available. This increased their consciousness about which foods were safe and which foods contained chemicals. As a result, eating behavior was better in the experimental groups than in the control groups. In the seventh activity (table 46), most of the experimental groups were greatly interested in the importance of eating. They set eating as the first priority for an appropriate lifestyle.

b) Air pollution avoidance : Air pollution avoidance in the experimental groups was better in the post-test than in the pre-test with a statistically significant difference. In the post-test, there was no statistically significant difference between the experimental and control groups.

In the pre-test , both groups lived in air polluted environment. At the present time, Chiang Mai is faced with air pollution from traffic jams and factories. It was inevitable to avoid chemical smoke from factories, cars combustion, cigarette smoke, garbage, benzene and inhalants such as glue, thinner, lacquer, lighter oil, nail enamel, nail lacquer removal, hair spray etc. The application of agricultural chemical substances such as herbicides also added to the pollution. Since Thailand is an agricultural country, the application of agricultural chemical substances are higher than other chemical substances. The propaganda of industrial agriculture makes agriculturists rely on chemical substances and stop the natural process. The report of the toxicants used found pesticides. An interview of agriculturists found that 48.1% of agriculturists had some symptoms from the chemical but did not have any treatment. Most symptoms appeared after spraying pesticides (Soontorntum, S., & Towjaroen, S., 1998 : 4-17). The Non Governmental Organization provided the funding for HIV infected clients in order to feed pigs and chickens to eventually sale. The study of the animal farm showed that there were some pollution from dust and microorganism especially ammonia in the

asea. It was higher than the safety level. (cited in Ukotkit, K., 1999: 241). This showed that HIV infected clients should avoid air pollution.

In the post-test, the experimental groups realized the negative effects from scientific technology, especially agricultural chemical contaminants in the air. Both groups were in similar areas that had pollution from traffic jams and chemicals from factories. They both also depended on industrial agriculture. In one situation or another, both groups experienced air pollution. Six clients in the experimental groups made a great change by resigning from work because they had to inhale the chemicals regularly. The first client worked in a frozen food room. Whenever he entered the frozen food room, he had to clean his hands with a chlorine solution. This solution produces oxygen free radicals and hypochloric acid. It destroys human mucosa which causes irritation to the skin and conjuntiva. It also causes cough, chest tightness and gasping (Vananukul, V., 1998 : 244-246). The second client, an accountant worked in a petrol station. The regular inhalation of benzene into the body suppresses the bone marrow's function (Vannanukul, V., 1998 : 247-250; Jompituk, Y., 1997 : 13-16). The third client, an office boy worked in the biological gas area during the natural production process. He was exposed to both organic and inorganic gases. These gases irritate human mucosa. The last three clients worked as cooks. They had to inhale liquid petroleum gas constantly which makes oxygen insufficient and causes dizziness or fainting (Jompitak, Y., 1997 : 138-139). At the same time, four clients in the control groups had no change of work. They had to inhale the toxic inhalants from lead which is then absorbed into any part of the respiratory tract and accessed into the blood circulation directly (Suttachit, M., 1988 : 75-90). The first client worked as a tinsmith and was exposed to the solder and rustproof paint. The second client worked as a car serviceman and was exposed to the electrode terminal of batteries. The last two clients worked as painters and were exposed to paint. All these materials contain lead. In the seventh activity (table 46) most of the experimental groups were interested moderately in the importance of clean air. They set clean air as the third priority for an appropriate lifestyle.

c) Exercise : The exercise behavior of the experimental groups was better in the post-test than in the pre-test with a statistically significant difference. In the post-test, there was statistically significant difference between the experimental and control groups.

In the pre-test , both groups had sedentary lifestyles according to the lifestyle of most people in a big city. The environment, both the ecology and socioculture influence the human lifestyle. They work only as a means of survival and social existence. Although most of the people know the benefits of exercise, they have a great excuse no time. Some of their reasons, they are too busy, too tired, too difficult, too boring. HIV infected clients always say that they are too sick and they thought that exercise would weaken their health. HIV infected clients did not truly understand the benefit of exercise.

In the post-test, the experimental groups realized the responsibility and importance of strengthening themselves. They were instructed to control the connection of the mind and the body and extinguish any anxiety during exercise. However

they were not able to exercise as a household work. It was no difference between the experimental and contral groups. Both groups only exercised occassionally. The exercise became another job, they did not continue to practice as householders. They did not understand the benefits of exercise or the consequences of lack of exercise. In the seventh activity (table 46) most of the experimental groups were only slightly interested in the importance of exercise. They set exercise as the fifth priority for an appropriate lifestyle.

d) Sleeping : Both groups had better sleep behavior in the post-test than in the pre-test with a statistically significant difference. In the post-test, there was no statistically significant difference between the experimental and control groups.

In the pre-test , both groups had insomnia, mightmares, broken sleep or were easily awakened at night which all caused insufficient rest. They experienced this difficulties in sleeping because of their many physical and emotional concerns. They felt like their life was repetitive and boring. Eventually, they lost direction in their life. Even daily news repeated the statement of depression.

In the post-test, the experimental groups realized the significance of sleep. There are many important issues to consider about sleep. One must prepare the body and mind for sleep through relaxation. it is important to have the proper environmental and light arrangement. One must pray before sleep. These things allow the person to sleep and rest at night. When light decreases, the pineal gland will produce melatonin, the only antioxidant that is capable of penetrating every cell of the body. It is the most active and effective antioxidant. It acts as an intercellular antioxidant, preventing and reducing the damage done to the body by free radicals (Surangsrirut, S.,1996 : 115-118; Coonhasavutdikul, B., 1995 : 185-189; 143-147; Victoria Dolbi, 1998). The environmental limitations prevented the HIV infected clients from changing the sleeping model completely. There was no difference between the experimental and control groups. In the seventh activity (table 46), the experimental groups' thoughts were varied about the importance of sleeping. They set sleeping as the fourth priority for and appropriate lifestyle.

e) The communication : The experimental groups had better communication behavior in the post-test than in the pre-test with a statistically significant difference. In the post-test, there was no statistically significant difference between the experimental and control groups.

In the pre-test , both groups separated themselves from society due to the physical limitation, desperation, social rejection, fear, anxiety, depression, etc. As a result, they lacked the social interaction and the sharing of information with others. They also avoided talking about AIDS because of their fear of rejection. They did not talk or expose themselves to others and did not dare ask for any contributions. Therefore, they had no support. They were alone more and lacked any refuge. This is in accordance with the study of Somrongthong, R. (1995), Homsapaya, T. (1994 : 24), Jutavichit, K. (1989 : 98-117 ; 1990 : 114-126 ; 1992 : 12) and Mc.Grath, et al.(1993 : 55-77) which found that most HIV infected clients hid their infection status to avoid

being disgusted and rejected. They were over anxious. This is the defense mechanism that is common in the early stages of the infection.

In the post-test, the experimental groups had the opportunity to listen, talk and give generously to each other. The relationship among the members was the first step in expanding social interaction. The existing social problem made both groups have limited communication within their groups. There was no difference between the experimental and control groups in expanding their social interaction skills. In the seventh activity (table 46), most of the clients in the experimental groups were merely interested in the importance of communication. They set communication as the last priority of the appropriate lifestyle.

f) Emotional relaxation : The experimental groups had better emotional relaxation in the post-test than in the pre-test with a statistically significant difference. In the post-test, there was no statistically significant difference between the experimental and control groups.

In the pre-test , both groups lived with a repetitive lifestyle and live day by day without any meaning. The eagernes to do any activities was decreaseed. They reduced or stopped any social activities and waited with uncertainty. They were threatened by social pressure. They were frustrated with their surroundings, even the daily news which reported only the terminal stages of AIDS and death. They were at their wit's end ; the panic of AIDS was too much.

In the post-test, the experimental groups improved their emotional relaxation in daily activity. They attempted to adapt their emotions to balance threat and relaxation. The participation with other HIV/AIDS clients was importance becuase it prevented them from being alone and decreased their tension. Throughout the day, various conditions would arise and fall. They should become keener to know how to handle all the various conditions. There was no difference between the experimental and control groups. In the seventh activity (table 46), most of clients in the experimental groups were interested in the importance of emotional relaxation. They set emotional relaxation as the second priority for an appropriate lifestyle.

Conclusion : The world is full of reminders. The Buddha pointed out that it is very urgent to develop mindfulness in any situation and at any time in order to be realistic. In this study, food was the issue that the experimental groups shared their experiences and ideas. They developed continual mindfulness about the potentially harmful chemicals in foods that reminded them to be watchful, seeing danger even in the slightest faults. Their lives were never allowed to be influenced by food cravings. They realized the danger and harmfulness of chemicals in food, as a way of refraining. That is realizing the harm and danger of suffering is the way leading to no-suffering. The obvious change of right eating in experimental groups showed that right understanding by critical reflection is the main point of decision making. This right way becomes a part of life and associates with the mind. If behaviors are not judge through critical reflection. They should not become a part of living and should not associate with the mind. They will cause to be improper conduct. Thus, the condition for great change in one's life is

right understanding of the realities. One can see for oneself that when one develops any right way, there are some gradual changes in one's character.

Health status : In the pre-test , the most obvious clinical manifestations in both groups were weight loss, pruritic papular eruption and fever. The least were most common lymphadenopathy and herpes zoster. In the sharing of experiences of illness (table 42) the experimental group had other clinical manifestation, such as myalgia, arthalgia, unremitting flu and headache. The clinical manifestations of both groups were often found during the acute HIV infection syndrome. This is in accordance with the report of Vanhems, et al., Nine, et al., Clark, et al. and Schacke, et al. (cited in Ruxrungtham, K., 1998 : 22-27) that found that 50-90% of HIV infected clients manifested symptoms during the acute HIV infection syndrome.

Almost all of the experimental groups clinical manifestation were better in the post-test than in the pre-test with a statistically significant difference (Hypothesis 1.4). The exceptions were lymphadenopathy and herpse zoster. In the post-test the experimental groups had a more improved body weight, better fever, fatigue and oral thrush when compared to the control groups with a statistically significant difference (Hypothesis 2.5), as in the following :

a) Body weight : In the pre-test , both groups (67.37% in the experimental groups and 65.57% in the control groups) had weight loss. This showed that both groups experienced nutritional deficits. They lost their lean body mass which is a typical symptom of HIV infected persons. This decreases the immunity and worsens the progression of the disease. This is in accordance with the study of Vanhems, et al. (1997) and Schacke, et al. (1997) which found that 24% and 70% of HIV infected clients respectively had weight loss in the acute HIV infection stage (cited in Ruxrungtham, K., 1998 : 24)

The experimental groups improved their body weight better in the post-test than in the pre-test. In the post-test, the experimental groups improved their body weight more than the control groups. Both statements show a statistically significant difference. This study showed that the experimental groups had a better nutritional status and maintained lean body mass better than the control groups. The increasing body weight was a common indicator that the experimental groups had a better health status than the control groups.

b) Pruritic papular eruption : In the pre-test , both groups (58.95% in the experimental groups and 63.93% in the control groups) had the symptom of pruritic papular eruption. The skin manifestation is easy to notice and to be an indicator to identify HIV infection. These skin problems cause HIV infected clients to get overanxious. The onset of clinical manifestation of both groups was itching with papules similar to mosquito or insect bites. It becomes a chronic protuberance and dark lesion or scar. Most were found in the area of the arms and legs. In severe cases, it spreads to the trunk. In tropical countries, these skin lesions are found in any stage of the HIV infection. For example 18-46% of HIV/AIDS patients in Africa and 27% in Thailand developed pruritic papular eruption (cite in Ruxrungtham, K., 1998 : 32). This is in

accordance with the studies of Vanhems, et al.(1997), Niue, et al.(1993) and Clark, et al. (1991) which found that 56%, 70% and 70% of HIV infected clients respectively had skin manifestation in the acute infection stage (cite in Ruxrungtham, K., 1998 : 24).

The experimental groups had a decrease in symptom of pruritic papular eruption in the post-test when compared to the pre-test with a statistically significant difference. In the post-test, there was no statistically significant difference between the experimental and control groups. The etiology of the pruritic papular eruption is uncertain and there is no specific treatment. Generally, oral antihistamine and topical corticosteroids are prescribed. In this study, the clients were prescribed with PMN Ointment and skin care. Both groups'skin was protected from external factors such as insect bites, sunlight and chemicals. There was no difference between the experimental and control groups.

c) Fever : In the pre-test , both groups (56.84% in the experimental group and 50.82% in the control groups) had fever. It was like a fever from a cold, flu or pharyngitis. Fever shows that HIV is not dormant because there is replication approximately 10.3 x 10^9 cells a day and CD_4 cell is destroyed approximately 40-60 cell/ml a year (Ho, et al.,1995 : 123). Both groups took Paracetamol (Acetaminophen) regularly which can be toxic. Papacetamol decrease the glutathione peroxidase level (reducing agent), an antioxidant, in the body. This decrease can not get rid of the toxic substance, therefore, liver and kidney cells are destroyed. This is in accordance with the studies of Vanhems, et al.(1997), Niue, et al. (1993), Clark, et al.(1991) and Schacke, et al. (1997) which found that 77%, 96%, 97% and 94% of HIV infected clients respectively had fever in the acute HIV infection stage (cite in Ruxrungtham, K., 1998 : 24).

The experimental groups had a decreased incidence of fever in the post-test when compared to the pre-test. In the post-test, the experimental groups had a decrease incidence of fever when compared to the control groups. Both statements show a statistically significant difference. This prognosis marker indicated that the clinical infection and inflamation improved. Therefore, the prognosis of the experimental groups was better than the control groups.

d) Cough : In the pre-test , both groups (43,16% in the experimental groups and 39.34% in the control groups) had a cough due to allergies, the irritation from dust, smoke, a coldor bronchitis. This was in accordance with the studies of Vanhems, et al.(1997), Nine, et al.(1993), Clark, et al.(1991) and Schacke, et al. (1997) which found that 44%, 70%, 73% and 77% of HIV infected clients respectively had a cough in the acute HIV infection stage (cite in Ruxrungtham, K., 1998 : 24).

The experimental groups had a decreased incidence of cough in the post-test when compared to the pre-test with a statistically significant difference. In the post-test, they were no statistically significant difference between the experimental and control groups. This study showed the clinical improvement of coughing. The clients avoided some air pollution even under the limitations of their current environment.

e) Asthenia : In the pre-test , both groups (38.95% in the experimental and 44.26% in the control group) had chronic symptoms of asthenia, such as tired

easily, weakness and exhaustion. Generally, these symptoms were found in all stages of HIV infection. It often disturbed daily life, work and social activities. It also changed some of the activities due to the physical and psychosocial problems. This was in accordance with the studies of Vanhams, et al. (1997) and Schacke, et al.(1997) which found that 66% and 90% of HIV infected clients respectively had asthenia in the acute HIV infection stage (cited in Ruxrungtham, K.,1998 : 24). The study of Lostus (1993 : abstract) found that asthenia in HIV infected clients was associated with the emotional change and duration of the progression of the disease.

The experimental groups had improved asthenia in the post-test when compared to the pre-test. In the post-test, the experimental groups had improved asthenia when compared to the control groups. Both statements show a statistically significant difference. This study indicated that the experimental groups had a better quality of life than the control groups.

f) Diarrahea : In the pre-test , both groups (27.37% in the experimental groups and 36.07% in the control groups) had diarrahea. Although it was not severe diarrhea, it was chronic and remittent. They suffered some dehydration, essential electrolyte imbalance and weight loss that affected their over all health. This causes a problem when trying to follow the recommended dietary allowance. Diarrhea is an important symptom of HIV associated enteropathy. It was found in 80-90% of the clients in the study by Winson (1994 : 36-39) and Lustig (1993: 3-14). It appears in all stages but mostly in the symptomatic stage, and increases in the AIDS stage. This is in accordance with the studies of Vanhems, et al. (1997), Nine, et al. (1993) and Clark, et al. (1991) that found 13%, 32% and 33% of HIV infected clients respectively had diarrahea in the acute HIV infection stage (cite in Ruxrungtham, K., 1998 : 24).

The experimental groups had improved diarrahea in the post-test when compared to the pre-test. In the post-test, the experimental groups had improved diarrhia when compared to the control groups. Both statements show a statistically significant difference. This study showed that the experimental groups decreased the amount of contaminated food intake more than the control groups. This decreased the infection and the growth of bacteria in the intestines. The oxidative stress was decreased in the mucosal epithelium that led to an increased absorbtion of food and water. This is in accordance with Hippocratis's saying "You are what you eat".

g) Oral Candidiasis : In the pre-test , both groups (36.84% in the experimental groups and 54.10% in the control groups) had oral candidiasis and anorexia. It caused malnutrition and affected to the body, immunity by making it more susceptible to infection. Oral candidiasis is endogenous and often found in those with low immunity or poor hygiene. This is in accordance with the studies of Vanhem, et al. (1997), Nine, et al. (1993) and Clark, et al. (1991) which found that 10%, 12% and 10% of HIV infected patients respectively had oral candidiasis in the acute infection stage (cite in Ruxrungtham, K., 1998 : 24).

The experimental groups had a decreased incidence of oral candidiasis in the post-test when compared to the pre-test. In the post-test, the experimental

groups had a decreased incidence of oral candidiasis when compared to the control groups. both statement show a statistically significant difference. This study showed that the experimental groups had a better immunity against candidiasis when compared to the control groups because the severity of the disease depends on one's immunity. The decreased incidence of oral candidiasis in the experimental groups indicated a slower progression of AIDS in those groups.

h) Central nervous system dysfunction : In the pre-test , both groups (46.32% in the experimental groups and 34.43% in the control groups) had abnormal movement, tremors, weakness and poor bnalance. Central nervous system dysfunction is found in all stages of HIV infection, especially in the AIDS dementia complex, the immuno deficiency stage. this is in accordance with the studies of Nine, et al. (1993) and Clark, et al. (1991) which found that 6% and 8% of HIV infected clients respectively had neurological symptoms in the acute HIV infection stage (cite in Ruxrungtham, K., 1998 : 24).

The experimental groups had a decreased incidence of central nervous system dysfunction in the post-test when compared to in the pre-test with a statistically significant difference. In the post-test, there was no statistically significant difference between the experimental and control groups. The recovery stage for CNS dysfunction is very slow. The etiology is uncertain. It may be caused by HIV alone, abnormal metabolism, psychosomatic disorder or other multifactors.

i) Lymphadenopathy : In the pre-test , both groups (13.68% in the experimental groups and 16.39% in the control groups) had lymphadenopathy affecting at least 2 noninguinal sites at different times and being enlarged more than 1 cm. It is a symptom in the early stages of infection even when the immunity is still normal. This is in accordance with the studies of Vanhems, et al.(1997), Nine, et al.(1993) and Clark, et al.(1991) which found that 39%, 74% and 77% of HIV infected clients respectively had lymphadenopathy in the acute HIV infection stage (cite in Ruxrungtham, K., 1998 : 24).

The experimental groups had a decreased incidence of lymphadenopathy in the post-test when compared to the pre-test. In the post-test, the experimental groups had a decreased incidence of lymphadenopathy when compared to the control groups. Neither statements show a statistically significant difference. A pathological study found that persistent generalized lymphadenopathy is an immune response which occurs in follicular hyperplasia and has no effect on the prognosis of AIDS (Abrams cite in Ruxrungtham, K., 1998 : 28).

j) Herpes zoster : In the pre-test , there were only 2 cases of herpes zoster in the experimental groups (2.11%) and only 3 cases in the control groups (4.92%). It is the first clinical manifestation which indicates early immunodeficiency. The incidence was found in approximately 5-10% of HIV/AIDS patients (Buchbinder, et al., & Glesby, et al. cite in Ruxrungtham, K., 1998 : 28-29). In general, herpes zoster in HIV infected clients gets better slower than normal. All five clients in the experimental and control groups were treated with the herb, Houttunia Cordata, which applied to the site.

All recovered within 3-7 days. The statistic comparison with only five samples has no statistically significant difference.

Conclusion : Thai traditional herbal medicine together with maintaining a healthy lifestyle, health promotion by applying the Buddhist doctrine, provides the perfect formula for Future Medicine. It is possible for HIV/AIDS patients to have a better quality of life that will lead to a longer symptom free life.

Program satisfaction : In the post-test, it was found that the experimental groups were more satisfied with the program than the control groups with a statistically significant difference. The association with the Noble friends in the experimental groups was very beneficial. Everyone was endearing and friendly to each other. They endowed with a heart of compassion and were easily approachable. The HIV/AIDS clients in the experimental groups possessed the same problems. This gave them a great opportunity to hear and discuss various ideas and make difficult subjects easier to grasp. Each expounded in depth on the various problems and made them clear for each other. Then, they helped resolve their problems or questions in the proper way. This allowed an opportunity for the HIV/AIDS clients to think for themselves in a constructive way. Therefore, their minds were cleansed and they continued to improve everyday. This showed that a Noble friend is an important part of life. The friends we associate with have an effect on our progress and/or decline in life.

The level of program satisfaction tends to depend largely on understanding and appreciating the Noble friends teachings and leading the HIV/AIDS clients toward the Right Way. The mentioned process should be the basic guideline for HIV infected clients because all humans have self-esteem and believe in their own wisdom. Humans have different learning styles : some learn by listening, some by thinking and some by application (Payutto, P.A., 1997: 55-60).

Predicting health promoting behavior

Stepwise Multiple Regression Analysis was used to assess the combined effects of overall independent variables on health promoting behavior. It expresses about 81.60% ($R^2 = 0.816$, $P<0.001$) of the variation in health promoting behavior accounted for by the problem solving process, mental strength and educational level. See below for details.

Understanding the problem solving process : Without understanding, one can not develop health promoting behavior. It is the forerunner of all behavior. If wrong understanding is the leader, all the factors of the existence will be wrong. If one has wrong understanding in the beginning, one may go the wrong way for a long time . It may be very hard to find the right way again. If right understanding is the leader, all the factors of the existence will be right. That is, when one's understanding is more developed, one will rearize what one should do. Understanding the cause and effect, according to the doctrine of the four Noble Truths, helped the HIV/AIDS clients to see how closely it was related to their lives and how they could perceive all aspects of their lives and activities in the right way. They could clearly see how to live with HIV infec-

tion. There were somethings that they could do before HIV infection that they could no longer do because of HIV infection. They must accept HIV has become so integrated with the life, an acquired state of existence. AIDS arises according to one's actions and leds to immuno- deficiency. Wisdom further dictates that they must perform appropriate duties in regard to their immunity problems. Therefore, they must take the necessary actions according to health promoting behavior.

Mental strength : Mental strength is a natural and unlimited source of action (Plamintr, S., 1994 : 80). When the mind has gone to negative, positive or uncertainty conditions, the mind becomes unable to experience reasoning (Planintr, S., 1994 : 291). The more mental strength one has, the more one is not obsessed by worldly conditions. The HIV/AIDS patients must realize the danger of being enslaved to the worldly conditions and this also reminds them to be aware. They must see things as realities and become detached from the worldly conditions. Therefore, they can maintain the middle way. They must have a mind unruffled by sensual desire, illwill, dullness, anxiety and doubt. Nothing can disturb them anymore. They must apply their minds to the modes of the right way, the way leading to good health promotion in daily life. Mental strength involves a lifestyle change and its impact on personal behavior can be truly tremendous. The Buddha says "Mind is the forerunner of all states, mind is the chief, they are all mind-made."

Educational level : Persons with a high educational level have the skills for searching for knowledge, questioning, understanding the treatment and applying this knowledge appropriately (Muhlemkamp & Sayles, 1986 : 336). Education creates wisdom, good perception about change and comprehension in the learning process including proper understanding in past events. Education allows a person to have good decision making skills and proper action (Pender, 1987 : 161-162). From the concept of Jalowice & Power (1981 : 10-15), a person with a high educational level has the right thought and understanding in any situation, and can use this knowledge and skill to solve problems. Orem (1985 : 120, 175) mentioned that education creates wisdom to understand information well, learn about diseases and treatments and do activities that respond to the need of self care. Ruth's study (1973 : 135-156) found that a person with a low educational level always encounters problems in understanding the etiology and treatment including self-conduction. Their low compliance is due to the lack of understanding the advantages of treatment and other scientific findings. These are in accordance with other studies that found that the educational level can predict health promoting behavior (Ruttanamornchai, D., 1992 : 109; Tragulsittichoke, S., 1992 : abstract; Yamchanchai, W., 1995 : 52-55; Homsapaya, T.,1995 : 98-99; Pongsomboon, J., 1996 : 76-77; Hunetasam, S., 1996 : 126; Hunkittikul, S., 1996 : 93; Kaewsawang, K., 1997 : 81-82; Muhlemkamp & Broerman, 1988 : 637-646; Muhlemkamp & Sayles, 1986 : 334-338; Speakes, Cowart & Pellet, 1989 : 93-100; Weitzel, 1989 : 99-104).

Conclusion : From this study, health promoting behavior is still in question because it is difficult to practice. This study showed that there are three predictors for the variation of health promoting behavior. They are understanding the problem solving process, mental strength and educational level. An organized health education program must developed that combines these three factors.

Predicting health status

Stepwise Multiple Regression Analysis was performed to assess the combined effects of overall independent variables on health status. It expresses about 20.20% ($R^2 = 0.202$, $P<0.001$) of the variation in health status accounted for by eating and air pollution avoidance. See the descriptions below.

Eating : Increasingly, humans are subjected to exposure of various foreign chemicals (xenobiotics). A xenobiotic (Gk *xenos* "stranger") is a compound that is foreign to the body. A major concern is that these chemicals, which can be synthetic or naturally occurring, may be a cofactor in decreasing human immunity. Synthetic chemicals in foods may be present either as specific additives or as contaminants derived from environmental or agricultural chemicals. Food also contains a variety of naturally occurring chemicals derived from vegetables or other plants in some cases, these may be considered as contaminants and are occasionally used as specific additives. New chemicals can also be formed during the cooking or preserving process. Any of these chemicals have the capacity to induce cellular damage.

WHO Expert Committee Pesticide assessed the rapidly increasing incident rate of acute toxicity from pesticide. They called this the "New third world's disease". It is especially common in the developing countries which are mostly agricultural. Thailand has a problem with the overuse of agricultural chemicals and food addictives. Hazardous substances are used even though they have been prohibited. The Food Safety Evaluation System in Thailand is not adequately operated. The studies found that the properties of any chemical substances act as oxidizing agents and cause a chain reaction, producing free radicals and damaging cells continuously. Naturally occuring enzymes within the body, superoxide dismutase and glutathione peroxidase, and dietary antioxidants protect the body against oxidative damage. HIV infected clients often lack the amount of antioxidants. Their sensitivity to free radicals causes them to manifest toxicity easier than normal. If the chemical substances becomes excessively active, the number of free radicals generated increases to such an extent that the normal antioxidative defense system of the body can no longer cope. Cells are damaged and degenerate faster. Then, immunity decreases and symptoms appear. The presence of the potentially harmful chemicals in food continues to be a concern to many HIV/AIDS individuals.

The experience sharing in the experimental groups discussed which foods caused them to be sick (table 30). They found that similar food caused them to have symptoms within 4 hours. The main foods discussed were fermented food, chemical contaminated food, alcohol and canned food respectively as the following :

a) Fermented foods, it may contain preservatives (nitrate, nitrite) to protect the growth of some bacteria (clostridium botulinum), to soften the meat, to redden meat and to make it durable and tasty. During the preserving process, the mentioned substances react with the protein in the meat (amines) and produce carcinogens (nitrosamine) (Sukpapiput, A.,1995 : 192; Rapee, P., 1997 : 65-77; Jompituk, Y., 1997 : 17-

24). Fermented foods may comtain some synthetic dyes which contain heavy metals (mercury, arsenic, cadmium, lead, etc.) that are hazardous to the consumer. Fermented noodle may contain bleach power (hydrosulphite). This fermented carbohydrates may produce Mutagens (Premelanoidins) but the research about carbohydrate is still less (Suppapiput, V., 1995 : 209-210). In addition, fat and protein processed with high heat, such as toasting, grilling, steaming, smoking and burning have been shown to be mutagenics. The most closely studied has been the pyrolysis products of cooked meat Suttajit, M., 1987 : 197-206; Suttajit, M., & Suttajit, S., 1989 : 67-69, 78-79; Suttajit, M., 1998 : 29-30; Suppapiput, V., 1995 : 202-210).

b) The chemical contaminants in foods, especially pesticide residues, are huge in the environment of Thailand. There are retained in the bodies of the animals that eat the plants and grasses. For instance, fields are sprayed with the insecticide chemical, DDT, a very powerful poison. These chemical contaminants are accumulated little by little in organisms (bioconcentuation) and then returned into foods chain. The pesticide residue, DDT, are retained in animal fat and, once stored, are difficult to break down. Thus, as cows eat grass or feed, whatever pesticides they day eat are mostly retained. In fact, meat contains 13 times as much DDT as vegetables, fruits and grass (Ananda Mitra, 1991 : 14). This is especially harmful to HIV/AIDS patients.

A report of pollution in Thailand in 1996, conducted by Pollution the Control Department, studied the pesticide contaminants in the environment in the Northern region (Chiang Mai, Nan and Tak province). It found pesticide residues over the standard level in both the soil and water (cited in Prapamontol, T., 1999 : 204-205). Similarly, the Chiang Mai Provincial Health Office reported on the pesticide residues found in vegetables. This report showed 22% of the pesticide-free vegetables contained pesticides and other vegetables contained residues over the standard level of 2%. (cited in Prapamontol, T., 1999 : 203-204).

There were a varity of chemical contaminants in foods which caused symptoms in the experimental groups. **1.** Fresh water food contained chemicals because of the water in which they lived, especially the fields contaminated with pesticides and chemical fertilizers and the rivers in the industrial communities contaminated with heavy metals. **2.** Seafood such as crabs, shellfish and squids have been found to have not only poison from accumulation seaweed (sanitoxin) at the dark glands (hepatopancrease) (Suppapiput, V., 1995 : 152) but also heavy metal ; lead, zinc, cadmium, mercury, copper, nickel and so on. If they are in their ionic or unchelated form, they can increase the production of free radicals a millionfold, totally tipping the balance towards disease. Antioxidants do very little to remove heavy metals. Formalin, used to freshen the food has also been found (Srianuchat, S., et al.1998 : 342-343). **3.** Half cooked meat, the greater potential danger to the consumer's health are the hidden contaminants, bacteria-like salmonella. **4.** Meat animals are treated with many more chemicals to increase their growth, fatten them quickly, improve the color in meat, etc. In order to produce the most meat at the highest profit, animals are force-fed, injected with hormones to stimulate growth, given appetite stimulants, antibiotics, sedatives, and chemical feed mixtures. Many of these have been found to be cancer-causing chemicals, and, in fact, many animals die of these drugs even before they are led to

slaughter. Studies have shown that many of these chemicals in meat and fish can cause cancer. Another danger facing meat eaters is that animals are frequently infected with diseases which are undetected or simply ignored by the meat producers or inspectors. As farms have evolved into animal factories, many animals never see the light of day. Such unnatural practices not only imbalance the body chemistry of the chickens and destroy their natural habits, but, infortunately, often stimulate the growth of malignant tumors and other malformations. Often, if an animal has cancer or a tumor in a certain part of its body, the cancerous part will be cut away and the rest of the body, full of toxins and disease, will be sold as meat. Veterinary drug residues in food is and important topic all over the world. The maximum residue levels for veterinary drugs needs to be established. **5.** Vegetables and fruits may also contain chemicals. The only vegetable that caused a problem was chaom (acacia), but there is no scientific information to explain it. It was found that women in the postpartum period experienced headaches and stomachaches. If a myna smells acacia, it will die (Samitasiri, S., et al., 1998 : 264-266). Some naturally occurring mushrooms, eaten by people in the rural areas are poisonous. They are unable to identify the poisonous mushroom. Its poisonous mechanism is unclear and treatment is uncertain. In addition, vegetables grown along fields must commonly contain chemicals. Vegetables and fruits may contain not only pesticides but also formalin which is used to make them appear fresher (Srianuchat, C., et al., 1998 : 342-343).

c) Alcohol, which is not considered a nutrient, can be extreme toxic to the body. It is carcinogen promotor that cause the body to lack the essential nutrients (Vitamin B_1, Folic acid, Magnesium, Iron and Zinc). Alcohol is converted by the liver enzyme, dehydrogenase, into a new substance, acetaldehyde, which has properties similar to formaldehyde. (Suppiput, V., 1995 : 243-244, Suttajit, M., & Suttajit, S., 1989 : 69-72 ; Piyaka, C., 1997 : 83).

d) Canned food, it was one of the last types of foods discussed by the experimental groups. Often, the canned food in Thailand has a low standard of quality. It may contain a bacteria (clostridium butulinum) that produces a toxin (botulin) that damages the body (Rapee, P., 1997 : 25). Other contaminants may also be found in the preservatives used. Often times, the proper conduct about selecting and cooking canned food is neglected. It is also important for unused portions of canned foods to be removed from cans and placed in metal free container. Other ways of storing food may also be hazardous. Food placed in envelopes may have leaks and allow humidity to enter that promotes organism growth. For example, dried chilly powder often contains mycotoxin (aflatoxin), which is toxic and carcinogenic.

The above mentioned study's finding are in accordance with the study of Sirisaard, P., et al. (copy, 1995 : 51-58). It found that 43 HIV infected clients at New Life Friend Center, Chiang Mai had direct experiences and believed in the unwholesome food, such as beef, duck, chicken, goose, fermented food, alcohol, carbonated drink, preservative, saccharin and addictive. The members shared some experiences about the unwholesome food and their differenct allergies. The relative risk of dietary chemicals should be studied in a more meaningful medical perspective.

Air pollution avoidance : Air pollution is a widely environmental problem. Pollution is caused from the rapid and continuous expansion of the production system in conbination with advanced technology. Pollution is experienced from factories, pesticides, herbicides, cars and motor cycles. Oxidation is accelerate not only by the oxygen reaction in the air (approximately 20%) but also by the toxic contaminants in the air. This increases the oxidative stress and accelerates the progression of the disease. Therefore, it is necessary of HIV infected clients to avoid air pollution.

The experience sharing by the experimental groups discussed their personal experiences about pollution (table 34). Some of the mentioned contaminants were evaporated oil, herbicide and smoke respectively. Evaporated oil is a hydrocarbon which is the by-product from the coal-tar industry and petroleum. Most are used as solvents, such as benzene, gasoline, ketone, kerosene, thinner, dye, lacquer, lighter, nail lacquer, hair spray, glue, etc. Evaporated oil has the property of a gas. When introduced into the body, it causes acute toxicity. The severity depends on the quantity and individual sensitivity. It can cause chronic toxicity when inhaled little by little for a long time (Jompituk, Y., 1997 : 13-16; Vanakul, V., 1998 : 247-250).

Many herbicides and pesticides were discussed and are used by agriculturists. Herbicieds are the most hazardous oxidizing agents. The consumer may experience multiple organ damage, failure and death. (Suttachit, M., & Suttachit, S., 1989 : 77-78; Suttachit, M., 1982 : 23-25; Titaphan, U., et al. 1998 : 51-53; Vananukul, V., 1998 : 219-225). In 1994, the Epidemiological Department at the Ministry of Public Health reported on the effects of pesticides. They found 36 deaths and 2,775 patients suffered from pesticide in Thailand, mostly in the north. Similarly, the Occupational Health Department at the Ministry of Public Health conducted a study on the pesticide residue index found in the body (enzyme Cholinesterase) of agriculturists. It found that 16.6% of the 416,438 agriculturists in Thailand had unsafe levels of the various chemicals. (cited in Supawong, C., & Kadkamkai, Y., 1997 : 231).

Lastly, all smoke is inhaled regularly is dangerous. The incomplete combustion process causes mutagens (polycyclic aromatic hydrocarbon or heterocyclic amines) such as cigarette smoke, soot from burned garbage, car combustion, burned fuel and from toasting and grilling food (Suttachit, M., 1988 : 197-206). Generally, air pollution was found in traditional ceremonies in Chiang Mai such as weddings, ordination and funerals. These uaually 3-4 days. HIV infected clients got sick after participating in the various ceremonies.

Conclusion : The factors influencing health status in HIV infected clients are numerous. Both the exposure to various foreign chemicals and eating of possibly chemically contaminated foods need to be considered by the HIV/AIDS clients. In order to slow the progression of the disease, the HIV/AIDS clients must understand the proper health promoting behavior regarding the safety of the chemicals that are present in food and air. In this way, the chemicals influence on HIV/AIDS must be given a more meaningful perspective for the HIV infected clients and health care providers.

5.2 Conclusion

This study, conducted from May to September 1998, in Chiang Mai Province compared the conventional health education program with the health promotion program by applying the Buddhist doctrine for HIV/AIDS patients. Initially, 105 clients were in the experimental groups and 98 clients were in the control groups. The experimental groups followed up more regularly with their appointments than the control groups. In the experimental groups, 9.52% of the clients did not follow-up with their appointments. Therefore, 95 clients remained. On the control groups, 37.76% of the clients did not follow-up with their appointments. Therefore, 61 clients remained. The research conclusion are shown below :

Both groups had many similar characteristics. Most of the clients were employed the average salary was about 3,000 – 5,000 baht / month. Many clients were widows. In addition to the spouses becoming infected, the children were often infected also. Vertical transmission was about 24% while 20% were still a waiting blood test results and 20% had already been aborted. In regards to HIV infection history, both groups went through an emotional crisis when initially finding out their blood test results. Most had a blood test because their spouse was infected, sick or had recently died from AIDS. Everyone tried to keep their HIV status a secret, but 50% of them were inevitably exposed, especially the widows once their infected spouses died. In regards to treatment history, more than half of both groups sought some type of treatment, such as western and / or herbal medicine. The common reasons for stopping treatment were that the symptoms got worse or they lost confidence in the treatment.

The pre-test found that both groups lives were full of problems and no one saw the root of the problems. They had different expectation in life. Most of them wanted to be HIV seronegative and each of them had a different idea of the ways to achieve that. They were attached and dependent on treatment. Because of their ignorance, they did not see the cause and effect of the problems in their lives. When they experienced unpleasant things, they blamed others for it. They did not know that the real cause was within themselves ; the cause was the bad deeds they had performed in the past. Those who suffered from physical, mental and social problems tried to escape from it in many different ways. Those who flee from reality will never know themselves ; they will continue to live in ignorance.

The experimental groups received the health promotion program by applying the Buddhist doctrine. Buddhism views all phenomena in terms of a causal relationship. All phenomena or occurrences are subject to the law of cause and effect. Everything is conditioned by causal factors, and all things are themselves conditioning factors for other occurrences. Nothing is absolutely independent ; absolute existence is not possible. Based on this principle of causal relationships, the experimental groups learned that all phenomena ever interrelated and interdependent. Any event mentioned was related to another event and this relationship extended to all other conceivable phenomena.

The experimental groups were introduced to the three components of the learning process which must be practiced in daily life in order to gain wisdom. These integrative components function together during all activities. They are described in detail below :

1. Learning by listening : By listening to others, the HIV/AIDS clients started to better understand their lives. They became aware of the countless phenomena which arise and full on a daily basis. The more they perceived all aspects of their lives and activities in the right way, the more they gained wisdom.

2. Learning by thinking : After perception, the primary step of wisdom, they learned to think critically in order to direct their mind toward things in the right way. The accumulation of the critical thinking in past events helped the clients better handle their future encounters. It also reminded them of the reality at the present time. This is the most useful thing in the development of wisdom.

3. Learn by practicing : After accumulating experiences from listening and thinking, the HIV/AIDS clients must initiate the proper action as well. Action is within one's own capacity. It can be used to train oneself, undo negative habits and develop proper conduct. It is a part of the proper way of living. They could realize what happened to themselves, their response and its consequences. It is important to develop wisdom not merely by listening and thinking but also in action.

The post-test revealed that the experimental groups learned how problems arose and often persisted. Most importantly, they learned how to being the problems to an end. They learned how to completely unravel the knot of problems, find a solution and become self- reliant. In this way, the experimental groups became truly free and liberated (Hypothesis 1.1 and 2.1).

The experimental groups experiences of critical thinking during the group discussions, helped them to learn the cause and effect of the problems. They realized the characteristics of all feelings or concocted emotions and overcame the five Hindrances that often arise in daily life. They also maintained a mind unruffled by worldly conditions. Thus, they had a good understanding of their individual and social well-being. The experimental groups had a well-trained mind with positively wholesome mental qualities (Hypothesis 1.2 and 2.2).

The aim of the groups discussions was knowing themselves in their daily life. The experimental groups could see themselves while they developed the right way. They could clearly see the experiences of having allergies after eating unwholesome food. This was closely related to the inmunodeficiency state. The allergies would arise from certain conditions. The chemicals found in some natural foods further dictates that they must eat wisely with regard to the immunodeficiency state. They learned what food they should not eat ; that is, the most significant step toward real development in what they should eat. It is not easy to change one's habits. It can not be changed all at once. Gradual changes were seen in their character. They realized that a few moments of awareness was not enough. They needed to be constantly mindful in order to change

their behavior. The more aware they become to the precautions of HIV/AIDS, the more they will become use to them. Then, they will realize more clearly what the proper conduct is. As a result the experimental groups took necessary actions according to the cause and effect by eating wisely (Hypothesis 1.3 and 2.3)

Everything is conditioned by causal factors and it can only be of true benefit when it is practiced properly. An intentional action will lead to a result proportionate in nature and intensity to that intention. Therefore we are able to see how the experimental groups experienced results proportionate to health promoting behavior, such as improved body weight, decreased fatigue and decreased incidence of fever and oral thrush (Hypothesis 2.5).

The group discussions in the experimental groups helped the HIV clients to be more considerate in their speech and actions, and to not cause any trouble for others. They helped each other to see and realize the truth for themselves. There was loving kindness in the relationships within the groups. They knew by their own experience that association with Noble friend is the greatest blessing. They were satisfied with what they really wanted in their lives. Finally, they felt some changes had started in their lives. Thus, the experimental groups were significantly satisfied with the provided program in the study (Hypothesis 2.4).

There are many conditions necessary to predict health promoting behavior. The first factor is understanding the problem solving process and understanding the cause and effect according to the doctrine of the four Noble Truths. The second factor is mental strength and realizing the five Hindrances. There must be detachment from the worldly conditions. These two factors are the forerunners of all behaviors. They both involve a skillful lifestyle. The last factor is educational level. This created wisdom, good decision making and proper action. This study showed that understanding the problem solving process, mental strength and educational level can predict health promoting behavior (Hypothesis 3).

There are crucial triggers that increase the progression of the disease. Most food borne illnesses caused by infectious and xenobiotics, result from improper handling of food. HIV/AIDS clients are not always aware of buying, preparing and storing food, along with not having any basic knowledge of the dangerous effect from eating improper food. The HIV/AIDS clients can be at a far greater risk of serious illness because of their weakened immune system. These individuals are most susceptible to contracting a food-borne illness. They may experience prolonged and more serious symptoms that require treatment. At the same time, air pollution can accelerate the progression of the disease since the adverse effects of chemicals on the environment are well known. These two causes can further weaken the immune system and hasten the progression of HIV infection to clinical AIDS. This study showed that eating behavior and air pollution exposure can predict health status (Hypothesis 4).

This study showed that AIDS is a lifestyle disease. Recognizing this fact, it is one's own duty to follow the precautions and try earnestly to practice the proper conduct. The HIV infected clients must respond to the calls of their conscience and respon-

sibility by applying the Buddhist doctrine. The progress and / or decline of the religion lie in the hands of Buddhists. Thus, HIV/AIDS clients should learn how to get the most benefit from utilizing Buddhism as a way of life.

5.3 Recommendations

A good medicine will be useful to a patient only when it is taken properly. Even the best treatment will be as useless as any other treatment if this fact is not taken into account. Likewise, the Dhamma can only be of true benefit when it is practiced properly. The recommendations for the health promotion program for HIV/AIDS clients by applying the Buddhist doctrine are based on the findings from this study. There are as follows :

1. It is generally accepted that one of the causes of health problems is the lack of conscience and responsibility. Health promotion by applying the Buddhist doctrine is a powerful way to help people reach their health goals, even HIV/AIDS clients. It is a tool that can be used to control their own health and it's determinants. It is a short and natural step for life that shifts the responsibility for health from health care providers to individuals. It provides a conscience raising, concern-arousing, action-stimulating impetus for self-reliance. It is the basic conduct for everyone.

2. In the teaching method, the instructor should strongly reinforce the principles and not want others to follow him blindly. The instructor should help the HIV/AIDS clients in such a way that they can realize the truth themselves and do not need to be dependent on him. The instructor's questions and discussions with the problem based learning, should encourage them to apply the principles of cause and effect in their daily lives. The questions and discussions allow the HIV/AIDS clients to use intuitive insight and it becomes a matter of personal knowledge. The instructor should point out the way by which they can realize themselves realistically. This is the most effective way to teach.

3. HIV/AIDS patients' problems are based on their diverse feelings and personal experiences. The application of the Buddhist doctrine is the systemic process or framework for all action and behaviors of human being. The health promotion program should consist of three holistic approaches as shown below :

3.1 Wisdom factor : Wisdom is the main factor for success by understanding the Dhamma in its broadest sense. According to the doctrine of the four Noble Truths, helps one to see the possibility of free choice and to see how closely it is related to one's own live. The four Noble Truths worth and value do not depend on belief or faith, but are open to thorough examination and reexamination.

3.2 Behavioral factor : When an action is performed by the body, speech or mind, there is always some energy involved. This energy is capable of being fortified, developed or transformed. If a given action is repeatedly committed, the energy of that action will be strengthened and consequently a tendency, or habit will be formed. It is this tendency to habituation that makes it possible to train and develop

both positive and negative tendencies. For this study, by consistently eating wisely, one will find that the practice becomes more and more natural. This will gradually cultivate the tendency and habit to eat wisely with greater ease. A person who repeatedly eats wisely develops the energy of wisdom and is therefore better prepared to become wiser. The first behavior changed by behavior modification for example eating wisely, may be difficult because one is not use to it. This first behavior change makes the second and subsequent behaviors easier and provides the potential for a more advanced development of personal character.

3.3 Mental factor : Even with daily activities, doubt and uncertainty may arise from time to time because one lacks direct experience of the situations at hand. Emotional sentiments also require personal experience in order to really understand them. They can not be understood through logic or verbal explanations. Meditation is designed to produce peace and tranquillity of the mind and a stronger power of will which can be utilized for practical purposes in daily life. Through constant effort and perseverance, it may also be able to imply wisdom or the ability to understand things deeply and correctly, according to its true nature. Without a basis of direct experience, doubt and uncertainty can still arise.

4. Everyone should know the kinds of wisdom that must be developed. It is not important to only developed the kind of wisdom which is knowing the truth in theory and thinking about it, but also to develop the wisdom by direct experience. A direct experience is the most crucial factor in the realization of the truth when second-hand knowledge is insufficient. It should be the basic guideline in learning the process because all human have self-esteem and believe in the own wisdom. Humans have different learning styles : some learn by listening, some by thinking and some by application. (Payutto, P.A., 1997 : 55-60).

5. The proper lifestyle contains both precautions and proper conduct. However, from the psychological point of view, it is important for practitioners to first recognize that which is bad or wrong and should be avoided. The negative mode of expression tends to convey clearer and more specific injunctions which can be followed with ease thinking about the danger of problems will remind people not to be heedless. Thus, the precaution is the most significant step toward real development in proper conduct.

6. Humans are hardly biologically equipped to handle the toxicity of naturally occurring chemicals in food or even the gene modified products. There are many conditions to be considered. First, there are wide variety of chemical components in food. Second, we now consume a lot of foods that are relatively new in evolutionary terms and for which our bodies could never have evolved specific detoxification system. Third, humans consume very different regional diet which clearly influence human immunity. There is some evidence that naturally occurring dietary components may be linked with chemical toxicity. Remember : One single ionic tom can catalyze one million other atoms. The food safety guidelines for HIV/AIDS patients are no different from those recommended for others. Contaminated food can have more seri

ous consequences for HIV/AIDS patients. They should give special attention to the basic food safety guidelines. Maintaining a nutritious diet is of great importance. The food safety advice is intended to help HIV/AIDS patients to reduce the risk of food toxicity, thereby avoiding any illness that could worsen their conditions or even cause death.

7. Exercise is very important for everyone, especially HIV/AIDS patients. It should be designed to put health facilities in the hands of consumers in their village. An organized community effort is needed to educate the individuals in personal health so that the individuals, groups or community can continue to exercise their own control over the determinants of their health. This assures that everyone has a standard of living adequate for the maintenance or improvement of their health. The environmental supports for actions can make the exercise choice an easier choice. These resources for health promotion should be equally distributed and show no discrimination.

8. The Pluralistic Medical approach, existing phenomenon in society, western, traditional and popular medicine, should be allowed to apply its proper role in our personal and social lives. It has become so integrated with Thai life that are hardly separable. It should be promoted throgh advertising like general practice. Surely, the need for the Pluralistic Medical approach is now more urgent than ever.

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APPENDIX

Document 1

Interview Form

Name (Mr. / Mrs.).....Surname.....Age.....

Marital status

- ❑ Single
- ❑ Married
- ❑ Divorced
- ❑ Widowed

Number of Children.....

Present address

Address.....Street.....
District.....Amphur.....Province.....

Educational background

- ❑ Primary
- ❑ Secondary
- ❑ Vocational
- ❑ Bachelor

Occupation

- ❑ Bureaucrat
- ❑ Farmer
- ❑ Merchant
- ❑ Contract
- ❑ Company employee
- ❑ General employer
- ❑ Unemployed

Income (Baht)

- ❑ No income
- ❑ 500-999
- ❑ 1,000-2,999
- ❑ 3,000-4,999
- ❑ 5,000-9,999
- ❑ 10,000-15,000
- ❑ > 15,000

Adequacy of income

- ❑ Comfortable
- ❑ Enough
- ❑ Tight budget
- ❑ Inadequate
- ❑ Unemployed

Responsibiltiy

- ❑ Self reliance
- ❑ Responsible for others
- ❑ Dependence on each other
- ❑ Dependence on GO.

Date of HIV seropostive.....

Interview Form (Cont.)

Reasons of blood test

- ❑ Spouse was infected/sick/deceased
- ❑ Suspected symptoms
- ❑ Accident
- ❑ Insurance
- ❑ Child became sick
- ❑ Pregnancy
- ❑ Uncertain
- ❑ Job application
- ❑ Blood donation

Exposure of HIV status (check more than one)

- ❑ Only oneself
- ❑ Relatives
- ❑ Neighbors
- ❑ Spouse
- ❑ Close friend
- ❑ General

Drug prescription

	Duration	Expenditure	Reasons for stopping
Antiviral	.....	.....	.....
Antifungal	.....	.....	.....
Anti TB.	.....	.....	.....
Lung prophylaxis	.....	.....	.....
Herb	.....	.....	.....

The Understanding assessment

Please write an x on ❑ yes or ❑ no based on your understanding.

What is HIV infection?	yes	no
Understanding HIV infection.		
1. HIV infection and AIDS are the same.	❑	❑
2. HIV in the body is dormant.	❑	❑
3. HIV infected persons are incurable & will die.	❑	❑
4. HIV infected persons can get allergies / easier than normal.	❑	❑
5. HIV infected persons can have a normal life.	❑	❑
6. HIV infected is associated with fate or sin HIV transmission.	❑	❑
HIV transmission.		
1. Whoever has oral thrush can spread HIV by sharing drinks and food with others.	❑	❑
2. Whoever has populars or rash can spread HIV by touching others.	❑	❑
3. Whoever has respiratory distress can spread HIV by breathing / caughing on others.	❑	❑
The cause of the rapid spread of HIV.		
1. HIV infection is easy to transmit.	❑	❑
2. Sexual transmission is difficult to control.	❑	❑
3. Uncertain treatment can not control the infection.	❑	❑
4. The mistake of scientific trails in laboratory caused the infection to spread.	❑	❑
The cause of high HIV infection death rate in men.		
1. HIV destroys men more than women.	❑	❑
2. Men work harder than women.	❑	❑
3. Men have a higher risk of health behavior than women.	❑	❑
4. Women have better self care than men.	❑	❑
5. Women excrete their spoiled blood every month.	❑	❑
The problems of HIV infected person with low immunity.		
1. They have a high viral load.	❑	❑
2. They are susceptible to other microorganism.	❑	❑
3. They get opportunistic infections suddenly.	❑	❑
4. They must be admitted in the hospital.	❑	❑
5. They can not increase their immunity.	❑	❑
The cause of the sickness in the terminal stage.		
1. Other microorganisms attack as opportunistic infection.	❑	❑
2. HIV itself destroys all parts of the body.	❑	❑
3. Four elements in the body are imbalanced.	❑	❑
4. The spoiled blood circulates in the system.	❑	❑

The Understanding assessment (Cont.)

Please write an x on ❑ yes or ❑ no based on your understanding

What causes an increased or decreased progression to clinical AIDS?	yes	no
1. Exercise causes an increased progression.	❑	❑
2. Sedaive / tranquillizer causes a decreased progresssion.	❑	❑
3. Bitter melon which is toxic causes an increased progression.	❑	❑
4. The Blood donation causes an decreased progression.	❑	❑
5. Source of turtle-dove and pigeon causes an increased progression.	❑	❑
6. Miditation is the mental power gathering to destroy HIV.	❑	❑
7. Lumbar puncture causes HIV / AIDS to die faster.	❑	❑

What are some possible goals to solve the problems?	yes	no
1. To establish AIDS hospital can solve the hatefulness.	❑	❑
2. To provide lung prophylaxis, Anti-TB and Anti-fungal drug can prevent any disease.	❑	❑
3. Blood exchange can activate the immunity.	❑	❑
4. Anti HIV seronagative is the goal of treatment.	❑	❑
5. HIV infection without illness is the way to live normally in the society.	❑	❑
6. The temples / monks have the responsibility to take care of HIV / AIDS patients in the terminal stage.	❑	❑
7. To establish the HIV infected group / assembly to bargain social welfare / reserve fund from the government.	❑	❑
8. To provide somewhere for the HIV infected persons to live together.	❑	❑

What is the way of practice?	yes	no
1. Seeking and trying treatments on the news.	❑	❑
2. Sharing experiences with other HIV infected persons.	❑	❑
3. Separate from others to decrease the social pressure.	❑	❑
4. Vegetarian food is a suitable way of life.	❑	❑
5. Using sodium bicarbonate to decrease chemical residue in vegetables / fruits.	❑	❑
6. Abstain from eating with others.	❑	❑
7. Abstain from visiting anyone with any communicable disease.	❑	❑
8. Confront the problems / events by correcting one's own self.	❑	❑

Mental strength assessment

Please write an x on ❑ as your opinion.

What do you feel about these statements?	Completely agree	Agree	Uncertain	Disagree	Completely disagree
Sensual desire					
1. I can decrease the social reaction by improving my life.	❑	❑	❑	❑	❑
2. Some conducts are different from normal. Other may get suspicious.	❑	❑	❑	❑	❑
3. My life is full of proper conduct and precautions	❑	❑	❑	❑	❑
4. I can change my habits and living conditions.	❑	❑	❑	❑	❑
5. I feel that HIV disturbs my life all the time.	❑	❑	❑	❑	❑
6. I have stress and social pressure.	❑	❑	❑	❑	❑
7. I myself cause the progression to be better or worse.	❑	❑	❑	❑	❑
8. I wanted to be protected from deception and supported by the government.	❑	❑	❑	❑	❑
Ill will					
1. HIV make me feel living death.	❑	❑	❑	❑	❑
2. HIV gives me a chance to consider my faults.	❑	❑	❑	❑	❑
3. HIV gives me a chance to improve my health.	❑	❑	❑	❑	❑
4. HIV gives a new way of life.	❑	❑	❑	❑	❑
5. I feel angry / irritated with someone who disgusts AIDS.	❑	❑	❑	❑	❑
6. I want someone who disgusts AIDS get HIV.	❑	❑	❑	❑	❑
7. I understand others who fear AIDS.	❑	❑	❑	❑	❑
Dullness					
1. I spend my days doing nothing.	❑	❑	❑	❑	❑
2. I feel lonely.	❑	❑	❑	❑	❑
3. I am ready to face reality.	❑	❑	❑	❑	❑
4. I feel hopeless with my future.	❑	❑	❑	❑	❑
5. I try to understand life.	❑	❑	❑	❑	❑
6. I live like a drowned man.	❑	❑	❑	❑	❑
7. I try to improve my life everyday.	❑	❑	❑	❑	❑
8. I want to sleep and not wake up.	❑	❑	❑	❑	❑

Mental strength assessment (Cont.)

Please write an x on ❑ as your opinion.

What do you feel about these statements?	Completely agree	Agree	Uncertain	DisAgree	Completely disagree
Restlessness and Anxiety					
1. I think all the time that I should not be infected.	❑	❑	❑	❑	❑
2. I think that HIV alone does not cause AIDS.	❑	❑	❑	❑	❑
3. I feel like other are always watching me.	❑	❑	❑	❑	❑
4. I can live with others well.	❑	❑	❑	❑	❑
5. I accept HIV as a part of my life.	❑	❑	❑	❑	❑
6. My life is full of many problems which can not be solved.	❑	❑	❑	❑	❑
7. I attempt to live with awareness.	❑	❑	❑	❑	❑
8. I fear to be neglected when I am sick.	❑	❑	❑	❑	❑
9. I feel calm and relaxed.	❑	❑	❑	❑	❑
Doubt					
1. I can live well until death.	❑	❑	❑	❑	❑
2. I feel that I can get sick at any time.	❑	❑	❑	❑	❑
3. I worry about my HIV seropositive.	❑	❑	❑	❑	❑
4. If I know where the medicine is, I will try to get it.	❑	❑	❑	❑	❑
5. I have good enough health to work.	❑	❑	❑	❑	❑
6. Selfcare is the best treatment.	❑	❑	❑	❑	❑
7. I lose self confidence.	❑	❑	❑	❑	❑
8. I feel sick / have many health problems.	❑	❑	❑	❑	❑

Health promoting behavior assessment

diet	Protein				Cereal			Processed food				Salted food		
frequency	meat	seafood	soy protein	egg	brown rice	wheat germ	bean	canned food	canned fruit	noodle	soups mix	meat	fish	crab
everyday	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
always	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
sometimes	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
seldom	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
never	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑

diet	Fermented food				pickle food		beverage					half cooked food	fresh veget.	fresh fruit
frequency	noodle	paste	preserved fish	sausage	fruit	veget.	soy milk	carbonated drink	beer / alcohol	stimulant	tea / coffee			
everyday	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
always	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
sometimes	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
seldom	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
never	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑

Air pollution

Pollutants	Everyday	Always	Sometimes	Seldom	Never
Car combustion	❑	❑	❑	❑	❑
Cigarette smoke	❑	❑	❑	❑	❑
Animal farm	❑	❑	❑	❑	❑
Industrial factory	❑	❑	❑	❑	❑
Fuel oil / gas	❑	❑	❑	❑	❑
Evaporated oil	❑	❑	❑	❑	❑
Pesticide	❑	❑	❑	❑	❑

Activities

Exercise :

Frequencey	❑ everyday	❑ every other day
	❑ 1-2 times / week	❑ on holiday
	❑ irregular	❑ never
Duration / time	❑ 20-30 minutes	❑ 15-20 minutes
	❑ < 15 minutes	❑ never
Intensity	❑ very tired	❑ tired
	❑ not being tired	❑ never
Hobbies : Frequency	❑ everyday	❑ always
	❑ sometimes	❑ seldom
	❑ never	
Household work : Frequency	❑ everyday	❑ always
	❑ sometimes	❑ seldom
	❑ never	

Communication

Communication	Always	Seldom	Never
Who do you counsel about AIDS ?			
Health care provider	❑	❑	❑
Uninfected relatives	❑	❑	❑
Uninfected neighbors	❑	❑	❑
Who do you confide in ?			
Only oneself	❑	❑	❑
Other HIV infected clients	❑	❑	❑
Who do you blame as the victim ?			
Oneself	❑	❑	❑
HIV carrier	❑	❑	❑
Neighbors who reject AIDS	❑	❑	❑
Health care provider	❑	❑	❑
Government	❑	❑	❑

Communication (continued)

Communication	Always	Seldom	Never
Share experiences with other HIV / AIDS.	❑	❑	❑
Argue with neighbors	❑	❑	❑

Emotional test

Frustration with others

Family members/relatives ❑ always ❑ seldom ❑ never

Neighbors ❑ always ❑ seldom ❑ never

Socialize with others

Family members/relatives ❑ always ❑ seldom ❑ never

Neighbors ❑ always ❑ seldom ❑ never

Weekend recreation

❑ 2-3 time / week ❑ 1 time / week
❑ 1 time / month ❑ never

Participate in a hobby

❑ everyday ❑ always
❑ sometimes ❑ seldom
❑ never

House keeping

❑ everyday ❑ always
❑ on holiday ❑ never

Meditation

❑ everyday ❑ always
❑ sometime ❑ seldom
❑ never

Listen / read Dhamma

❑ everyday ❑ always
❑ 1 time / week ❑ uncertain
❑ never

Paticipate ceremony

❑ everyday ❑ always
❑ sometimes ❑ seldom
❑ never

Make merit by offering food to priests

❑ everyday ❑ always
❑ sometimes ❑ seldoms
❑ never

Relaxation test

Sleep at night

- ❑ > 8 hours
- ❑ 6-8 hours
- ❑ < 6 hours
- ❑ have a broken sleep
- ❑ depend on sedatives

Pray before going to sleep

- ❑ everyday
- ❑ always
- ❑ sometimes
- ❑ seldom
- ❑ never

Feel fresh after waking up

- ❑ everyday
- ❑ always
- ❑ sometimes
- ❑ seldom
- ❑ never

Have bad dreams

- ❑ everyday
- ❑ always
- ❑ sometimes
- ❑ seldom
- ❑ never

Clean and maintain the bed room

- ❑ everyday
- ❑ every other day
- ❑ 2-3 time / week
- ❑ on holiday

Do laundry

- ❑ 2 time / week
- ❑ 1 time / week
- ❑ 1 time / month
- ❑ > 1 month / never

Dry the mattress in the sun

- ❑ 2 time / week
- ❑ 1 time / week
- ❑ 1 time / month
- ❑ > 1 month / never

The atmosphere at bedtime

Air ventilation

- ❑ excellent
- ❑ good
- ❑ fair
- ❑ poor

Sound disturbance

- ❑ calm
- ❑ little disturbance
- ❑ fair disturbance
- ❑ much disturbance

Light disturbance

- ❑ turn off the light
- ❑ dim light
- ❑ intense light
- ❑ light from other room

Symptom assessment

Please write an x based on ❑ your health.

1. On the tongue
   - 1.1 On the tongue ❑ no ❑ mild ❑ moderate ❑ severe
   - 1.2 Under the tongue ❑ no ❑ mild ❑ moderate ❑ severe
   - 1.3 Palate ❑ no ❑ mild ❑ moderate ❑ severe
   - 1.4 Buccal mucosa ❑ no ❑ mild ❑ moderate ❑ severe
   - 1.5 Gum ❑ no ❑ mild ❑ moderate ❑ severe
   - 1.6 Uvula ❑ no ❑ mild ❑ moderate ❑ severe

2. Herpes Zoster ❑ no ❑ mild ❑ moderate ❑ severe

3. Central nervous system dysfunction
   - 3.1 Trembling of the hand ❑ no ❑ mild ❑ moderate ❑ severe
   - 3.2 Trembling of the leg ❑ no ❑ mild ❑ moderate ❑ severe
   - 3.3 Ataxic gait ❑ no ❑ mild ❑ moderate ❑ severe
   - 3.4 Hand writing changes ❑ no ❑ mild ❑ moderate ❑ severe
   - 3.5 Agitated ❑ no ❑ mild ❑ moderate ❑ severe
   - 3.6 Weakness of extremities ❑ no ❑ mild ❑ moderate ❑ severe
   - 3.7 A tingling sensation ❑ no ❑ mild ❑ moderate ❑ severe

4. Diarrhea
   ❑ no ❑ less than 2 weeks ❑ 2-4 weeks ❑ more than 4 weeks

5. Intermittent fever
   ❑ no ❑ less than 2 weeks ❑ 2-4 weeks ❑ more than 4 weeks

6. Weakness / exhaustion
   ❑ no ❑ less than 2 weeks ❑ 2-4 weeks ❑ more than 4 weeks

7. Skin rash more than 1 month
   - 7.1 Head ❑ no ❑ mild ❑ moderate ❑ severe
   - 7.2 Face ❑ no ❑ mild ❑ moderate ❑ severe
   - 7.3 Trunk ❑ no ❑ mild ❑ moderate ❑ severe
   - 7.4 Arm / hand ❑ no ❑ mild ❑ moderate ❑ severe
   - 7.5 Leg / foot ❑ no ❑ mild ❑ moderate ❑ severe

8. Cough
   ❑ no ❑ less than 2 weeks ❑ 2-4 weeks ❑ more than 4 weeks

9. Lymph node enlargement
   ❑ no ❑ less than 2 weeks ❑ 2-4 weeks ❑ more than 4 weeks

10. Body weight.....kgs.

Program satisfaction assessment

Please write an x on ❑ based on your opion.

What do you feel about the program?	Completely agree	Agree	Uncertain	DisAgree	Completely disagree
1. I feel like I am a guinea pig.	❑	❑	❑	❑	❑
2. I should receive some compensation.	❑	❑	❑	❑	❑
3. I receive earnest support.	❑	❑	❑	❑	❑
4. I want absolute answers about proper conduct in the beginning of the program.	❑	❑	❑	❑	❑
5. I attempt to attend every appointment.	❑	❑	❑	❑	❑
6. I feel stress and confusion while being in the meetings.	❑	❑	❑	❑	❑
7. I can express my opinion freely.	❑	❑	❑	❑	❑
8. I feel that the information received is no any scientific proof.	❑	❑	❑	❑	❑
9. I can learn the problem based learning by myself.	❑	❑	❑	❑	❑
10. I have a good will.	❑	❑	❑	❑	❑
11. I have a chance to have good friends.	❑	❑	❑	❑	❑
12. I feel I am not alone.	❑	❑	❑	❑	❑
13. I am neglected by the members.	❑	❑	❑	❑	❑
14. I waste my time going to the meetings every 2 weeks.	❑	❑	❑	❑	❑
15. I want to have individual meeting rather than with a group meeting.	❑	❑	❑	❑	❑
16. I want to get only medicine by mail.	❑	❑	❑	❑	❑
17. I want to hide myself and not to have any meeting.	❑	❑	❑	❑	❑
18. I can apply the group experience to my daily life.	❑	❑	❑	❑	❑
19. I find the new life better than the previous time.	❑	❑	❑	❑	❑
20. From now on, I can fully depend on myself.	❑	❑	❑	❑	❑

Document 2

Self assessment

"Check, censure and rectify yourself"

Please write an x on ❑ based on your activities.

Examination of proper conduct

Action / Frequency	Drink water 1-2 L/dy	Exercise	Meditate	Pray before sleep	listen to the sermon	Sleep 6-8 hrs. a day	Bowel move-ment
Everyday	❑	❑	❑	❑	❑	❑	❑
Always	❑	❑	❑	❑	❑	❑	❑
Sometimes	❑	❑	❑	❑	❑	❑	❑
Seldom	❑	❑	❑	❑	❑	❑	❑
Never	❑	❑	❑	❑	❑	❑	❑

Examination of precautions

Action / Frequency	Half-cook food	Fermented food	Tea / Coffee	Bear / Alcohol	Tonic beverage	Smoke	Air Pollution
Everyday	❑	❑	❑	❑	❑	❑	❑
Always	❑	❑	❑	❑	❑	❑	❑
Sometimes	❑	❑	❑	❑	❑	❑	❑
Seldom	❑	❑	❑	❑	❑	❑	❑
Never	❑	❑	❑	❑	❑	❑	❑

Examination of mental status

Mental Status	Everyday	Always	Sometimes	Seldom	Never
1. Sensual desire	❑	❑	❑	❑	❑
2. Ill-will	❑	❑	❑	❑	❑
3. Dullness	❑	❑	❑	❑	❑
4. Anxiety / restlessness	❑	❑	❑	❑	❑
5. Doubt	❑	❑	❑	❑	❑

Examination of allergies

Allergic food / substance.....
Time of taking.....Time of onset.....
Allergic symptoms.....

Examination of symptom manifestation

Symptom	Fatique	Fever	Cough	Headach	Skin rash	Oral thursh	Diarrhea	LN enlarge	Herpes Zoster
No	❑	❑	❑	❑	❑	❑	❑	❑	❑
Improve	❑	❑	❑	❑	❑	❑	❑	❑	❑
Same	❑	❑	❑	❑	❑	❑	❑	❑	❑
Worse	❑	❑	❑	❑	❑	❑	❑	❑	❑

Etiology.....
Treatment.....

Examination of symptom manifestation (cont.)

Symptom	Myalgia	Arthalgia	Confusion / Dizziness	Weakness of extremities	Hair loss	Blured vision	Blocking ear	Decreased smelling	Darkened skin	Menstruation
No	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
Improve	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
Same	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
Worse	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑

Etiology.....
Treatment.....

Body weight.....kgs.

Name.....

Date.....

Document 3

Question guidelines for problem based learning

Session I **The discussion of the problems.**

1. What problems have you had since your were infected?
2. What has caused the problems that you have had?
3. What are the goal of solving the problems in the past?
4. How did you deal with the problems in the past?

Session II **The discussion of the problems solving.**

Clarifying and defining the problems.

1. What does HIV infection feel like?
2. What is the target of destruction in the war, and
   What is the target of HIV?
3. Who grabs an opportunity during a war, and
   What are the opportunistic infection in AIDS?

Analyzing the causes of the problems.

1. Why do some HIV infected clients get well, some get sick and some others die?
2. Why was there a HIV infected widow club in Chiang Mai?
3. What is your experience with the saying "Mind is the chief, body is the servant"?
4. Do you believe that all the symptoms were caused by youself, or not?
5. What kind of mistakes have you committed that caused your illness?
6. Is it true that HIV alone does not cause the illness?

Setting the goals of problem solving

1. What do your thing about the saying "Health is better than wealth" and How relates to HIV infection without illness?
2. What are the possibilities of these two targets in solving the problems the recovery of the disease, and having no sickness?
3. What is your goal of living during this three months research period?
4. How are you ready to modify your way of life?

Identifly the way of practice

1. Do you agree with trying the herb on news as a treatment?
2. Which is the best way to solve a problem, by self correction or social correction?
3. How is living with AIDS?
4. What is important to consider when thinking about self care in HIV infection clients?
5. What should the mental condition be when someone is faced with AIDS today?

Document 4

Activity 1 : Introduction AIDS

Thai traditional herbal medicine together with maintaining a healthy lifestyle, makes it possible for the HIV/AIDS infected persons to have a better quality of life that will lead to a longer symptom-free life. To achieve this goal, Thai herbs, one of the world best phytoceutical and phytonutrient products, were used as the complementary or alternative medicine. This natural approach is also useful as a mean to avoid using the conventional chemical drugs that are toxic to the body immune system and at the same time can activate the HIV replication.

Sooner or later the body's immune system, especially the CD4 T-lymphocytes of most HIV clients, of not all, would be destroyed to the imnuno-deficiency level. Because of the immuno-deficiency condition, opportunistic infection by infectious microorganisms including the bacteria, fungus and virus, can occur at anytime which leads to the AIDS condition.

AIDS is primarily a consequence of continuous, high-level replication of HIV-1, leading to the virus and immune-mediated killing of CD4 T-lymphocytes. The number of CD4 lymphocytes destroyed and replenished each day is of the order of 10^9, which is strikingly close to estimates of the total number of HIV-1 RNA-expressing lymphocytes in the body (Embretson, J., et al , 1993 : 359-362 ; Haase, A.T., 1994 : 75-86). The blood lymphocyte pool is about 2% of the total population (Paul.W.E., 1985).

The incubation period from the HIV primary infection until the development of AIDS usually last about 5-7 years. After the development of AIDS, without the proper intervention, the clients will die within a short period. The higher the viral load or HIV-RNA , the lower the body's immunity or CD4 T-lymphocytes. The viral load determines the disease progression to AIDS and death. (Mellors, J.W., et al, 1996:1167-1170 ; Mellors, J.W., et al, 1977 : 946-954). For simplicity and better understanding , these phenomena can be viewed as a speed train running to the terminal station without a driver. Sooner or later, the train will hit the barrier and fall off the tracks. To prevent this situation, the speed of the train must be slowed down and the remaining distance must be lengthened Taking in to account viral load as the speed of the train and the body's immunity as the remaining distance, the viral load must be lowered by inhibition of HIV replication and the body's immunity must be increased to normal or near the normal level.

Together with the initiation of the health promoting lifestyle, health promoting nutrients as the natural foods are selected and prescribed for HIV/AIDS clients. In order to make sure that the clients would drink plenty of water. They were asked to drink at least 2 litres per day. They were not to drink another water that might be contaminated with toxic chemicals or pathogenic bacteria. They were asked to drink

only the hot boiling water extracted from five dried mixing powder herbs. The phytochemicals in the herbs are useful in stimulating a better appetite, immuno stimulation of the body's immunity and prevention of opportunistic infections.

Once HIV gets into the body from another infected person or buds out from the infected cells, the free plasma virions were estimated to have a mean life-span of 0.3 days. In order to survive, HIV must enter the cells with CD_4 receptors , i.e.CD-4 T-lymphocytes. The process of entering begin with the process of attachment, adsorption and cell fusion. This stage of entering the cells can be prevented by at least 2 herbs, Houttuynia cordata and Andrographis paniculata. (Hayashi, K., et al , 1995 : 237-41 ; Chang , R.S., et al., 1991 : 59-66).

After entering the cells, HIV viral enzyme-reverse transcriptase will convert HIV single-stranded RNA into double-stranded DNA. This stage can be prevented by at least one herb, greentea or Camellia sinensis. The two components of Camellia sinensis (greentea) i.e. epigallocatechin gallate and epicatechin gallate were found to differentially inhibit the activities of reverse transcriptase, cellular DNA and RNA polymerase. The strongest inhibition by these compounds was observed with reverse transcriptase. (Nakane, H., & Ono, K., 1989 : 115-116 ; Tao, P., 1992 : 334-8).

A further step of HIV replication is the integration of the double-stranded HIV-DNA into the cellular DNA within the nucleus of the T-lymphocyte. This step of replication can be inhibited by phytochemicals namely, curcumin and quercetin. Curcumin (diferuloyl methane) is the yellow pigment in turmeric, that is widely used as a spice, food coloring (curry) and preservative. Flavonoid quercetin also inhibits HIV-1 replication at other steps. Vpr, an accessory gene product of HIV-1 which induces cell cycle abnormality leading to the increased HIV-1 replication, is inhibited by quercetin. Vpr-induced transcription from HIV-LTR is also inhibited by quercetin (Shiura Metal, 1999 : 308-16). Post-integration of the double-stranded HIV-1 DNA occurs in the nucleus of the CD4 T-cells. HIV-1 proteinase is required for the synthesis of pro-viral DNA. (Baboonian, C., et al, 1991 : 17-24). Curcuminoids, yellow pigment from turmeric, possess other aqalities than the integrase-inhibitor activity (Mazumder, A., et al, 1995 : 1165-70). The also possesses the HIV-1 and HIV-2 protease' inhibitor (Sui, Z., et al, 1993 : 415-22), immuno stimulatory activity (Antony,S., et al, 1999 : 291-303) and anti-oxidant activity (Selvam, R.,et al, 1995 : 59-67). Quercetin, a flavonoid from Houttuynia cordata, which is a topoisomerase inhibitor, is also a potent integrase inhibitor for HIV-1. Curcumin and curcumin derivatives were also shown to inhibit Tat-mediated tranactivation of HIV-1 LTR. Tat protein secreted by HIV-1 infected cells may have additional action in the pathogensis of AIDS because of its ability to also be taken up by non-infected cells. All of these activities of curcuminoids from turmeric result in the inhibition of the HIV proviral-DNA from transcription, translation, assembly and maturation of the new HIV virions.

In reality disease is not always caused by virus and bacteria, which invade our bodies like an army of tiny devils. These virus and bacteria are all around us and within our bodies at all times. Why then do we become sick at certain times and not at others? The answer is because of wrong thinking, living and eating. Recent experiments have

shown us that food is the best medicine. Hippocrates, the Father of Medicine, said "Your foods shall be your remedies, and your remedies shall be your foods." Certain foods directly influence the workings of the brain by affecting the brain's chemical neurotransmetters which are involved in different mental and physical functions (Ananda Mitra, 1991 : 2).

Eating meat has often been called "eating on top of the food chain" In nature there is a long chain of eaters : plants eat sunlight, air and water ; animals eat plants ; larger animals or human beings eat smaller animals. Today all over the world, fields are being treated with poisonous chemical fertilizers and pesticides. When you eat meat, you are taking into your body all the concentrations of chemicals that have accumulated during the animal's lifetime. By eating at the top of the food chain, humans become the final consumer and thus the recipient of the highest concentration of poisonous pesticides. Thus, HIV infected clients should be especially careful of their diet to ensure their health. It might be better to become a vegetarian.

A vegetarian diet is natural for the body that gives the physical fitness and longer life. It provides a wide variety of nutrients supplying proteins, carbohydrates, fats and all the essential vitamins and minerals. Vegetarian diet is considered to be better than the non-vegeterian diet or meat, While we can select the chemical-free vegetables for preparing our foods, it is imposible or very difficult to find the chemical-free meat. As mentioned previously, toxic chemicals in foods or xenobiotics can activate HIV replication and at the same time suppress the body immunity. The following healh promoting nutrients were provided for the HIV/AIDS clients :

Soybeans : The miracle bean contains twice as much protein as the same weight of meat with all the 8 essential amino acids in the proper proportions. Many meat protein are deficient in one or more of the essential amino acids, thus making much of the meat protein usuable. Soy protein is thus better assimilated in the digestive tract, and, in contrast to meat, contains no hard fats, no fattening starch or high calories, no cholesterol forming ingredients, no uric acid formations, no chemicals or infectious animal diseases. Moreover, soybeans contain more vitamin B than any other plant food, much more than the daily requirement, and are rich in vitamins A and D. Lecithin in soybeans stimulate metabolism throughout all the cells of the body. It increases memory and strengthens the glands and regenerates body tissues. It improves blood circulation and respiration. It strengthens the bones and increases resistance to injury. In cases of nervous exhaustion or lack of energy, lecithin will restore lost energy and strength (Ananda Mitra, 1991 : 26). Soyasaponins in soybean were found to inhibit the replication of human cytomegalovirus, influenza virus and HIV-1. The action was not due to inhibition of virus penetration and protein synthesis, but might involve a virucidal effect (Hayashi, et al, 1997 : 102-105).

Soy protein : Today in animal factories, antibiotics, such as tetracycline, erythromycin, chloramphenical, are added to animals' food as growth promotors. Lendral, a broncho dilator, is also mixed with pigs' food to improve their color and decrease the fat. Formalin is used in seafood for the fresh appearance of the meat during transportation. These water animals accumulate dangerous substances, such as mercury, lead,

cadmium, chromium and nickel etc., which are released into the sea by industrial factories. The use of preservatives (sodium or potassium nitrate and nitrite) in particular food, such as fermented pork, sausages, dried-salted meat, preserved fish, etc., prevent bacteria (clostridium botulinum), soften and improve their meat color with good taste. Soaking fresh or dried squid in sodium hydroxide makes it fresh and crunchy. Also, adding borax or saccharine to meatballs makes them chewier than normal. In addition to their natural toxicity, shellfishes, like mussel and oyster, accumulate sanitoxin. Experiments performed at Iowa State University showed that most of the DDT in human bodies comes from meat, and the average concentration of DDT in the bodies of vegetarians was less than half that of meat eaters! (Ananda Mitra, 1991 : 14). HIV infected patients are hypersensitive to toxicity. They unsurprisingly cannot lead their life as before, and have to try to avoid various types of toxin. Soy products are a safe alternative for protein from meats.

Cereal grains : Wheat germ is a nourishing nutrients from rice grains. They contribute in developing DNA and RNA in the new rice crops. It is excellent for health because it not only contains protein but is also a superior source of the B vitamins which help the body to utilize protein efficiently. (Raw wheat germ is most nutritious but requires cold storage.) These enhance body cells growth, refresh and energize the body, along with nourish nerves and muscles. Another important type of cereal grain is sesame seeds. It contains plenty of vitamin B1, B6, iron and calcium, which contribute in developing red blood cells, preventing anemia and nourishing nerve cells.

Ginger : The extract of ginger (Zingiber officinale) significantly inhibits the growth of bacteria (both gram positive and negative). The extract also inhibit the release of prostaglandin that will result in the prevention of inflamation and pain. Over production of serotonin in HIV / AIDS leads to anorexia, nausea and vomiting. The pungent constituents of ginger inhibit the release of serotonin, and also show an intense antitussive in comparison with dihydrocodeine. Most importantly phytochemicals from ginger promote the digestion and transportation of the digested nutrients through the intestinal wall (Suekawa, et al., 1984 : 836-848 ; Mascolo, et al., 1989 : 129-140; Denyer, et al., 1994 : 658-662).

Vitamin B 1 (Thiamine) : Thiamine deficiency in HIV-positive patients, evaluation by erythrocyte transketolase activity and thiamine pyrophosphate effect. Thiamine deficiency in HIV-positive patients were found in higher percentage than previously reported. Thiamine deficiency is not only present in advanced stages of HIV-infection, but also in clinically asymptomatic patients (Muri,et al, 1999 : 375-8).

Vitamin B 6 (Pyridoxine) : Association of vitamin B6 status with parameters of immune function in early HIV-1 infection. Vitamin B 6 status is not a primary etiological factor in HIV-1 related immunological dysregulation, it appears to be an important cofactor of immune function (Baum,et al, 1991 : 1122-32).

Vitamin B 12 (Cyanocobalamin) : Thiamine deficiency in HIV-positive patients : evaluation by erythrocyte transketolase activity and thiamine pyrophosphate effect. Thiamine deficiency in HIV-positive patients was found in higher percentage

than previously reported. Thiamine deficiency is not only present in advanced stages of HIV-infection, but also in clinically asymptomatic patients (Muri, et al, 1999 : 375-8). Assessment of serum micronutrients level in 310 HIV-1 seropositive subjects found that those with low serum Vitamin B 12 concentrations were associated with faster HIV-1 disease progression, thus leading to the increase in risk of progression to AIDS (Tang, et al., 1997 : 345-351). Decreased cobalamin levels are found frequently among those treated with Zidovudine. Evidence of Vitamin B 12 malabsorption is found among those with more advanced disease and gastrointestinal symptoms (Paltiel, et al., 1995 : 318-322). Lastly, AIDS dementia complex represented a reversible adverse synergistic interaction between the human immunodeficiency virus and Vitamin B12 deficiency. Following treatment with Vitamin B12, the symptoms resolved over a 2-month period (Herzlich & Schiano, 1993 : 495-497).

Sodium bicarbonate : The use of pesticide on agricultural products causes pesticide residue. However, the easiest way to reduce pesticide residue is to thoroughly blanch vegetables. Using this technique, the pesticide residue is reduced by 47.64% (most pesticides are soluble fat, and cold water can not take away the residue). Another method is to soak vegetables/fruits in 1% Sodium bicarbonate for fifteen minutes. This can reduce 23-61% of pesticide residues. To soak these in 0.5% acetic acid would reduced 60-84% of residue.

The goal of treatment is the individual gradual expansion of his consciousness into health. For this expansion, there must be a parallelism in all aspects of life. Recognizing this fact, it is our duty to follow this prescription and try earnestly to practice it. When all our being is in harmony, we remain in a state of symptom free life as long as we maintain a healthy lifestyle. Eating the proper foods not only makes the body free from disease and full of energy, but also keeps the emotion balanced. Try a vegetarian diet, the original food and future diet of all humanity, and start to experience the profound transformation in the body.

Col. Dr. Dumrong Chiewsilp

Document 5

Activity 2 : The Problem based learning

This research emphasizes the process of learning so that the experimental groups developed their full potential (Roger, 1969 : 104). By asking leading questions, the clients were involved in discussing, and answering the questions. The technique provoked interest and created the main concepts of this type of learning (Gall, 1970). In addition, using small group learning arrangements stimulated critical thinking, where ideas could be shared and reconsidered. As a result, a broader range of ideas of the concepts were gathered in a limited time (Neufeld and Barrows, 1974 : 1042).

1. General objective

The clients not only express their own opinions, but also acknowledge others' opinions. They would be motivated to find the answers to the questions, develop problem solving skills, and eventually learn to manage their life appropriately.

2. The specific objectives

1. The clients claify and define the scope of the problems.
2. The clients analyze the causes of the problem.
3. The clients set the goals of problem solving.
4. The clients identify the way of practice.

3. Concepts

1. Learning process : Problem based is a learning process which uses problems to motivate learners to find answers to solve the problems. This follows the Buddhist teaching of "Wherever does the cause begin, put an end to it right there". Also, problem based learning works through the four Noble Truths starting with "Learning the suffering and being happy" up to the state of "One who lives a righteous life dwells in peace".

2. Problems : The symptoms of AIDS are not only caused by HIV, but also by many other cofactors that accelerate the severity of the symptoms. It consequently accelerates the death rate of HIV infected patients. The cofactors can be classified into 2 categories : one is the misconception of AIDS which is the state of psychological stress. And other is risk behavior which is the state of oxidative stress. These two types of stresses are body mechanisms which affect the body's immune system. Therefore, the right conception, coping with the stress and risk behavior avoidance should be encouraged to stimulate the balance of the body to protect it from further deterioration. This, in turn, slows down the progression of the disease and prevent other complications. The clients could live a symptom-free life.

4. Discussion

In the planning of the learning experience, the researcher asked questions based on the problems or trigger, which were created by assessing the beginning of the project. These questions captured the attention of the groups. The questions ranged from studying the problems to the causes of the problems, and the goals of problems solving to put them finally into practice. The discussion was divided into two sections. First, to express the problem freely from their past experiences. Second, was on the problem solving process, the researcher raised a comparable situation with a set of question step by step to start the discussion. The clients clarify and identify the problem, based on their lifestyle and environment. These were the starting points for further problem solving.

4.1 The discussion of the problems

The discussion allowed the clients facing the same problems to express their thoughts to other. From each other's first hand experience, the clients gained wider views of the problems, and took advantages of the problems by finding the answers to their problems together. The researchers encouraged discussions by asking the following questions.

1. "What problems have you had since your were infected? The participants were to analyze the past circumstances/experiences, and clearly define the scope of problem in regard to the physical, psychological and social effects.

2. "What has caused the problems that you have had?" The participants were to analyze their views on the causes of the problems.

3. "What are the goal of solving the problems in the past?" The participants were to talk about how they have tried to solve their problems in the past.

4. "How did you deal with the problems in the past?" The participants were to talk about their lifestyle during the problems.

4.2 The discussion on problem solving

4.2.1 Clarifying and defining the problems.

Problem (trigger)

1. Meaning : AIDS cannot be cured. It is the hopeless sign of a painful death. It is an infectious disease. As a result, people carrying AIDS are rejected by the community. Some believe that the disease was destined to destroy humanity.

2. Category : AIDS is classified into two stages : AIDS with symptoms and AIDS without symptoms. AIDS with symptoms can also divided into two subcategories : wet AIDS and dry AIDS. Wet AIDS is charactertzed by and excretion of toxic substances through skin lesions. Dry AIDS is characterized by the toxic sub-

stances being circulated within one's body without being excreted through the skin lesion. Wet AIDS is less severe that Dry AIDS

3. Transmission. Wet AIDS can be transmitted through touch, while dry AIDS can be transmitted through saliva and mucous. All types of AIDS are sexually and vertically transmitted.

Concepts : HIV infection is a viral infection which destroys a part of the body's immunity. HIV infected patients were susceptible to opportunistic infections which cause pathogenesis in other systems of a body. This is called Acquired Immune Deficiency Syndrome, or AIDS. This situation can be compared to a war where the enemy attacks a nation's stability. That country's army force consequently is reduced, citizens disunited, and thieves take advantages of the situation. Some families try to protect themselves by rebuilding and permanently closing their fences, while other families, who do not protect themselves, risk losing their properties and life.

Problem Analysis : The researcher asked question to initiate the problem solving discussion. The participants would analyze and compare the sample circumstances with HIV infection.

1. "What does HIV infection feel like?"
2. "What is the target of destruction in the war and what is the tar get of HIV?"
3. "Who grabs an opportunity during a war and what are the oppor tunistic infection in AIDS?

4.2.2 Analyzing the causes of the problems

Problem (trigger)

1. Whoever gets HIV are living death.
2. The progression of disease depends on viral load. The higher viral load, the more spoiled blood, which results in severe symptoms and early death. The lower viral load, the less spoiled blood, which results in mild symptoms and prolonged life. Women are able to excrete the spoiled blood every month, therefore, men have higher the women to get severe symptoms and early death.
3. HIV infected clients with western medicine get the progression of the disease worse. Whoever receives lumbar puncture and Amphoteracin B intravenous drip will die soon after the treatments.

Concepts : Being HIV infected not only have HIV in the body, but it also relate to the lifestyle. There are many factors that cause symptoms and death in the HIV infected. The cofactors, especially the behavioral factor, plays a key role in the progression of the disease. HIV infected patients in the early stage have a balanced burning system (a process of oxidation) and burning control system (a protective mechanism or antioxidation), they still be asymptomatic. When the burning becomes overwhelming by some stress, radiation (UV light, mobile phones, overhead power lines), environmental pollution (insecticides, pesticides, chlorine, fluorine etc.), heavy metal and so on, the balance is destroyed, they progress to symptomatic and AIDS.

Problem analysis : Questions were raised as a guideline for the analytical discussion about the behavioral causes of the AIDS situation in the present time.

1. "Why do some HIV infected clients get well, some get sick and some others die? The clients explained some different factors during the three groups.
2. "Why was there a HIV infected widow club in Chiang Mai" The clients analyzed some different factors between two genders.
3. "What is your experience with the saying 'Mind is the chief, body is the servant'?" The clients analyzed the relationship between the body and mind.
4. "Do you believe that all the symptoms were caused by youself, or not?" The clients analyzed the relationship between problems and actions.
5. "What kind of mistakes have you committed that caused your illness?" The clients encouraged to perform self-reflection.
6. "Is it true that HIV alone does not cause the illness?" The clients analyzed the cofactors that related to the symptoms or severity.

4.2.3 Setting the goals of problem solving

Problem (trigger)

1. The primary goal for HIV infected clients is to permanently recover from this disease or have HIV seronegative.
2. The second goal for HIV infected clients is to be able to receive social welfare that covers the expense of the treatments, a specialized hospital for AIDS patients, pension, housing accommodation, etc.

Concepts : The goal of problem solving for HIV infected clients is that their body have a protective mechanism to inhibit and reduce the destruction power of HIV infection. This would prevent the body from opportunistic infections and enable the HIV infected person to live a symptom free life.

Problem analysis : Questions were raised so that the participants would realize that there are possible alternatives in setting the problem-solving goals.

1. "What do your thing about the saying 'Health is better than wealth' and how relates to HIV infection without illness?" The clients compared the Buddhist proverb to themselves.
2. "Which is more likely, being totally cured or not being sick.?" The clients analyzed which goals was likely for them, and use that goals in solving their own problems.
3. "What is your goal of living during this three months research period?" The clients analyzef their goals and expectations.
4. "How are you ready to modify your way of life?" The clients considered oneself to take responsibility in solving one's problems.

4.2.4 Identify the way of practice

Problem (trigger)

1. Seeking treatments and trying every method on news.
2. Keep the blood result a secret.

3. Live with a normal life to keep themselves from being suspected.
4. Avoid the conversation about AIDS.

Concepts : There is more than one behavior that is essential to life, these behaviors cannot be immediately changed. The patterns and conditions of living much altered to about these changes. It involves the health related behavior of body, mind, and soul (wisdom). In addition, each new activity must be gradually brought into life. Therefore, in order to change HIV infected clients' lifestyle, there must not only be behavioral alteration but also psychological alteration, with right understanding.

Problem analysis : The researcher asked the clients questions, both precautions and proper conducts in other diseases to facilitate their thinking on the last discussion.

1. "Do you agree with trying the herb on news as a treatment?" The participants were to analyze their health seeking behavior and the results.
2. "Which is the best way to solve a problem, by self correction or social correction?" The clients analyzed the various ways and choose the better one to practice.
3. "How is living with AIDS? " The clients reconsidered a new way of life.
4. "What is important to consider when thinking about self care in HIV in fection clients?" The clients considered that knowing one's self is better than knowing other things.
5. "What should the mental condition be when someone is faced with AIDS today?" The clients defined their own mental status.

5. The closing of the discussion

All clients were able to learn about self-correction, self-deficit and self-assessment with reality. This is the practice of having a conscience in every action by problem based learning on the questions.

Document 6

Activity 3 : Exercise and Breathing Meditation

Life consists of two closely interconnected components, the body and the mind (Sunthorn Plamintr, 1994 : 80-81), which constantly demand our care and attention of these two, mind is said to be of paramount importance for it is the very source of all actions that we do from birth to death. We are what we think. Therefore, it is crucial that we have the right understanding of our minds and know how to train them properly.

Mind is not as concrete and objective as the body. Most people give only little concern to their mind, taking more interest in their physical forms and appearances. The body is well-nourished, clean and beautiful, while the mind is almost totally neglected. The Dhamma is nourishment for the mind ; it cleanses the mind and makes the mind pleasant and beautiful. It is therefore important to train the mind. The best way to do this is through meditation.

Mental purification is not an end in itself, neither is it an activity separate from real life situations. To purify the mind is not to reject existential realities or to run away from them. The process of mental purification itself involves a morally skillful lifestyle. This more refined practice has a direct bearing on both individual and social well-being and is a truly beneficial commitment. Moreover, an action which springs from a pure mind will naturally be free from evil and full of wholesome qualities. A pure mind, indeed is a natural and unlimited source of good actions and benevolent deeds. Thus, mental purification is not practised solely for its own sake, but for an individual as well as social benefit. Its impact on personal behavior and society can be truly tremendous.

Everybody agrees that the secret of good health and longevity lies in the balance of body, mind and spirit. There is the ancient wisdom which says "A healthy mind resides in a healthy body." We often say "The mind is the chief, the body is the servant." The right behavior of body and mind lead to perfect health.

The practice we teach in our HIV/AIDS groups is called Sun Do Breathing Meditation. It starts with of 20 minutes of yoga like exercises for warming, then continues with 30 minutes of moving and sitting meditation. Sun Do can be practiced by anyone of any fitness level and of any age. If the patients have severe health problems, they can benefit from practicing only the abdominal breathing without the defferent positions. As their health improves, more physical exercises can be added.

The benefits from doing this practice are a stronger immune system, less intermittant infections, increased energy and vitality, improved chronic health conditions, ability to cope with pain and mental stress and better sleep.

1. Exercise : The physical exercises are accomplished by gentle, systematic stretches of all muscle groups and joints. They are not meant to strengthen on specific

muscle group or build up muscle mass as in aerobics. These exercises, which works like a self-massage, help to loosen up stiffness and painful muscle tension. The result is more flexibility and more strength in general.

2. Breathing meditation : After warming up and opening up the energy centers *(chacra)* through exercises, it is easy to enter a state of meditation. Sun Do meditation is done with closed eyes in a series of different positions like lying, standing and different sitting positions. The concentration is kept on the *"Ki"* center *(dantien)* below the navel.

This is done in a rhythm of ten seconds, in-breath and out-breath are equally 5 seconds. Each position is maintained for the length of 8 full breaths. When you put the palms of your hands on the lower abdomen, you feel the natural soft movement of the abdomen coming up and going down. After each long exhalation the empty lungs fill up with oxygen in a perfect way. This gives a comfortable and peaceful feeling. This method is a good way to develop focused attention and one-pointed awareness. It trains the mind not to be distracted by thoughts and obstacles, and it creates stability and confidence. This should be practiced 15-30 minutes regularly everyday.

3. Practice of the Inner Smile : The group sits in a circle in the lotus position with their eyes closed. Their breathing should be long and smooth. Look inside your body and smile.

a) Put both hands on the lower lungs under your breasts. Send a smile into your lungs and say , "Thank you, my lungs. Since I was born, you have been working for me in a wonderful way. You supply me with fresh oxygen from nature and eliminate the used-up air. With every exhalation, I release sadness and sorrow. With every inhalation I fill myself with courage and clarity."

b) Put your right hand on the liver on the right upper abdomen where the rib cage ends. Smile into your liver and say , "Thank you, my liver. You are working like a green factory cleaning my blood from all sorts of pollution and toxic substances. With every exhalation, I let go of anger and aggression. With every inhalation, I become more kind and forgiving. My eyes are nurtured by the energy of the liver.

c) Put your left hand on the spleen in the left upper abdomen. Smile down into this area and say , "Thank you, my spleen. You are supplying my body with red blood cells, white blood cells, T-lymphocytes and distributing them to the sick organs to defend infections. Thank you for your wisdom With every inhalation, confidence and compassion build up and increase.". With every exhalation, worry and self-pity flow out.

d) Now put both hands on the kidneys on the back up high touching the ribs. Send a smile into your kidneys and say , "Thank you, my kidneys. You are serving me in balancing the water of my body and in eliminating chemicals and toxins. With every breath, I release negative emotions, especially fear, and take in gentleness and stillness."

e) Put your flat hands on your lower abdomen and send a smile into your sexual organs, into the bladder, the small intestines and the colon. Say thank you to these organs. They are giving you strength and vitality.

f) Put the right hand on your heart on the left side of the chest bone. Send a big smile into your heart and say , "Thank you, my heart. You are working every minute, every second for me. You are sending blood through my whole body, keeping me alive. With every inhalation, I fill up with plenty of love and compassion.. With every exhalation, I let go of impatience and hastiness.

This information is collected from the experience of Sun Do practice with the HIV/AIDS patients in Chiang Mai.

Dr. Annerose Akaike (Dr. Amu)

Reference : Mantak Chia "Transform Stress into Vitalit"
Publ. Healing Tao Books
Daniel Reid "The Complete Book of Chinese Health and Healing"
Publ. Shambhala Bosto!!

Document 7

Activity 4 : Religious Sermon

At the present time, the spread of HIV is a grave concern in every community in Thailand, be it in the countryside, suburbs, town or cities. Many people with this fatal disease are waiting for death in the near future. Some of them are thinking of committing suicide for fear of physical and mental torment and social contempt. Officials and families confronted with this situation have tried to look for a way to help them. Apart from consulting medical doctors and medicinal-herb doctors or accomplished herbalists, they try to employ Buddhist meditation as a means of solving to this problem.

Buddhist meditation with its unique characteristic enables mediators to realize the truth of life. According to Buddha's teachings, life consists of two elements that bepend on each other : *Nama-rupa* or mind and body. The Buddha says that the body and mind are in close connection with each other. In other words, the mind is the leader of the body or takes control of it. So if we develop the mind in the right way, the mind itself will lead the body in a healthy way also.

The ultimate aim of Buddha's teachings is the realization of suffering and no sussering. According to the Buddha, there are two kinds of suffering : physical and mental. These two kinds of suffering unceasingly arise and fall away according to the law of dependent origination *(Paticchasmuppabattha)* which is a natural phenomena. We suffer because of our own ignorance, craving and attachment. We do not know the truth of life consisting of impermanence, suffering and impersonality.

The Buddhist middle way or the eightfold noble path is the way leading to the realization of the truth mentioned above and along which human beings can develop themselves to the cessation of suffering. This middle way consists of eight facotrs as follows :- right understanding, right thought, right speech, right action, right livelihood, right effort, right mindfulness and right concentration.

The practice of meditation is conducive to the development of wisdom and moral behavior towards society and environment. In Buddhism there are two ways of meditation practice, namely;

1. Tranquil meditation *(Samatha Kammathana)* is used to make the mind peaceful or tranquil in order to make it stable, clear, clean, and suitable for work performance.

2. Insight meditation *(Vipassana Kammathanna)* is used for developing transcendent insight which penetrates into the truth of life consisting of the three characteristics of existence.

We depend on a peaceful mind to contemplate the truth of life. This is in accordance with the natural laws of impermanence, suffering, and impersonality. It allows us adjust our life to the truth by using the right view and understanding and without any conflict. With insight wisdom, we are able to manage our life in the right way. We are free from clinging to life because the wrong view of self : This ignorance, craving, and attachment, has been partially eradicated. This enables us to overcome suffering accordingly.

The goal of Buddhist meditation or the realization of suffering and its cessation is neither to achieve psychic power nor to treat bodily diseases. However, according to Buddhism, the body and mind are interrelated and depend on each other. Consequently, mind development is very important for our physical health and behavior.

There are two features of AIDS : AIDS as a physical disease and AIDS as a mental disease. The physical AIDS or physical disease means the body's weakness caused by HIV, which leads to various diseases in the body. The mental AIDS or mental disease refers to the suffering due to the clinging to the thought that I am a person with AIDS, I am a worthless person, and I am a harmful person. Such clinging or attachment renders the patient sad, worried, afraid, and lacking in confidence. Both the physical and mental AIDS are interdependent, a weak mind leads to a terrible body, and vice versa. Even though the Buddhist meditation emphasizes the spiritual development in order to overcome mental suffering, it is also very useful to the body's physical health.

The practice of meditation is used to tranquilize the mind to focus on one object until the mind is stable, clear, pure, and suitable for work performance.

It is generally known that most AIDS patients suffer physically and mentally. These sorts of suffering can be alleviated by means of Buddhist meditation, tranquil meditation and insight meditation, because all sorts of suffering originate from ignorance, craving and attachment. The meditation practice enables practitioners to realize the nature of existence and let go of anything that befalls them, be it good or bad. Through meditation practice, the practitioner realizes that life is simply a combimation of material and non-material elements which are subject to impermanence, miseries and impersonality.

If AIDS patients practice Buddhist meditation, they can overcome their suffering from AIDS in body, feeling, thought, and ideas. Meditation can help them to live without mental suffering. They can stay happy and carry on their daily activities normally. The more they do the meditation, the stronger their mind as well as their physical health becomes.

The patients can do meditation practice in every activity and movement of life. The concept of "here and now, not in the past nor in the future" is the main principle of Buddhist meditation.

Buddhist meditation is the fundamental of human development for both wisdom and behavior. For people with HIV, the meditation helps them to realize the truth

of AIDS, accept it understandably, and live with the understanding without suffering. For these reasons, they can properly look after themselves and happily associate with their environment. Finally the peope with HIV can gain a positive attitude towards their present condition. Meditation brings them the best things for a better life. Their life becomes mindful, avoids evil, does good and purifies the mind. Their life learns the truth, trains itself and transcends suffering.

By way of Buddhist meditation, people with HIV can change their life of suffering into a life of non-suffering, life of crisis into a life of opportunitly to realize the truth of existence and to cultivate the good in order to be useful for themselves and others. Any person who realizes the rising and falling of all phenomena can live without culpable carelessness for the benefit of oneself and that of others is a Noble One as said by the Perfectly Enlightened One. Buddhist meditation is the fundamental foundation of the enlightenment into the truth of existence. It is the indispensable tool for problem solving and the development on the part of the individual and the society as well as those with HIV and those concerned so that every body will have a happy life free from suffering.

Phra Songserm Kasaradhammo

Document 8

Activity 5 : Risk Assessment

In the procedure of Buddhism, the basic practice is the code of precepts which clearly emphasizes abandoning specific things in life, then extending the scope for moral practices. Today, human lifestyle works in the opposite direction of nature such as using of chemical fertilizers, pesticides in animals. Modern technology destroys the land surface and environment, as well as causes toxic residual in the air, water, and even tuall in food. Consequently, it results in deterioration of human health. Thus, it is necessary to raise the precaution issue before the proper conduct. This is particularly very important for the HIV infected patients because these co-factors accelerate the progression of the disease to clinical AIDS.

This activity aimed at educating the participants on the reality of their immune system and the environment. It also enabled them to conclude "the precauions for the HIV infected clients". The steps of this activity are :

1. **Learning the reality of oneself.** The clients learn about their state of infection from the doctor. He explained whenever decrease of the defense mechanisms in the immune system, it can no longer cope and causes hypersensitivity. The HIV infected clients manifest more severe reaction than normal. Any infection from toxic residual/contaminated substances generates a variety of body reactions causing symptoms to manifest rapidly. Different toxic residues/contaminated substances lead to different symptoms such as facial edema, skin lesions, fatigue, diarrhea, etc. The clients learned about the following three levels of the immune system :

a) A normal person usually has 800 to 1,200 CD4 T cell per cubic millimeter of blood. Though, pollution has reduced the immunity of a person by 200 to 300 CD4 T cell per cubic millimeter of blood resulting in 700 to 800 CD4 T cell per cubic millimeter of blood left, it can keep the body safe from illnesses.

b) A symptomatic HIV infection has 500 to 600 CD4 T cell per cubic millimeter of blood. If the immunity is reduced by 200 to 300 CD4 T cell per cubic millimeter of blood, leaving only 200 to 300 CD4 T cell per cubic millimeter of blood, the body is susceptible to the opportunistic infections easily.

c) An AIDS patient's CD4 T cell count falls below 200 CD4 T cell per cubic millimeter of blood. It would be life threatening if the level of immunity continued to decrease.

Therefore, it is necessary for HIV infected clients to know their stages of infection so that they can effectively adapt themselves to their environment.

2. Learning the reality of the environment

2.1 The researcher gave the participants 5 news/articles on contaminated foods. The clients were asked to consider the relationship between the food and the contaminants, as shown in the following : article sumaries.

Article One : Allergy is individualized

Many people want to know "What are the differences in various allergies ?" An allergy is the condition of body discomfort or illness, the body tries to get rid of a foreign body. The symptoms can range from a rush to a blister, serum oozing, shock and unconsciousness. Allergies can be acute or prolonged. Some substances only cause allergies to a minority of people.

Case one. A man was allergic to pickled land crab and shocked on it. His friends thought he was faking, and dropped picked land crab juice in the man's food. He shocked on it agian within one minute. This case teaches that allergies should not be played with. **Case two.** A child in the summer camp was allergic and shocked on peanut butter, which was accidentally left on the tip of a knife used in cutting sandwiches. **Case three.** In a foreign country a student was allergic to peanuts. His parents said that peanuts are powerful as a gun for my child. The school tried to help by campaigning for a peanut-free school. In reality, no one could protect that child from peanuts forever. That student should know what he could eat, and what he could not. We learned that whoever get allergy should remember allergy is individualized.

Thai Post, 30-5-98

Article Two : Safe ways to eat vegetable

People today are alert to eat more vegetables. However, they, at the same time, consume toxic substances that are harmful to health without knowing. Some examples are : Pesticide residue in vegetables causes the consumers had a headache, nausea, vomiting, up to paralysis and death. Germ contaminants in vegetables cause the consumers had bacteria or myelitis from a virus. Germ contaminants in foods such as dried chili, onion, garlic and peanut, when it is preserved in damp place, is susceptible to fungus. The accumulation of fungi called aflatoxin which will be toxic to the body.

Thai Post, 10-4-98

Article Three : Chemicals toxicity and cultural deviation of the Thai farmers.

The horse tamarind along the sidewalk, morning glory in the clear canal, and roasted fish next to the paddy field has together become a romantic story of young farmers in the past. Today the green paddy field is still there, but there is not any water fishes, crabs or naturally grown vegetables to eat with chili paste and rice for lunch. There are plentiful of the toxic substances such as herbicides, pesticides, insecticide and chemical fertilizer. Today the paddy field was changed. There is not only chemically contiminated crops without any fish or crabs in the fields. Their feet become rotten during tramping and plowing in the field continuously for several days

Today, the price for rice has gone up, especially during the time of economic crisis like this. Farmers, theirfore, want the highest yield of rice. In order to do that, more pesticide and chemical fertilizers were used at least six times until harvest. The approximately total cost is cover 1,000 baht per rai (0.4 acre). No longer the romantic story of the young farmers. Only one thing is left, chemical substance.

Thai Post, 10-6-98

Article Four : The toxic substances in food

Todays people are more and more awareness of their health. So people take care their health greatly. The news concerning a variety of toxic substances contaminated in food, made consumers frighten them a big deal.

Meats, seafood and vegetables are not fresh after being display for a long time. Sodium hydroxide is used in fresh and dry squids to make them look fresh. Lendral, bronchodilator, is injected or implanted into animals before being slaughtered, make the meat look fresh and red. Formalin is also used in seafood or vegetables, such as bean sprouts, to make them look fresh sodium hydrosulphite or bleaching powder is mixed in sliced ginger, bamboo shoot, bean sprouts, black sesame, mushroom and palm sugar to make them white Potassium nitrate is used in fermented pork and sausage. Borax and saccharin are added into meatballs to make them bouncing. Grapes are often covered with white stain containing fungicide.

Heavy metal contaminants are found in seafood or several water animals living near industrial areas where toxic substances are dumped into the water. Cadmium and mercury were found in squids and they were banned to be exported. Shellfishes are fed on the surface of soil, and their can accumulate a plenty of toxic materials. Canned food may contain lead which is toxic to the body, if they have been kept for a long time. Painted plates, bowls, spoons, forks, chopsticks in food shops may be unsafe.

The eating food being sold along the street on the sidewalk is dangerous because they are heavy polluted by contaminating with infectious microorganism or toxic substance.

Thai Post, 8 -5 -98

Article Five : How toxic the residue in food is.

Seafood may be contaminated with heavy metals from waste products that dumped into the sea by industial factories. Water animals in those areas accumulated toxic substances in their body. In 1992, cadmium was found in frozen squids, the exports from Thailand. They were all banned. Shellfishes live on the surface of soil where is cover with heavy metal and chemical substances. Canned food, may be toxic with lead and some contaminants in food. Heavy metal in synthetic dye for garment when it mixed in food, dried shrimps, pickle and candy, it causes cancer. This effect is similar to the effect of painted mark in bowls, dishes and any utensils in food shops.

The Medical Science Department analyzed the toxic substances in food. Pesticide residue was found in vegetables, such as cowpea, chinese kale, and flowering white cabbage and fruits, such as grapes and oranges.

Some foods are contaminated with chemical drugs especially shrimp and fish that are fed in a large pond. When some got infection, antibiotics are put in a pond instead of separating the infected one. An the unfortunate, the residue examination in testing of meat is only done on exports.

Thai Post, 11 - 6 -98

Article Six : The danger of evaporated oil

When we mention to the addictive substances, heroin, opium, or marihuana are inevitably the first things that come to mind. However, the addictive substance mentioned here is evaporated oil which deteriorate our bodies until dysfunction.

This evaporated oil is by-product of coke and petroleum industries. Most of this substance is used as a solvent or as a ingredient of various chemical substancess such as benzene, gasoline, ketone, kerosene and thinner. It can also be added into paint, lacquer, lighter, hair spray and nail enamel. After evaporated oil is introduced into the human body, it is absorbed through the blood circulation to every organ, and acts immediately to the central nervous system.

The acute toxicity is vertigo, blurred vision, drowsiness, euphoria and hallucination. Chronic toxicity is vertigo, dizziness, hand tremor, abdominal pain, lose of appetite, fatigue, bone marrow depression and brain impairment.

Thai Post, 17-4-1998

Article Seven : The use of bleaching powder as food coloring

The Ministry of Public Health warned consumers that some foods, such as preserved durian, bamboo shoot, palm sugar, bean sprout and sliced ginger, were added bleaching powder by the producers to make them appetite. The net bleaching powder is the substance used in the garment and fish-net industries. When it contacts with skin, it can develop skin rashes. When it was eaten, it may suffered from an infection of the mouth, throat and stomatitis, pharyngitis, abdominal pain, headache, vomiting, chest pain and rapid the dropping blood pressure. It becomes lethal dose, if it more than thirty grams of bleaching powder.

Thai Post, 12-5-1998

2.2 The researcher gave two reports on precaution food for HIV infected clients so the clients could exchange their personal experienced accounts of the food and its allergies. They were also asked to compare their personal experience to the reports, and to conclude what foods were consider safe for HIV infected clients.

Report One : An interview on 43 HIV infected member of "The New Life Friend Center in Chiang Mai during April to May 1985 by Sirisaard, T., et al.

Food Allergies from actual experiences and belief	Amount (%)
Beef-buffalo meat	34.65
Bamboo shoot	30.80
Pickled food	26.95
Poultry	11.55
Scaleless fish	11.55

Other foods, such as seafood, frog, snapping turtle, and mushroom, beverages, such as alcohol, beer and carbonate drink, have also been found to be toxic.

Report Two : A report on the interview of 394 HIV infected clients in Chiang Mai during February 1996 to November 1997 by Chiewsilp, D., et al.

Food/other substances	No. of Receiver	Receiver with allergy
Venom mushroom	16	16 (100.0)
Alcohol-Energy boozer	59	34 (57.6)
Pickled food	217	110 (50.7)
Seafood	209	43 (20.6)
Half-cooked food	109	22 (20.2)
Beef and buffalo meat	190	34 (17.9)
Frog and scaleless fishes	156	25 (16.0)
Pesticide	117	14 (12.0)
Canned food	179	11 (0.1)

2.3 The researcher initiated the discussion with the cofactors issues that effect the progression of the disease. The participants contributed by sharing their experiences which included air pollution, various emotions, behavior, etc., from their first hand experiences. The researcher gave scientific support to the views given.

The clients concluded what activities should be the precaution for HIV infected clients. And the clients could then follow this concept and lead a careful life.

Document 9

Activity 6 : The study of an effective healthy life schedule

Humans need to be able to adapt their lifestyle to conform with the changing situations particularly when there are body-warning signs, such as HIV infection. HIV infection is a condition that has a direct effect on their lives. HIV infection is a warning sign for these patients to follow a health promoting behavior and a less risk. Each individual knows what they should do or should not do in their daily lives. One's habits and behaviors have become the co-factors which effect progression of the disease. Each HIV infected client, therefore, needs to understand the body's warning signs in order to have a safer life.

Living with a health promoting life is not difficult, but not easy. The problem is how to become used to a completely new healthy life that goes along with one's lifestyle, so that it works like a routine once again. The learning experience was arranged by allowing HIV infected clients, who live in the same community with similar lifestyles, to adapt to a new health promoting lifestyle. They were later used these as model for other HIV infected clients. The model introduced a totally new lifestyle, which contributed to the improvement of the treatment. Besides, by arranging time/ activities in their daily lives, the clients learned that HIV infection is no more a problem for their lives.

The biological clock is used to help HIV infected clients arrange their time/ activities in the most effective way. As a demonstration, modeled HIV infected clients showed others how they kept records of their daily lives on their own biological clock. In addition, the researcher explained to the clients the role of the biological clock, as a way to bring a better understanding of oneself. Then, other HIV infected clients were to try the biological clock technique, in order to arrange time for their activities effectively and efficiently.

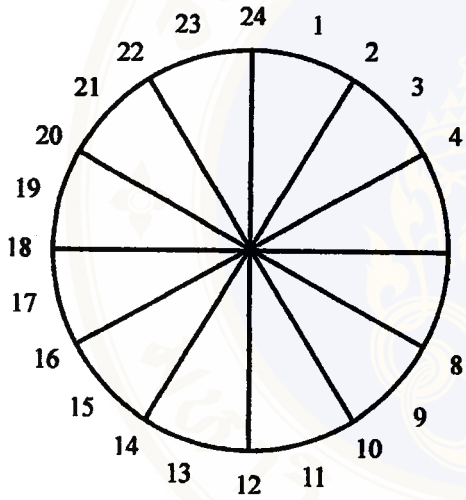
The biological clock put them in control of their life. They learned to deal with their present aspirations and plans. This means that one is one's own master and is therefore under an obligation to act with utmost care and responsibility.

Biological clock

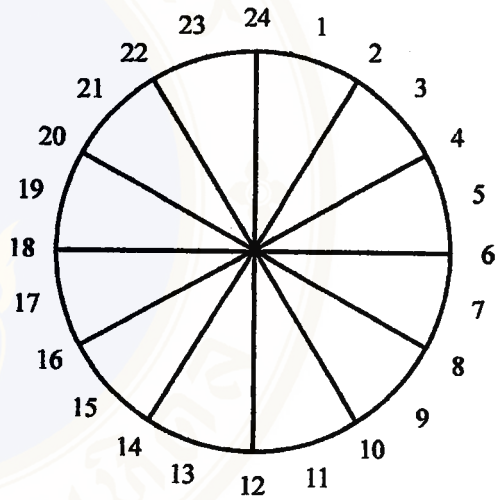
How is your health ? It depends on your control.
Learning knowing your daily schedules, makes your life more effectively.
The biological clock is introduced for this activity.
It helps you to be more convinced of your own potential and responsibilities :

1. While recording your daily activities, you can check yourself.
2. After recording your daily activities, it reflects something lacking in your immediate present. You can, therefore, rearrange your time for the new activities.
3. It is your biological clock and you can change your life in any way you want.
4. It helps you to understand more about yourself.

Record your daily activities on your Biological clock



Working day



Holiday

Document 10

AIDS Teaching for the control group

During wartime, enemies attack a nation's stability and reduce the army forces of that nation. Citizens are in a disorganized situation, so thieves often take advantage of this situation. Some families try to protect themselves by rebuilding a stronger fence and permanently closing them. Some did not prepare themselves for this and risked losing their properties and their life. The government and citizens of this nation tried to bring peace to their nation. The government created guidelines for protection and for fighting back. Each family acknowledged and accepted their situation, and was more prepared to protect themselves against any vultures. HIV/AIDS can be compared to a war especially then explaining to those infected persons about the target of the illness and opportunistic infections HIV infection is a viral infection, which destroys a part of the body's immunity. HIV infected patients, therefore, Are more susceptable to opportunistic infection, which in turn accelerate the progression to clinical AIDS. This is called Acquired Immune Deficiency Syndrome, or AIDS.

AIDS is not caused by HIV alone, but also by many other cofactors. These cofactors accelerate the symptoms, severity and death rate of the HIV infected person. The cofactors can be classified into two categories : one is the misconception of AIDS, which is the state of psychological stress, and the other is the drug dependent behavior, which is the state of oxidative stress. These two types of stress take place inside the body and affect the immune system. Therefore, the creation of right perception, stress adjustment, avoid drug using, behavior and have a healthy lifestyle in order to protect it from further deterioration.

Being HIV infected is not only just about having infection in the body, but also relates to the infected clients' lifestyle. There are many factors that cause symptoms and death in HIV infected clients. The cofactors, especially the behavioral factor, play an important part in the progression of the disease. Since HIV infected clients still have balanced oxidation and antioxidation in their early stage, so there are no signs and symptoms. However, as the oxidative stress increases, due to the other cofactors, such as stress, pollution, and invasion by opportunistic infection, the balance of the two mechanisms is destroyed and symptoms to appear.

Activity

1. Five news/articles on contaminated food were handed out (document 8)
2. Three reports on the foods that cause allergy to HIV infected clients were handed out. (document no. 8)

The problem-solving target for HIV infected clients is to have a body where defense mechanisms can inhibit and reduce the destructive power of HIV. This would protect the body from getting opportunistic infections, and allow the infected clients to lead a life without illnesses.

HIV infected clients, are able to cope with HIV infection by having promoting good health, so that they can live without complications. They can change their pattern and condition of living by taking into account the equilibrium of the elements of body, mind and spirit soul (wisdom). Therefore, not only do the HIV infected clients' actions need to be changed, but their aimed also needs to be strengthen. This is neccessary to alter their behaviors and lifestyles. Both of these changes must be based on the correct understanding.

Document 11, 12, 13 and 14

Leaflets

It is important to remember that this study was performed in Thailand and used the Thai language for communication. The following 4 leaflets are translations and should be used only as a guideline to the actual research.

HOW TO LIVE A HEALTHY LIFE

Health Promotion Project
for HIV infected clients, Chiang Mai
Col. Dr. Dumrong Chiewsilp

CHANGING YOUR LIFESTYLE

In reality, everyone comes in contact with
microorganisms and xenobiotics,
but HIV/AIDS are much more susceptible
because of a weakened immunity.
A heavily polluted environment
and low immunity
causes HIV/AIDS to be at a high risk.
**Therefore, adjusting one's lifestyle is vital
if one is to survive.**

7 CONCERNS FOR A HEALTHY LIFE

1. AIR

Today, harmful emission from automobiles,
cigarette smoke emit over 500 chemical pollulants,
pesticides, poisonous chemicals,
and various petroleum products, such as
motor oil / lubricants, thinner, lacquer, nail enamel,
cause intoxication and deteriorate the body.
**These effect the HIV particles
and the immunity as well.**

2. FOOD

By our cooking,
from preparing in a family to the industrialization,
people are threatened with unknowns in food.
It can be dangerous.
Therefore, we not only need **a balanced diet,**
but we also must be aware of
the contaminants in food :
preservatives, colorings & fragrances, residues etc.
From now on, you must never forget the expression.

We are what we eat.

3. WATER

Water is nature's cleanser
which keeps the body pure
and free from poisons and waste.
Normally, the body perspires about 1.5 liters of water a day.
We should drink a minimum of 2 liters a day.
This assists bowel movement, prevents constipation,
clears up urine, enhances skin moisture
and freshens breath.

4. EXERCISE

Exercise should be a natural activity
in everyone's daily life.
It should not be like work or a burden.
Everyone should select an activity
that is suitable for oneself.
The goal of exercise is
sweating, stronger heart beat
and pulse rate 100-120 a minute.
This naturally accelerates immunity.
One must exercise 30-40 minutes every other day.
It increases strength, endurance and alertness.
It helps deal with both
physical and emotional health.
It provictes excellent relaxation and
develops self-discipline.

5. SLEEP

Restful sleep means a deep sleep,
being away from harsh light.
One must rest both the body and mind.
Only 5-6 hours deep sleeping is sufficient
and allows one to awake
with a refreshed feeling.

6. BOWEL MOVEMENT

The digestive tract is a source of toxin in the body.
The large intestine is where
waste and toxins are accumulated.
The longer it remains, the more solid the feces becomes.
This may cause reabsorbtion into blood stream,
including bacteria, virus and / or toxins.

Bowel movement is important to health.
One must have bowel movements everyday.
It is an effective detoxification.

7. EMOTION

It is generally accepted that
stress has a direct effect on physical health.
Stress form depression, hopeless, anger etc.
also effects the immunity.
HIV/AIDS' stress is prolonged.
They are more susceptible to infection.

Optimism relieves tension.
Unhealthy body but healthy mind
helps the body to resist infection.

HOW TO SUCCEED WITH THE 7 CONCERNS

The main obstacle to success is
not recognizing the condition.
They see no visual reaction or outcome.
Whether they take action or not.
Whenever you have to face the problem
an the narrow way of life,
you'll only go forward if you are ready.
It means.

There will come a time when you have to make a decision.
Put thought into life in order to see a bright future.
Take courage and get rid of your habits.
You do have a chance to make the best choices
in order to achieve all that have hoped for.

SUCCESS IN LIFE IS
TO DO THE BEST YOU CAN

You can change your lifestyle
and take responsibility for yourself.
You must brave to control yourself.
Your best defense is you, your will power.

BREATHING MEDITATION

Training by **Dr. Annerose Akaike (Dr. Amu)**
Health Promotion Project
for HIV infected clients, Chiang Mai
Col. Dr. Dumrong Chieusilp

A LIFE IN HARMONY

Life is composed of the body and mind
which can also be expressed as:

The mind is a cheif, the body is a servant

A pleasant mind is in a healthy body

Meditation is a means to control the body and mind
through physical movement and mental calmness
in order to develop inner harmony
and lead to harmony in one's life.
This doesn't just mean strengthening an organ,
because there are many posture to be practical,
no matter a person's sex, age or conditions.

Meditation is a activity
Involving the body and mind.
Controlling one's body and mind
leads to harmony in life.

PHYSICAL TRAINING

All our movements and gestures
are function of our flexor muscles,
such as bending, standing and moving.
Physical training is to stretch muscles and tendons.
One must exercise extensor muscle that are scarcely used
and resting other muscles that have been regular used.
Therefore, each day
no matter what kind of activity
you are involved in,
including the physical training,
you gain a balance of your muscles.

While training physically,
you are mindful of every movement.
You must be aware of the inhalation and exhalation
in order to release tension of both the body and mind.

This is the physical preparation
for the mental training step.

MENTAL TRAINING

Mental training is achieved initially by
Mindfulness of Breathing,
exploring all feeling and relaxation.
It can be done in different postures:
sitting, lying down or while walking.
It relies on the smoothness of breathing.
Inhaling slowly and extending the abdomen,
allow the lungs to fill completely.
Exhaling in the same gentle maner
allows the lungs to completely empty.
This helps to increase the lungs' capacity
and also helps one to feel strong and fresh.

Technique
Place the palm of your hand on your abdomen
and feel the movement as you inhale and exhale.
Consider the effect on your body with each breath.
Try to calm your mind. Clear it of all thought.
Know the condition as they are.
That, you can train yourself not to be heedless.

As the saying of the Buddha,
WELL-PERFECTED MIND IS BEYOND
THE INFLUENCE OF OVER ALL SURROUNDINGS

HOW TO FEEL RELAXED

Physical and mental training
are achieved through meditation.
Warming up physically for about 20 minutes
makes it easier to feel a sense of peace.
Meditate about 30 minutes to relax your mind.

THE PRACTICE

Become familiar with your exercises.
Become on expert in controlling your breath.
Develop optimism.

Send love and compassion in everything
with a smile in every exhalation.
Get a sense of peace
into yourself with every inhalation.

This is truly how to find
HARMONY IN LEFE

A well trained mind
will be one that experiences
true peace and happiness.
It will lead to both
understanding and wisdom.

MENTAL DEVELOPMENT AND AIDS

Training by **Phra Songserm Kasaradhammo**
Panyanantha Institute, Umong Temple,
Chiang Mai
Health Promotion Project for HIV infected clients
Col. Dr. Dumrong Chiewsilp

BUDDHIST TEACHING AND AIDS

AIDS is a physical illness.
It attacks the immunity.
It can not yet be cured, like many other diseases.

AIDS is a mental illness.
They think, there is no escape form this condition.
This increases their suffering.

These two statements reflected that
the real problem is not only AIDS,
It is at his wit's end.
There is no solutions to solve the problem.
There are many thoughts running through their mind:
Sensual desire
ill-will
dullness
restlessness or anxiety
and doubt
It is the mind ruffled by worldly conditions.

AIDS IS A WARNING SIGN
TO LEARN A NEW WAY OF LIFE.

THE BUDDHIST VIEW OF LIFE

Change is a natural aspect of life, such as
suffering, aging, sickness and death.
Today, many still live with carelessness.
When facing changes and unexpected things,
they begin to suffer and flee from reality.
Some may even think of committing suicide.

AIDS is a suffering cycle.
It attachs to the problems,
And one suffers more and more.

Some ask for sympathy from others,
who are afraid and worried.
We should not waste any time,
but develop self-reliance
to face reality with courage.

Physical illness is reduced by prescription
Mental illness is releases by wisdom.

Document 13 (cont.)

THE WAY OF A PERFECT LIFE

Must not long for the past,
nor worry about the future. Do the best today.

Several experiences of pleasure and suffering occur in daily life.

It does not depend on AIDS nor the past.

It depends on the present moment,
how we view, think and manage life?

Initially, one must understand what HIV is.
Although it is undesirable,
it has already happened permanently.

Apply the mind in the present.
Examine all fellings, think of what is ahead.
Why do we insist on feeling angry?
Do not let thoughts threaten your life.

Deal constructively with negative feelings.
Let the past be a foundation upon which to build.
Understand life form different perspective.

Face the truths as they are
Release the tensions form worldly conditions

YOU CAN EXPERIENCE A SENSE OF PEACE.

NO HAPPINESS SURPASSES
PEACE OF MIND

AIDS is one event in life.
We should learn how to best benefit from it.
Learn to find peace and calmness.
Learn to adapt within yourself and change.
Do not attach to worldly conditions.
Experience the body and mind in reality.
In this way, you can find liberty in the mind.

The guideline
Basically, experience the mind in the present.
Concentrate on smooth breathing.
Concentrate on all movement.
Concentrate on what one must face.
Concentrate on everything even thought.

Recall realistic thoughts.
Be liberate form worldly condition.
Release the tension.
Experience one thing at a time.
Be well-trained in the discipline.
Empower the working to become wilfully committed.
That is
SPIRITUAL IMMUNIZATION

Thank you AIDS for reminding us to be self-considering.
Thank you truths for understand our life.
Thank you Buddha, Dhamma and Sangha
for providing the right way
and really becoming our refuge.

LEARNING

FOR

A NEW LIFE

Health Promotion Program
for HIV infected clients in Chiang Mai
Col. Dr. Dumrong Chiewsilp

HIV ALONE DOES NOT CAUSE AIDS

AIDS involves the immunity and HIV.

Immunity is the body mechanism
to carry a normal life.
HIV attacks and eventually destroys the immune.
When it remains 1/5
the immune deficiency state,
The body becomes susceptible to any infection.

HIV/AIDS can be compared to a forest on fire.
Initiality, it can be put out spontaneously.
When being dry and windy,
the fire grows and finally rages beyond control.

At the onset of HIV seropositive,
the immunity can resist against infection.
When exposed to polluted air, water and foods,
symptom can develop quickly.

Therefore, the cofactor of AIDS is
A POLLUTED LIFESTYE

GOALS OF LIVING

HIV/AIDS is like a train traveling down a track
with an obstruction up ahead.
It runs high on speed for a short distance
and will crash at a high velocity.
When reducing speed and given enough distance,
it travels along the track safety.

Having a high HIV viral load and low immunity
make one more susceptible.
Having a low HIV viral load and normal immunity
make one less susceptible.

It is necessary
to slow the train down and lengthen the distance.

HIV/AIDS must inhibit HIV replication
and enhance the immunity.
to have
A LONGER SUMPTOM FREE LIFE SPAN

Document 14

LEARNING SUFFERING, BEING HAPPY

Today, our lives are opposite of nature.
In the past there were vegetables along roads,
fish in the paddies & morning glory in the swamps.

Today, there are residue toxing in the air, water and food.
There are No flowers in the paddies
nor lotuses in the swamps.
There are only rice and chemicals in the paddies.

These cause health to deteriorate,
especially in HIV / AIDS
whose body defense mechanisms are low.
There are susceptible to any chemical.
The allergy affects the immunity which leads to death.

The allergy should not be tested.

Learn what cause you get allergies.
Learn to associate with the environment.
Learn to live heedlessly.
Learn the precaution for proper conduct.
Learn what should be eaten or avoided.

CHECK, CENSURE AND RECTIFY YOURSELF

Everyone must alter their lifestyle
in accordance with each situation,
especially, being warned by the body sign.

HIV infection
is just a warning sign.
It is a direct consequence of life.
One is constantly remained of HIV.
The immunity is partially damaged
And one must,
therefore, change the lifestyle.

In daily life, only you to know
how to adjust your life
and to be in accordance with your lifestyle.
You must be quite used to
what should and should not be done.
It means
The survival of the fittest
must be adaptive.

YOU ARE READY TO MAKE THE NECESSARY CHANGES?

A new life can not be make immediately.
It can not be done with just one decision.
It takes action and commitment.
Remember
there are more than one health related
behaviors to consider.

In life,
there are many decisions to be made.
There must be some gradual changes
in one's character.
Find what you can do and can not do.
Start a new health habit for life.
And learn the reality that …
YOU ARE
YOUR OWN REFUGE,
WHO ELSE
COULD BE YOUR REFUGE?

BIOGRAPHY

NAME	Miss Kamonmarn Virutsetazin
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