THE EFFECTIVENESS OF HOLISTIC EXERCISE PROMOTION PROGRAM AMONG THE ELDERLY IN THAMASALA MUNICIPALITY, NAKHONPATHOM PROVINCE

PARADEE SRIPOSHANG

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THE EFFECTIVENESS OF HOLISTIC EXERCISE PROMOTION PROGRAM AMONG THE ELDERLY IN THAMASALA MUNICIPALITY, NAKHONPATHOM PROVINCE.

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ABSTRACT

This study was a quasi-experimental research, one-group pretest-posttest design, aimed to assess the effectiveness of Holistic Exercise Promotion Program which applied Self-Efficacy Theory and Holistic Health Care Concept to design activities. Samples included in this study were 34 elderly, aged from 55-74 years old who lived in Thamasala Municipality, Nakhonpathom Province. The experiment was lasted 12 weeks. The activities designed to promote exercise behavior included (1) Problem consideration; identification of problems and cause, (2)Decision for alternative exercise; making decisions on mode of exercise, (3)Receiving the ideas; deciding on channels of communication; and (4)Health assessment. Data were collected before and after the experiment. Descriptive statistics-percentage, mean and standard deviation and pair t-test used for comparison of average scores were used for data analysis. Level of significance was set at 0.05.

Result of this study suggested that the Holistic Exercise Promotion Program had significantly increased levels of knowledge on exercise (p-value <0.001), perceived self-efficacy (p-value <0.001), exercise outcome expectation (p-value <0.001) and exercise behavior(p-value <0.001) among the participants in this program. Consequently, there systolic blood pressure, but not diastolic blood pressure and body mass index significantly were reduced (p-value = 0.018).

It was therefore, recommended that the Holistic exercise promotion program could be applied to promote exercise behavior among the elderly to enhance their health and thus, relieving the burden of their care takers. In addition, regular exercise will improve their social and thinking skills, therefore, they can live a happy and productive life.

KEY WORDS : ELDERLY/ EXERCISE / SELF-EFFICACY /HOLISTIC

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ประสิทธิผลของโปรแกรมส่งเสริมการออกกำลังกายแบบองค์รวม ในผู้สูงอายุเขตเทศบาลตำบลธรรมศาลา จังหวัดนครปฐม (THE EFFECTIVENESS OF HOLISTIC EXERCISE PROMOTION PROGRAM AMONG THE ELDERLY IN THAMASALA MUNICIPALITY , NAKHONPATHOM PROVINCE)

ภารดี ศรีโพธิ์ช้าง 4337445 PHPH/M

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บทคัดย่อ

การศึกษาครั้งนี้เป็นการวิจัยกึ่งทดลอง วัตถุประสงค์เพื่อศึกษาประสิทธิผลของโปรแกรมส่งเสริมการออกกำลังกายแบบองค์รวม โดยการประยุกต์ทฤษฎีความสามารถตนเองมาเป็นแนวคิดหลักร่วมกับนำแนวคิดสุขภาพแบบองค์รวม มาจัดกิจกรรมเพื่อส่งเสริมการออกกำลังกาย ในกลุ่มผู้สูงอายุ เขตเทศบาลตำบลธรรมศาลา จังหวัดนครปฐม กลุ่มตัวอย่างเป็นผู้สูงอายุ จำนวน 34 คน มีอายุระหว่าง 55-74 ปี ระยะเวลาในการทดลอง 12 สัปดาห์ ดำเนินการโดยจัดกิจกรรมตามโปรแกรมประกอบด้วย (1) การพิจารณาปัญหา (2) การตัดสินใจทางเลือกในการออกกำลังกาย (3) การรับข้อมูลข่าวสาร(4) การประเมินสุขภาพ เก็บรวบรวมข้อมูล ก่อนและหลังการทดลอง วิเคราะห์ข้อมูลด้วยสถิติ ร้อยละ ค่าเฉลี่ย ส่วนเบี่ยงเบนมาตรฐาน เปรียบเทียบค่าเฉลี่ยของคะแนนด้วยสถิติ Paired t-test กำหนดนัยสำคัญทางสถิติที่ระดับ 0.05

ผลการศึกษาพบว่าการจัดกิจกรรมตามโปรแกรมส่งเสริมการออกกำลังกายแบบองค์รวม ทำให้กลุ่มตัวอย่างมีความสามารถตนเองเพิ่มขึ้นอย่างมีนัยสำคัญทางสถิติในเรื่อง ความรู้เกี่ยวกับการออกกำลังกาย (p-value <0.001) การรับรู้ความสามารถตนเอง (p-value <0.001) ความคาดหวังในผลลัพธ์ของการออกกำลังกาย (p-value < 0.001)และมีพฤติกรรมการออกกำลังกายเพื่อสุขภาพเพิ่มขึ้นอย่างมีนัยสำคัญทางสถิติ (p-value <0.001) ภายหลังการศึกษาพบว่า ค่าความดันโลหิตขณะหัวใจบีบตัวของกลุ่มตัวอย่างดีขึ้นกว่าก่อนการทดลอง อย่างมีนัยสำคัญทางสถิติ (p-value =0.018) ส่วนค่าความดันโลหิตขณะหัวใจคลายตัวและค่าดัชนีมวลกายไม่มีความแตกต่างจากก่อนทดลอง

ผลการศึกษาครั้งนี้แสดงให้เห็นว่าโปรแกรมส่งเสริมการออกกำลังกายแบบองค์รวม สามารถนำไปประยุกต์ใช้เป็นแนวทางในการจัดกิจกรรมส่งเสริมการออกกำลังกายของผู้สูงอายุ เพื่อให้ผู้สูงอายุมีสุขภาพที่ดีขึ้น สามารถพึ่งตนเองได้เป็นภาระกับผู้ดูแลลดลง มีความคิดสร้างสรรค์ในการเข้าร่วมกับสังคม และสามารถดำรงตนอยู่ในสังคมได้อย่างมีคุณค่าสืบไป

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CHAPTER 1
INTRODUCTION

Background

The current age of elderly people in Thailand is 60 years old and over and are increasing in population worldwide. Recent, the number of elderly has increased from 1.21 million in 1960 to 5.7 million at present and expected to increased to 11.4 million and 15.3 in 2010 and 2020 respectively (Elderly Planning Committee, 2000). Both the ratio and proportion of the elderly increase as a result of the country 's social and economic changes, the development in public health and technological changes, making the aged population increase. In contrast, the higher the life longevity, the more sickness appears. The number of healthy life expectancy has decreased as the age of the elderly has increased in both males and females (Prajaubmaue ,V., 1999)

As a result of the Disability Adjusted Life Years (DALYS), the longer a person lives, the more the body, soul and society degenerate as a direct impact on health of the elderly. Most of their health problems are caused by accident and non-communicable diseases that are mostly chronic and not much different from a developed country. Findings are that 70% of the aging population had osteoarthritis, eye disease 45%, insomnia 45%, hypertension 30%, depression 20%, and diabetes 12% (Elderly Planning Committee, 2000). The illness problems of the elderly are caused by body and soul deterioration from the elderly and family members' physical adaptations including the change in economic and social conditions from agricultural to industrial sectors including labor migration by young workers. This has caused changes in elderly's roles from the family builder to living alone most of the time. Findings from the status survey among the elderly in Thailand (Elderly Planning Committee, 2000),show that most elderly 11.9% lived with a spouse without relatives. Nearly 3.6%-4.3% lived alone. Among the elderly living alone, 19.9% experienced problems with daily living and more important, 31.6% were without anyone to care for them during illness.

As for the varieties of services and benefits for the elderly, the government has set up policies and standards for the elderly. However, most policies and standards are under operation and lack feedback. Findings show that access of the elderly to participate in most activities and the promotion of health insurance were still delayed and had many time-consuming steps. The caring services were still provided only by the experts working within the hospital (Elderly Planning Committee, 2000). The former model of health problem solving involved viewing the separation of body, soul, societyl and environment without any connection; caring for the sick only by taking a closer look at the origin of the disease without any concerns for the illness (Sungjang,C., 2001:2). It was considered as disregarding the interaction of the whole body system. The specialist only took interest in one part of the body without seeing any connection to the whole body system (Visalow,P.,1993) Putting an emphasis only on the disease would neglect the combination of factors that mix together as in the Holistic Model that in turn creates a status of imbalance. Influenced by the medical sciences, the treatment of disease per body section originated the tendency toward a focus on only the body dimension,but the patient's spirit dimension and relationship with environment are neglected. The diagnosis procedures and treatment with modern medicine, operations and complicated technology made the cost of healthcare per person rise from 462 baht in 1980 to 3,048 baht in 1994 (Office of Policies and Planning, The Public Health 1997:142). During the treatment process, the relationship between the doctor and patient was distanct since the doctor only spent brief moments with the patient and was interested only in treating the existing illness. The doctor expected the patient to follow orders without any questions (Pasontumamo,P., 1996).

Therefore, illness with chronic diseases not only increases expenses in nursing but also creates strees for the patient and the health supporter. Findings show that 84.4% of the elderly regard their own health problems as rather severe. As for 10.1% of the health supporters, care for the elderly creates acute stress, loss of privacy, is time consuming, wastes money or is exhausting (Suktranu,D., 1981:106). The illness caused by chronic diseases originates from inappropriate behavior, especially a lack of exercise that makes the body organs to slowly degenerate. The body would accumulate excess fat in the body tissues and blood vessels. More diseases easily enter

the body (Thoranin,J., 1987). According to the status survey report of the population in the year 2001, 54.7% of the population of Nakhonpathom Province lacked exercise.

Nakhonpathom Province is a city with heath problems of the elderly with a tendency toward chronic diseases as determined by statistical percentage and ratio of patients among the elderly of Nakhonpathom Province in the year 2001. Findings show that the illness ratio in hypertension is 7.6%, in diabetes, 4.9% and diabetes with hypertension 0.9%. Besides, findings show that the top ten causes of morbidity include illness from non-communicable diseases such as diabetes 21.51%, and blood vessel obstruction 17.69%. As previously mentioned, the lack of exercise is the main factor causing illness from chronic diseases. Since the findings indicated that the population of Nakhonpathom Province lacked exercise, the researcher conducted a pilot study of health status among the 65 elderly people over 55 years old, in the Muang District, in the year 2003. Findings show that illness is caused by chronic diseases as follows: Over-weight 37.7%, obesity 13.1%, and hypertension 13.1%. For behavioral exercise, findings show lack of exercise 90.6% (exertion less than 30 minutes per day, of moderate intensity and less than 3 days per week). Most of the elderly 73.5% had knowledge in exercise at a low level, perceived self-efficacy at a low level 47.1% and outcome expectation from exercise at a medium level 38.2%. All those behaviors suggested a lack of exercise.

Exercise is another factor leading toward good health, not only in promoting good health but also preventing and curing diseases, rejuvenating the body on as well as building up social relationships with other exercise participants. During the exercise, the body would release chemical endorphins that refresh the body, soothe the mind and build the body's resistance to diseases which helps to lift up the spirit. Therefore, exercise for health has become one of the crucial standards for health promotion to increase the life quality of the population of the country (Suwan,P. and others, 1995:109). Promotion of behavioral exercise among the elderly is the standard for better health care in order to reduce illness. Exercise promotion for healthcare should consider different factors in every dimension as a Holistic Model using a balanced approach, coinciding with the individual's ability to care for his/her health . The researcher acted as the concernd party through responsibilities and prevention interventions including health promotion in every age group, especially the elderly,

who had accumulated knowledge,and life experiences that might be able to be passed on to the next generation. Better health care has led to a slowed aging process among the elderly, so that they would not become a heavy burden for their offspring, but able to contribute to society. With these reasons, the researcher was interested in studying the Holistic Exercise Promotion Program including the Self-efficacy Theory as the major concept for the individual to perceived self-efficacy, enable them to enhance exercise behavior and outcome expectation. The Holistic Health Care Concept was set up as the guidelines for arranging the Holistic health care activities in considering problems, deciding on alternatives exercise, making health assessment and receiving ideas in a per conceptual framework by experimenting with the elderly over 55 years old, living at the Thamasala Municipality, Nakhonpathom Province. The aim was to study of the elderly over 55 years old to derive data that could extend to the future elderly groups. This research would also benefit the agency that arranged the Exercise Promotion Program for the elderly of Nakhonpathom Province.

Research Question

Could the Holistic Exercise Promotion Program enable the elderly to change their exercise behaviors, affect the body mass index and decrease blood pressure level?

Objectives of the Research

To study the effectiveness of Holistic Exercise Promotion Program among the elderly in Thamasala Municipality, Nakhonpathom Province. This program affect the elderly group as follows:

1. To determine and compare the level of knowledge on exercise, perceived self-efficacy in exercise, outcome expectation from exercise before and after intervention
2. To assess alternative exercise behavior.
3. To determine and compare the physical changes of the elderly regarding body mass index and blood pressure before and after intervention.

Research Hypotheses

1. The Holistic Exercise Promotion Program has increased knowledge on exercise among the elderly, perceived self-efficacy in exercise,outcome expectation from exercise and alternative exercise behavior more than before participation in the program.

2. The Holistic Exercise Promotion Program has changed the body mass index, and decreased blood pressure level through participation in the program.

Research Variables

1. Independent Variable, such as, Holistic Exercise Promotion,applies to the Self-efficacy Theory and Holistic Health Care Concept, in organizing the activity for the elderly.

2. Dependent Variables, include:
   - 2.1 Knowledge on exercise
   - 2.2 Perceived self-efficacy in exercise
   - 2.3 Outcome expectation from exercise
   - 2.4 Alternative exercise Behavior
   - 2.5 Blood pressure Level
   - 2.6 Body mass index

Operational Definition

1. The Holistic Exercise Promotion Program refers to the process in health education combining the Holistic Health Care Concept to adapt for arranging activities in Holistic Health Care as well as developing knowledge on exercise for health, perceived self-efficacy of the elderly, outcome expectation from exercise and exercise behavior of the elderly. The lecture regarding exercise and health care was arranged through group discussions, modeling, health assessment, summarized lessons using the mind map technique, demonstration and practicing alternative exercise. Advice was given by public health officers; support, prompts and reminders on exercise were given by friends and the researcher,and exercise manuals and notebooks for recording health were also dispersed.

2. Holistic Health care referres to the practice of health care as the appropriate alternative in considering in health problems, decision about alternative exercise, receiving ideas and assessing health from exercise.

3. Knowledge on exercise refers to the ability of the elderly to explain the definitions, benefits of exercise for health, rules, forms of exercise, cautions, health assessment and examination.

4. Perceived Self-efficacy in exercise behavior refers to the self-confidence level of the elderly regarding their own ability, skills regarding exercise for health, health assessment, and social support on healthcare.

5. Outcome expectation from exercise refers to result evaluation of exercise behavior among the elderly regarding the benefits of exercise, alternative exercise, general health assessment, and social support on health care.

6. Alternative Exercise behavior refers to actions or practicing alternative exercise, such as, walking, lifestyle exercise or leisure with moderate intensity until feeling tired, sweat,or increased.heartbeat . Daily exercise should be done at least 30 minutes, 3 days a week with body warming and muscle relaxation as well as health assessment, enabling to receive health data.

7. Elderly refers to a person over 55 years old, living in Thammasala Municipality, Nakhonpathom Province.

8. Problem consideration refers to the ability of elderly to identify the problems and cause.

9. Dicision about alternative exercise referred to the ability of elderly for making decision on mode of exercise

10. Health assessment refers to the ability of the elderly to compare changes in body, emotion, and symptoms before and after exercise, enabling to examine themselves along with the public health officers.

11. Receiving ideas referred to the elderly's ability to share experiences in health care and exercise, digesting health news from different media and deciding on chanels of communication.

12. Physical changes are the result assessment of changes occurring from alternative exercise behavior by examining and comparing the blood pressure level and body mass index.

Scope of the study

This study was conducted among the group of elderly, living in Thammasala Municipality, Nakhonpathom Province, between 55-74 years old, both male and female.

CHAPTER 2
LITERATURE REVIEW

This research was to study the result of the Exercise Promotion Program by adapting knowledge about elderly, knowledge on exercise for health, Self-efficacy Theory and Holistic Health Care Concept to promote exercise among the elderly group over 55 years old. The researcher studied the concept, theories and related research in the following areas.

1. Elderly Health Status
2. Concept and Theory
3. Related Research
4. Research Conceptual Framework

1. Elderly Health Status

1.1 Changes in the elderly

1.1.1 The Definition of Elderly

The word “Elderly” was given many definitions such as:

The World Health Organization, 1989 (cited in Poomriew R. 2002:7) referred to elderly as a person over 60 years old or more according to ages. It was meant for the retired worker per economic and also being accepted by the society as elderly from social or cultural perspective.

The Ministry of Public Health (1988:1) gave the definition of elderly as a person over 60 years old. Most elderly were different in physical, working abilities, social status and being accepted as good example.

Prasop Rattanakorn (1912:7) gave the positive definition of the elderly as a person being respected by society with age over 60.

As far as the definition was concerned, most meaning of elderly based on age as the research factor. Therefore, the populations over 60 years old both males and females were considered as elderly

1.1.2 Changing in Elderly

(1) Physical Changes(Nursing Division, 1994:128)

Many cells growth and degeneration in human body has constantly occurred mostly in children. Their bodies expanded in height and weight. When they had reached adulthood, the height would stop and the weight slowly changed. Mostly in positively increasing and the growth during this period were to restore the degenerated parts of the senior body. The degeneration occurred in higher ratio than growth to create conditions for different organs.

The changes during aging among the elderly occurred from 2 factors, hereditary and environment. Although hereditary has caused some cells uniqueness of each person, results indicated the accelerated growth and degeneration. More important factors were the nutrition, illness and senior's lifestyle that had effected the following system of the elderly 's body.

Respiratory: The degeneration of the heart muscle with decreasing tension has reduced the chest's movement, lung's elasticity that made them out of breath and tired easily from less areas of lung.

Skins: Lacking of skin elasticity has caused the skin to wrinkle. The elasticity loss resulted from the reduction of fat contents. The dark spots appeared in the area exposing to the sun. Hairs changed colors from black to gray, golden brown and white. Hairs were thinning in some areas, such as, head, underarms and private part. The moustache would be reduced among men.

Mouth and neck: Since taste bud was reduced in size that caused non-appetite among the senior. The mouth and neck tissues has gained more tolerance to the light touch and pain that sometimes the wound could inflict without knowing while swallowing foods. Therefore, foods for elderly should be soft and easy to digest.

Digestive tracts: Gum receding and shrinking, losing teeth, difficult to chew hard or tough foods, reduction in saliva that made tough digestion of starch and sugar. Swallowing foods had become difficult since the saliva reduced that weaken the digestive tube, thus reduced the contraction of the digestive tube. The gastric juice with enzyme for food digestion from the stomach and liver, such as, Hydrocholic Acid, Pepsin would reduce as well as slow absorption of body fat that

made less absorption of vitamins, A, D, E, K. Less movement of small intestine could result in the constipation.

Sexual Organ: Among older male, the male hormones reduced which made the sexual desire less as well as smaller testicles and reduction in semen. For women, reduction in female hormones, shrinking breast tissues, smaller size, sagging of the uterus muscles and smaller which made uterus protruded through the vagina, reduction of vagina lubrication made dry vagina that caused painful sexual intercourse.

Urinary tract: Changing in hormones resulted in large prostate glands, pressing with the bladder that made frequent urination among men. For women, the uterus muscle would sag that made her unable to control urination even when cough or sneeze. When urinated, it would come out slowly causing by sagging ladder.

Cardiac System: Heart muscle lost its elasticity, became hard and thick which made it harder to squeeze, heart beating slowly and getting tired easily when exercise or work, thicken and harden blood vessel.

Visionary System: Narrow visionary areas that reduced seeing the surrounding. Dizziness occurred when staring at object from the eyes focus reduction caused by shrinking of interior eyes muscles. Vision was not as clearly as the young and cloudy lenses made seeing pictures blurry.

Hearing System: Since ears and hearing organs had degenerated, the ability to receive higher pitch was reduced which made listening to low pitch voice more clearly than high pitch voice.

Muscle, Joint, Bone: Smaller tissues made small muscles and wrinkle. Weak bone structure made bone fragile, easily break. Due to loss of calcium, the bone structure was different from normal with body shrinkage. The disc became narrow, making a person humpbacked. Since the movement of joint was limited from bonding of the tissues, joint exercise must be done regularly to prevent bonding and strength the muscle.

(2) Psychological Change

It was the changes in the relationship between body and society from degenerated body organs that effected elderly spirit and socialize with others including adapting with different environment. The spiritual changing of elderly came from loss in the following areas:

2.1 Losing love ones from death or relocation of friends, close relatives or marriage partner gave the elderly the feeling of separation from the love ones that would make them more depress.

2.2 Losing social and economic status due to retirement age as well as least interaction with society from ending business responsibilities and work duties would make the elderly feel like losing the position, useless, no meaning in life. Moreover, the elderly might not have friends and binding relationship with society as well as missing or reducing income. Results from these factors made the elderly adapted to the changes.

2.3 Losing the relationship within the family since most offspring left to start own family. Most modern family was a single family that tended to reduce the relationship between parents and offspring. The roles of family advisor became obsolete which made the elderly felling lonely and less value.

(3) Social and Cultural Change:

Currently, the social and cultural has related to the cause of body and soul problems of the elderly. Thai society has become more westernize which moderately impact the elderly. Such changes were as follows:

3.1 Social changes: Modern society tended to prohibit the elderly from various activities, such as, work roles including the family roles that changes the elderly from being as the family supporter and leader to live in. by being the receiver not the giver, the elderly felt losing control of power and social functions that transferred roles currently occurred between the elderly and much younger family members (Planning Team for the elderly, 2000).

3.2 Dessert: Results from social changing from tradition society to modern society brought about the urbanization. Production from agricultural to industrial changed lifestyle that made the elderly a burden, unable to

work or no economical value and being left behind (Kumnuansin, P.and other, 1980:3). Most elderly felt left out and lonely.

Therefore, the bodily changes among the elderly extended slowly from the aging process that made body organ degenerated even further. These changes had influenced the spiritual status among the elderly besides spiritual changing in other losses, such as, lost the love ones. Social and economical loss has made the elderly feeling lonely, hopeless, give up in life, depress, worried including social changes from traditional society to modern society contributed more to the family roles of the elderly. Therefore, it was crucial to understand changes among the elderly in every angle that systematically connected with each other to fully realize the factors related with health problems among the elderly.

1. Exercise Promotion among the Elderly

1. Definition of Exercise

Suchart Sompayoun (1985:151) referred to exercise as exertion for body activities in any forms, whether voluntarily or involuntarily, occupation or volunteer. Good exercise should exert more strength to feel tired enough for body movement or non movement as long as the heart beat faster than normal.

Department of Health (1995: 3) gave the meaning of exercise as follows: Exercise referred to muscle's activities for healthy body and good figure, Increase skills and capabilities in sport including muscle rejuvenation after injury or handicap.

In conclusion, exercise referred to any activities conducted by an individual through body exertion and movement of different parts of the body to better and strength the body system, promote good health including rejuvenation or recovering from injury or handicap.

2. Benefit of Exercise

Exercise benefit body, mind and society as chain reaction and right and regular exercise would slow down the aging process including reinforcement of the body capability by changing the body system for the better. Exercise benefit could be seen from the following:

(1) Body Benefit(Tanasiri,C., 1997:149)

1.1 Increasing blood circulation through strengthening blood vessel to prevent weakness of blood vessel and also preventing heart diseases. Increase stock volume to supply oxygen for different tissues including released the body waste through liver, intestine, sweat glands and most important controlling the chemicals contents in the blood, such as, fat, sugar and uric acid at the regular level.

1.2 Making different tissues and the most crucial one, the myocardium is stronger from tissues expanding and contracting during the exercise as well as melting body fat that made the body in better shape. Besides, the tissues would be strengthening depended on which sport to strength that tissue. Swimming was considered as the sport using different tissues more than any other sports.

1.3 The joint could be moved effectively all full range of motion without the stiff feeling or aching joint from old age. Without daily exercise, calcium would accumulate between joint, making stiff joint and aching.

1.4 Normal bowel movement as the regular release of body waste and toxin from the body that made a person felt refresh and vigorous all day.

(2) Spiritual Benefit:

Exercise has helped to lift up spirit in a person, such as, out of depressing mood from heavy exercise for releasing chemical Endorfin to reduce the pain and resist the depress feeling (Kitkusol,D.,2001:15).Exercise created relaxation since exercise indirectly effected mind resting. Therefore, the mind was constantly alerted and easily meditated for better memory, slowing the fatigue. These events would bring happiness in life, joyful, looking alive and increase stamina for better personality, absence from ulcer, intestinal diseases and neurosis (Tanasiri,C., 1997:149)

(3) Social Benefit:

Exercise through sport would help making decision better and also building loving relationship among the family members as well as sharing ideas during exercise and building good conscious awareness toward the community during participation in group exercise (Department of Public Health, 2000, 12).

(4) Economy Benefit

Exercise created strong body that made an individual who exercise regularly work more effective and least absence from work. When the patient exercise, his illness would improve, such as, lower blood sugar level for diabetes patient, better blood circulation and heart functions. The blood pressure remained at normal level, least dependent on the medication that helped to reduce the cost for treatment (Kitkusol D., 2001:17)

Exercise Benefit for Elderly (Somprayoon,S.1996: 26)

(1) To prevent symptoms commonly founded among the elderly, such as, aching, constipation, joint aching, painful and stiff joint. These symptoms resulted from lacking exercise or not enough body movement.

(2) To prevent and reduce complication among the elderly, such as, decreased atherosclerosis. Exercise also promote joint effectiveness for easily movement, or can move with wider range such as, joint discomfort when getting older that made sitting and walking uneasy. Besides, increasing for metabolism rate to reduce fat and sugar content in the blood stream as well as better bowel movement caused by good intestine movement.

(3) Exercise to delay aging process or slowly aging although aging was the natural process that could not be stopped but could slow down by exercise.

(4) Exercise to extend time for the elderly to act for personal and social benefit.

(5) Spiritual relaxation from many reasons, first feeling stronger, no anxiety from having good health. Second, meeting friends and others through sports was another way to increase social relationship that made elderly feeling better.

1.2.3 Disadvantages from lack of exercise

1. Limbs muscles became weak from not enough use.
2. Feeling dizziness, throw-up, fainting from over slept and low blood volume since the body could not quickly adjust to standing up.
3. Starting complication diseases, such as, lung diseases and heart diseases.

1.2.4 Types of Exercise

1. Lifestyle exercise mean occupation, housework, walking up and down stairs, planting tree or gardening.

2. **Leisure-time exercise** means running, sport playing, physical exercise and all that are aerobic exercise.

1.2.5 Exercise for health

Exercise for health (Health Promotion Center, District 4, 2002) was the extended arobic exercise to burn energy along with the oxygen enough to create the endurance for lung, heart and blood circulation from 3 steps:

1. Heaviness was heavy exercise to increase the pulse rate, approximately 120-130 times per minute in the adult.
2. Prolong was extended exercise at least 15-20 minutes.
3. Frequency was the exercise every other day or at least 3 days a week.

The physical activity took on the new perspective in exercise

Physical activity (Permpon, C.and other, 2002) referred to muscle working for body movement in different parts of the body and increased metabolism from normal time, not only limited to exercise for recreation but also body movement in occupation, housework or daily chores to benefit health.

Example of physical activity/exercise with medium energy burning 150 calories per time

Car Wash and Polished	45-60	minutes
Mopping Floor, Cleaning window	45-60	minutes
Gardening, Digging ground	30-45	minutes
Turning wheel while sitting	30-40	minutes
Walking 3.2 Kilometre	30	minutes
Bicycling-8 Kilometre	30	minutes
Pull, shovel and sweep grass	30	minutes

However, over exertion on the lifestyle exercise in occupation or repeated body movement could result in the muscle damage, aching joint and ligament and bone which could be bad for health. To prevent injury and aching, the researcher has introduced self-practice according to the standards and procedures of exercise for health to prevent injury and aching for elderly.

1.2.6 Rules and Procedures of Exercise for Health

Department of Health, Ministry of Public Health (1997, 96-97) had set up rules and procedures of exercise for health as consisted of 3 periods.

1. Warming the body for 5 minutes to stretch, strength the muscle and relax the joint.
2. Training the body for 10-30 minutes to build the lung endurance, heart and blood circulation.
3. Body relaxation for 5 minutes to stretch muscle and relax the joint for extending exercise at least 20-30 minutes daily.

Sirirut Hirunrut (2004) had presented steps for elderly exercise as follows:

1. Stretching muscle repeatedly 5-6 positions for 5-10 minutes.
2. Practicing chosen activities 10-15 minutes (extending exercise).
3. Reducing rhythm of the activity before coming to complete stop until resting.
4. Extending exercise for 20-35 minutes by daily exercise or at least 3 days per week.

1.2.7 Rules for selecting exercise activities

Rules for selecting exercise activities appropriated for oneself and individual.

1. The purpose of exercising and playing sports were healthy body, vigorous, endurance or prolong play without being tired easily with good body functions.

2. Training per rules " work harder" by increasing level of ability to exercise little by little. The body would gain tolerance until adapting to good working system.

3. Regular and extended training for at least 3 days a week, 25-30 minutes each time since on and off training made the body working system weak, leaving no effect on its capability.

4. Training must be satisfied and relax in order to benefit the body, on the contrary if the exercise or playing the sport made that person tired, not wanting to exercise, the training might not be right.

5. Continued changing various activities, types of exercise and playing sport to make them more interesting. All body parts must be exerted for whole benefit.

6. Considering safety first since good exercise must match with the ability, expertise and health status of the trainer. Warm and relax the body every time and the activities should not be too strained until out of breath but not too light as if no exercise at all.

7. Selecting activities to match with the training purpose, such as, physical exercise for stretching, running 100-200 meters for short and quick. Training for longer activities should be less heavy but longer, such as, slow running or fast walking continuously 10-20 minutes. For shaping figure, training part of all muscles along with carefully selected the proper diet.

8. Building support for training, the trainer might feel challenge in the beginning from the aching body. Daily chores could become excuses for someone not to exercise, such as, no time, no place, no equipment, do not know how to. Therefore, support must be given, especially the first 6 weeks. If an individual was able to train at least 6 week, there should be a tendency to train further.

9. Selecting activities that could be trained alone or with a group. One should be flexible in choosing activities for individual playing or group playing, such as, swimming, rope jumping, slow running or individual and group playing, such as, table tennis, badminton, soccer, tennis or combination of individual and group activities, such as, Arobic dancing.

10. The trainer should follow-up on the progress if the outcome had turned up as expected from good training. The trainer must weight himself and notice feeling or general health. If feeling light, refresh, vigorous, in a good mood after the training, the training must be appropriate. For the overweight person, if the weight kept gaining, the training might not be right that needed correction. Observing at least once a month to follow the training progress. Dissatisfaction results derived from light training, irregular or not wanting to train.

Rules for selecting exercise activities among the elderly

Vorasak Pienchop (1993;7) suggested the following rules and methods of exercise for the elderly.

1. Exercise as relaxation to relieve tension, fatigue and anxiety, such as, body exercise, breathing in and out, Chinese boxing, Yoga, recreational sport.
2. Building work effectiveness and endurance to interact between muscle and brain system, helping the joint movement as well as burning foods consumption and foods digestion, reduced constipation, increased blood circulation for effectiveness of heart functions. Walking was considered the best exercise for the elderly.
3. Increased the fitness and strength of the muscle, such as, lightweight lift, walking, swimming, slow dancing and yoga.
4. Exercise slowly with resting in between exercise. Fast exercise was inappropriate since it caused tiredness easily.
5. Never over exert until it created danger. However, too would not benefit good health.
6. Balancing exercise, not over or under or until unable to breath, in general one should rest when feeling tired. In an unhealthy person, resting or reducing the speed when feeling tired and started again later
7. Exercise regularly, on and off exercise would not bring good result.
8. After exercise, one must rest to relieve tiredness.
9. Exercise as a group should be done in the same age since exercise with younger person might required training that could result in an injury.

10. Exercise rhythm should not be changed abruptly.

1.2.8 Cautions when exercising

The elderly should abstain from liquor,and smoking,not exercise until too tired and stop exercise when they get one of the symptoms below,going to see a doctor, a nurse or a public health officer(The office primary health care committee,1987:17 cited in Neelapaichit,N.,2002:32)

1. Feeling very tired.
2. Feeling chest pain or pain around the left shoulder.
3. Feel incomplete breathing.
4. Feel Sleepy, vertigo and uncontrolled balance of the body arms and legs.
5. Over sweat, coolness.
6. Trembling.
7. Feeling weak or paralysis on face, limbs or other part of the body
8. Dysarthria.
9. Dysapnea.
10. Palpitation lasting longer than 10 minutes after rest.
11. It is very important for the elderly that they do not hold their breath while exercise.

Prohibitions among the elderly:

1. During illness, such as, having fever or inflammation of any parts of the body.
2. After recovering from fever.
3. In the warm and humid places.
4. After finishing the meal.

1.2.9 Alternative Exercise for Health among the Elderly

Dumrong Kitkusol (1997) referred to alternative exercise among the elderly as form of exercise matching with the body status and habit. If one

liked to be social one should exercise with others or join the group. If preferred privacy, one should exercise at home.

Department of Health, Ministry of Public Health (1997) suggested sports appropriated for the elderly should not be too heavy, holding breath or shovel. Longer sport must be rested periodically and play for recreation instead of competition.

As for the selection of exercise among the elderly should be appropriated with the body status and preference of the elderly whether by joining exercise with peers or alone. These exercise should not be too heavy, non-dangerous and for exercise rather than for competition. In this research, the researcher presented walking as the form of exercise fit for the elderly and daily exertion during work or leisure as fellows:

Walking for Health (Kitkusol,D., 2001)

Walking for health was considered fast walking for Arobic exercise. Findings that walking needed the movement of upper body (including limbs) more than running. Walking would hurt the muscle, tendon, bones and joint less than running. It could be done in anywhere even in the work place and safer than running in case of accident happened. It even worked with an individual with personal illness with slowly walking to observe the reaction of the body.

Walking for better health could be done through using more energy by walking faster with long stride and swinging arms more or walking up the stairs including lifting weight or carrying stuffs that could be more tired.

Rules of Walking for Health

1. Fast walking, long stride with arms swaying for the body to consume energy.
2. Extended walking at least 30 minutes
3. Walking at least 3-5 times per week

Lifestyle exercise (Vechpad,C., 1978:12)

Most elderly were prohibited by their children from over exert in daily routine and hobby. It was total misunderstanding that the elderly should not be over exert and rest more. The fact was the body exertion during the daily routine or hobby, if properly arranged, it would become excellent body training for the elderly. Many hobbies gave benefit to the body and soul as well as occupation, such as, gardening, repairing, utensils and nursery. However, hobby must be adapted to the training procedures, both amount and other components, such as, interior and exterior factors and resting. Exertion in occupation and hobby for good health must be practice according to sport attribution for health by exercise continuously before using body at least 30 minute per day in order to gain benefit from work and health without playing sport or other exercise (Sport of Thailand, 1997)..

Exercise for the Elderly with Different Diseases

Illness that could damage the body depended on type of diseases. Elderly with illness should receive advice from the doctor in exercise for treatment. Findings from this study indicated that some elderly had diabetes, hypertension and osteoarthritis. Those illnesses could not stop them from joining the activities. The researcher suggested the exercise for elderly as follows:

Exercise for patient with osteoarthritis

osteoarthritis occurred from the joint became degenerate from old age. The joint has supported excess weight or having knees injury. Therefore, exercise was the way to strength the knee muscle. Since the most important muscle has been the front muscle on the thigh above the knee, stretching that muscle all the way was good exercise. Therefore, the researcher suggested the exercise by walking for health since walking least hurt muscle, ligament, bone and joint (Kitkusol,D., 1997).The movement during work should avoid lifting heavy items, folding the knees and squatting. The procedures to follow as such:

2. Weight should not be placed on the knees during the knuckle exercise.

3. Never excessively folding the knuckle, such as, squatting and getting up.

4. Never place weight around the angle that would make the joint became loose.

5. Knee exercise should be done slowly and fully stretch.

Exercise for hypertension Patient

Hypertension referred to upper blood pressure equal to or higher than 160 mmHg or lower blood pressure equal to or higher than 95 mmHg or combination of both. Mostly without any cause. Findings that hereditary has contributed to the cause by having fat, tension, salty diet and smoking as the reinforce factors. The high blood pressure made the blood vessel degenerated all over the body, arteries stenosis. Blood could not flow to nourish body organs. Hypertension can be a cause of other disease which being the complication such as heart failure, paralysis, renal failure.(Archanaupab,S.,1989) Findings that Arobic exercise, such as fast walking, bicycling helped to increase the blood circulation, lowering the blood pressure since it was the Isotonic exercise that use all muscle at work. Therefore, increased oxygen while increased burning made the amount of blood pumping from the heart increased also. The blood pressure while the heart contracted itself increased while the blood pressure during the heart retracted remained unchanged that made the blood vessel expand. The Isometric exercise was the exercise at the length of constant muscle but the tightness increased, such as, lifting heavy items, pushing, pulling, carrying or pushing hard on one object. This exercise has caused the blood vessel to shrink, strained heart that could increase the high blood pressure.

In this study, the researcher has presented the forms of walking for health as Arobic exercise and lifestyle exercise by avoid lifting heavy items, pushing, pulling carrying or over exert for the elderly with high blood pressure.

Exercise for diabetic patients

Diabetes mellitus is a chronic non communicable disease in which the body does not produce or properly use insulin. The hormone insulin, which made in pancreas, is needed to convert sugar, starches and other food

into energy needed for daily life and control blood sugar for regular level by control the sugar from the blood plasma to cells. When glucose- the body's main energy source, build up in the blood instead of going into cells, it can cause problems. Those include cell maybe starved for energy and high blood glucose levels may hurt patients'eye, kidneys, nerves or heart. Diabetes usually diagnosed in people over 45 years old or people with risk factors such as family history of diabetes millitus, obesity (BMI>27), new born over 4 kilograms, stillbirth, hypertension, high lipid profile (Triglyceride>250mg/dl), Fasting Blood Glucose>126 mg/dl, Casual Plasma Glucose> 200 mg/dl plus symptoms and Oral Glucose Tolerance Test Two-hour plasma glucose>200 mg/dl (http://store.diabetes.org/adabook).

The cause of insulin independent diabetes mellitus are still a mystery but have discover the genetics, obesity, lack of exercise, intake high fat dietary, stress and drug factor. Diabetes mellitus can be a cause of other disease which being the two types of complications were acute and chronic. Acute complications such as hypoglycemia, hyperglycemia .Chronic complications cause of vascular stenosis such as ischemic heart disease, cerebrovascular disease, retinopathy, neuropathy, infection and gangrene. Control blood sugar in the normal range or close to the normal level can reduce the complications of diabetes mellitus . Exercise helps lower blood plasma glucose and increase insulin sensivity. Aerobic exercise is the best by regular ,even of moderate intensity not high –impact. Patients who are taking medication that lower blood glucose ,particularly insulin should always check with physicians before exercise. (Yaiwong,S.,2003:19-20)

In this study, the researcher has presented the forms of walking for health as Arobic exercise and lifestyle exercise by avoid lifting heavy items, pushing, pulling carrying or over exert for the elderly with diabetes mellitus.

The elderly could choose exercise that appropriate with body condition and own interest through moderate intensity for 30 minutes or more by doing it everyday or at least 3 days a week, good enough for health. It gave the elderly the ability to compare feeling and symptom before, during and changes after exercise. Therefore the researcher has applied the knowledge in health assessment to arrange for this activity.

1.2.10 Health Assessment in Exercise

Health assessment (Nursing Department, Public Health Ministry, 1978:126) was the normal learning and normal nature of the body when comparison to feeling, symptoms and unnatural emotion toward encountered objects that could be the hypothesis of the origin of the health problems which should be closely observed continuously.

Health Assessment in Exercise (Sport of Thailand.1997:5)

1. Body Weight Measurement: Body weight suggested healthy body. As for the normal weight for adult should be stable weight. Weight reduction could indicate internal diseases. Weight increment caused by the inappropriate actions, such as, over-eaten. For an individual with weight less than standard, weight increment suggested better practice. Weight measurement should be done at least once a month.

2. Finding Body Mass Index to assess the risk of complication disease that usually occurred from improper body frame as the following assessment: (http:/nhlbisupport.com/bmi/bmicalc.htm)

Body Mass Index (BMI)

BMI	=	Weight in kilogram/(Height in meter)^2
BMI	<18.5	Underweight
BMI	18.5-24.9	Normal Weight
BMI	25 -29.9	Over Weight
BMI	30 or greater	Fat

3. Pulse rate occurred from shrinkage and expanding of blood arteries from the flow of blood from the heart .Checking the pulse would tell the body status if there were any irregularity of blood circulation, enabled to receive treatment at early stage. During exercise, checking pulse could be used in the assessment of body health and heavy exercise. Use an index finger and a middle

finger position on a wrist toward the thumb Then count the number of heartbeat for 1 minute. Pulse Rate during the rest period, normal for adult

Male	60-80	times per minute
Female	70-90	times per minute

Exercise might cause the reduction of pulse during the rest period. The pulse rate higher than 100 times during the rest period indicated the irregular.

4. Blood pressure was to set the heaviness and forms of exercise that could indicate the irregular blood vessel and heart and the development of body status. Blood pressure could be assessed as follows:

Systolic Pressure	Diastolic Pressure		
140 mmHg	< 85 mmHg	=	Normal Blood Pressure
140-159 mmHg	90-99 mmHg	=	Mild Hypertention
160-179 mmHg	100-109 mmHg	=	Moderate Hypertentio
>180 mmHg	> 110 mmHg	=	Severe Hypertention

In conclusion, exercise for the elderly should be alternative exercise appropriated for own ability and interest, easy to practice, convenience, economical, no need for equipment, adaptable for exertion while working or doing hobby. Normally, exercise should be done every other day or 3 days a week with moderate intensity to feel tired,sweat and faster heartbeat , accumulation 30 minutes a day. The elderly must observe the bodily change from exercise through health assessment to realize good benefit for body and adapt to the body.

2. Concept and Theory

2.1 Holistic Health Care Concept

2.1.1 The definition of Holistic Health

Holistic Health referred to health that depended on the sensitive

relationship between body, society and spiritual, not only body or biology. (Vase,P., 2001).

Holistic health referred to health perception as related to life more than illness or managing only some part of the body by making consideration on " The whole person", body connection, mind and spirit including social factors, environment that related to such person (Office of Public Health policies and planning, 2000).

Holistic Health was the method to derive at happiness in life by being aware of individual relationship with the environment. The Holistic Health would look at an individual rather than illness or symptoms. An individual related to the body abnormal, mind, spirit and environment. The Public Health officer responsibilities covered not only the body or illness but also the feelings, thoughts and abilities of such person in making decision to choose after careful consideration (Hnucharoen,S., 1988).

Chainarong Sungjang (Health Doctor, 2001: 23) referred to Holistic Health as the connection of body in material, energy and spirit to unite nature with social system but quite similar to science and materialism medicine.

To summarize, Holistic Health referred to perception of health as related to life as system to concern both human and human body with connection of interior factors and social, environment that related to each other. An individual must interfere with the selection and decision in keeping own momentum along with the health supporter

Holistic health was the concept and guidelines for appropriate healthcare and coincided with modern world since the nature of illness among the Thais has changed from communicable diseases to non communicable diseases, diseases caused by environment and pollution, accident and diseases from inappropriate behavior. Holistic health concept was the newest alternative for such problems solving.

Holistic attitude was considered for both health and life since ancient time, Hippocrates, the Greek philosopher believed that "Body should be treat as a whole, not separate treatment for part of the body.

Buddhism Philosophy gave the Holistic view as clearly as "All things were natural in accordance to the theory of reasons, factors. The combination factors must be properly interacted with each other in the Holistic ways in order to derive at status quo."

Brallier (Brallier, L.W., 1978:645 referenced Boonthong,T., 1980:32) referred to Holistic in each human had more meaning than combination of body organs since human body mixed feeling, emotion and spirit of life in the surrounding.

In conclusion, Holistic system consisted of various factors that interacted with each other. Factors must completely interact to create status quo.

The influence of studying through Medical Science or Western Medicine had separated mechanical and forms to make the separated treatment. The doctor examined the patient section by section, emphasizing only on body, neglecting the spirit and relationship with the environment. Specific medical development with costly and complicated technology that made healthcare cost much higher and put the distance between the doctor and the patient. The doctor only had limited time and interested in treatment only. He expected the patient to obey without any questions. With these limitations, the alternative as Holistic Health was originated to cope with the changing nature of illness.

Holistic Health care concept was emphasized on the prevention of illness. The healing process suggested an individual to be responsible for own health. According to Illich (1977, cited in Hanuchroenkul,S., 1988), doctors, nurses, other health officers and the public should commit to changing the lifestyle that might be hazardous to health for the longest longevity. To achieve the longest longevity, one must be in good health, healthy spirit matching with age. This responsibility depended on such individual and own health to make it happened with the advice from the personnel in the health team when needed.

2.1.2 Principles of Holistic Health Care

Principles of Holistic Health Care emphasized on health and lifestyle coincided with nature as well as living together in harmony. The basic

principles of the Holistic Health Care had included believe in human as being holistic as follows (Office of Public Health Policies and Planning, 2000).

1. Holistic Health for "Health" value referred to adapting and developing to create better health environment as well as absence illness.

2. "Our health was quite similar to our lifestyle" Choosing "Consumption" anything to enter" Body" and " Soul" would settle for an individual healthy body and spirit.

3. Health prevention and promotion were most crucial theme. Principles of Holistic health had promoted good health to the fullest by reviewing behavior in each day that might effect health.

4. Holistic Health has put the emphasis on the lifestyle, giving attention to the educational process and creating the responsibility for each person to retain own health in balance and complete state.

Facing illness, Holistic Medicine would use its principles in exchange for caring and nursing the patient through natural healing system and consider surrounding factors and related situation.

Holistic Health Care was the healthcare in every dimension under balance and harmonious surrounding continuously. An individual was capable of caring for his health, body and soul appropriately and effectively , set own destiny for own results including the ability to assess own health. There were few studies in Holistic Health as follows:

Suwanna Boonyaleepan (2002) studied Holistic Nursing among the Aids patients to promote capability or ability in Holistic Self-care of the Aids patient. Findings that it could be used in the planning for nursing the patient along with the patient's relatives and health team, enabled the Aids patients caring for themselves and better life quality.

Varaporn Boonchiang (2004) studied the development of Holistic health care among the HIV patients in Chiangmai Province through the practice research. Findings after implementing Holistic health care program that the core leader had increased knowledge in Aids, Perceived Self-efficacy, Outcome expectation from Holistic health care, having the statistical difference.

Holistic Health Care Principles were coincided with the teaching in Buddism regarding "The Four Noble Truths" as the guidelines for development of human spirit that could benefit daily lifestyles as follows (http://online.sfsu.edu/Buddhism/footsteps.htm)

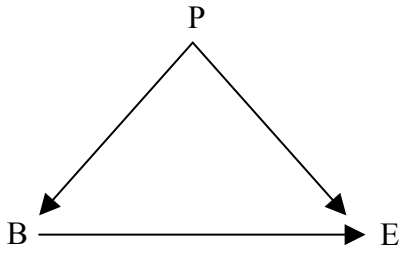
1. Toock referred Suffering .
2. Samuthai referred caused of Suffering
3. Niroj referred to the end of Suffering .
4. Muk referred to the path to end Suffering

In this study, Holistic Health care concept was adapted for Holistic activities for the elderly to realize if they had encountered any health problems. They would know what caused the problem, which factors related to each other and able to solve the problems for balancing by choosing proper alternative healthcare with the ability to give and receive health information for balancing health.

2.2 Self-Efficacy Theory

Albert Bandura, the Canadian psychologist had studied and developed own capacity that could be developed in the first stage to study according to the theory of Skinner and develop as the Social Learning Theory in the year 1962. Later in the year 1986, Bandura had expanded the new concept to be Social Cognitive Theory (Iaamsupasit,S., 1983: 47). According to concept of the Social Cognitive Theory, Bandura believed that human behavior originated only from the change in environmental factors as well as personal factors, bio factors and other interior factors. The interaction between person should be reciprocal determinism with the behavior and environmental factors as illustrated in Figure 1.

Figure 1 The relationship between 3 factors as reasonable influence toward one another



P = Personal Factors

B = Behavioral Factors

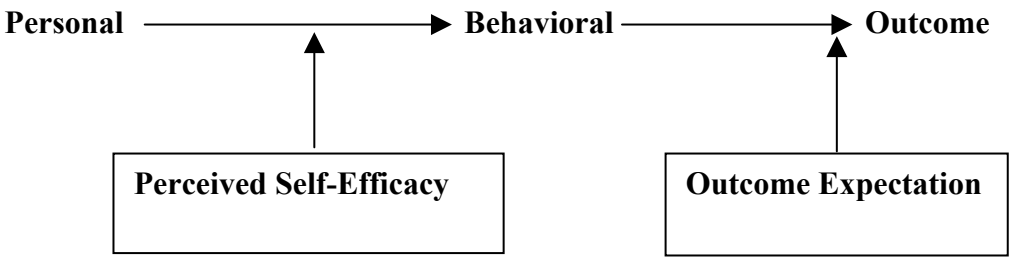
E= Environmental Factors

Sources: Bandura, 1986 (cited in Iamsupasit,S., 1993:49)

Although all 3 factors settled with each other, they were not equal with different influence. Some factor might have more influence than the other and the influence of all 3 factors had not happened in the same time but needed time for any factor to effect settlement of another Bandura, 1986 (cited in Iamsupasit,S., 1993:49)

Based on the above-mentioned concept, Bandura had developed the self-Efficacy Theory from believing that Perceived Self-efficacy effected the actions of each individual. An individual ability might not be different but behavior might be different in quality. An individual with Perceived Self-efficacy in different situation might reveal different behavior. Bandura had realized an individual's ability as flexible and adapted to the situation. Therefore, the factor that effected self-expression must depend on Perceived Self-efficacy by giving its definition as the decision of an individual on self-efficacy to arrange and proceed with behavior to derive at the set goal. If a person believed in his ability to endure, face hardship and accomplish (Evans R. 1989:35-37 cited in Mongkolsin,C., 2001) per the crucial framework theory as illustrated in Figure 2.

Figure 2 Behavioral structure between Perceived Self-Efficacy and Outcome Expectation



Sources: (Bendura, 1977 a: 79)

Perceived Self-efficacy was own decision making to find out own working ability while the outcome expectation indicated the results from such behavior. Both Perceived self-efficacy and outcome expectation closely associated with each other, only the relationship between two variables had the effect on an individual's decision.

Figure 3 Relationship between Perceived Self-Efficacy and Outcome Expectation

	High	**Low**
High	**Inclined to commit commit**	**Inclined not to**
Low	**Inclined to commit commit**	**Inclined not to**

Sources: (Bandura, 1977 a: 241**)**

From Figure. 3, the relationship between Perceived Self-efficacy and outcome expectation suggested an individual tendency to behave that way if he had possessed high Perceived Self-efficacy and outcome expectation. In contrast, it was likely that he would not behave that way if he had possessed low Perceived Self-efficacy.

In conclusion, the Self-efficacy theory has originated from the Social Learning Theory when an individual possessed skills to behave appropriately with

enough support. Thus, the Perceived Self-efficacy was the crucial element to predict or make decision whether an individual was willing to change behavior and continuously follow the advice.

Bandura suggested 4 methods of developing Perceived Self-efficacy as follows:(Evans, cited inIamsupasit,S., 1983: 59-60)

1. Mastery experiences: According to Bandura, it was the most effect method in developing the Perceived Self-Efficacy since it was the direct experiences. Since success increased own ability, the skills for developing Perceived Self-efficacy must be well trained for an individual to be successful along with acknowledging own ability to act which enabled him to use skills in the most effective way. As long as the individual being aware of his own ability, he would not give up easily but would try harder to achieve his goal.

2. Modeling: When the observer had noticed the complexity of behavior and received satisfaction, he would realize the feeling of accomplishment from trying. The modeling that influenced the observer feeling of accomplishment was consisted of solving phobia of an individual from the familiar model to the observer, enabled him to reduce the phobia

3. Verbal Persuasion: It was a method to tell if such person could be successful. This is easy method to use and quite popular. Bandura stated that verbal persuasion had not been effective unless an individual must develop self-efficacy along with making him realize his own experiences in accomplishment. This process should be done slowly, following each steps little by little to create an individual ability until reaching the stage of accomplishment including the use of Verbal Persuasion together that finally developed good results in Perceived Self-efficacy.

4. Emotional Arousal: It effected Perceived Self-efficacy in the threaten situation. Some part of an individual upset and tension depended on the body prompts. The severe body prompts resulted in negative action. An individual successful outcome derived from pleasant situation. On the contrary, prompts would create fear ven more. An individual might fail which could lower Perceived Self-efficacy.

Perceived Self-efficacy occurred from various factors as previously mentioned and could originate from single factor or multiple factors mixing together. The Self-efficacy was adapted for this research as follows:

Chokchai Mongkolsin (2001:ง) studied the adaptation of Self-efficacy theory to promote exercise among the businessmen, Somdej Municipality, Kalasin Province for 16 weeks to collect data 3 times. Research results suggested that sample group had knowledge in exercise, Perceived Self-efficacy, Outcome expectation, good exercise behavior better than pre-test, having the statistical difference. As for the changes in general health, blood pressure reduced. Pulse reduced while resting, having the statistical difference. Testing body capability suggested the lung capacity, hand squeeze, leg stretch, wakness increased, having the statistical difference.

Nipha Chaethong (2001:V) studied the adaptation of Self-efficacy theory along with the social support to promote health among the elderly., Tamuang District, Kanjanaburi Province for changing behavioral exercise and food consumption for health for 12 weeks and 4 weeks follow-up. Research results indicated that the experimental group had increased knowledge, Perceived Self-efficacy, outcome expectation in practice and exercise practice and foods consumption more than the comparison group after the test. Tjis caused the pulse resting, blood pressure among the elderly of the test group better than the comparison group, having the statistical difference.

2.3 Health Education Strategy

Holistic Health Promotion Program among the elderly hand included the Health Education strategy in the following activities for senior.

2.3.1 Group Discussion

Vinit Gaidcom (1989:135) stated that the group discussion was thinking together by separating into 2 issues. First issue involved in the thinking process, such as, self-examination with full knowledge and self-question regarding those problems. Second issue referred cooperation with others as the opportunity for

members to express their opinion among each other. Through this channel, their thoughts could be transmitted to others. Thinking together was also another way to exchange idea from discussion of truth. Searching for true outcome should be done to adapt own idea with other's experiences. As a result, third idea was created from the combination of first and second ideas to be the main purpose of group thinking or discussion.

Good Meeting Attribution

Tawil Tarapoch (1990:135) referred to good meeting attribution as the following details:

1. Since non-appropriated location could effect members' mood and attitude, the meeting should be arranged in the convenience, cool , no disturbance location by having members seated facing each others.
2. Each member should feel good toward each other and familiar with each other. They should be properly introduced during the meeting.
3. The chairperson should set the meeting plan in advance. The meeting plan must be appropriately flexible for practicing conveniently.
4. Each member should be capable of directly and thoroughly exchange ideas.
5. Each member should be given the opportunity to present own capacity during the meeting.
6. Every member's opinion and expression must be under full consideration by the group since each member came from different background that contributed to experiences worth listening.
7. Every members should be given the responsibility to share discussion and brainstorm for problems solving.
8. Every members should understand and accept the purpose of discussion. The meeting organizer must be able to mix the expertise, capability of each member, leading toward the best aim.
9. During the group discussion, different strategies and techniques should be employed since each individual responded in different ways, such as, some like viewing slides while some like make believe role.

10. Discussion topics should base on fact as well as the group member's opinion.

11. Every members must control group discussion within the intended guidelines. All members should stop any digression from the issues or change in direction.

Preparation for Group Discussion

1. Meeting atmosphere should be formal so that all members could see each other, equally in status and duties to make the members feel free to express their opinion.

2. Unlimited number of members to attend the group discussion, normally, it should not exceed 20 persons.

3. Arranging seats for all members to face each other so that they could be closely sit. Never force any member to come closer, wait until the meeting got more interested to invite them.

4. The time for group discussion on one subject should not exceed one hour.

5. Orientation for group discussion were another preparation for the organizer to easily explain various methods and procedures for the members. If the Chairperson or members found own methods, the speech would weight at the Chairperson or good talker only. To make the group discussion more successful, all members should share their opinions.

Group Discussion Types:

1. The group leader presented the problems to the members. The problems must be appropriated and current with group discussion, enabled to find answer from experiences, expertise or knowledge of members.

2. Every member together helped to analyze and solve the problem and fully agreed before proceeding with the group discussion.

3. When members gave their opinions along with the discussion, all facts, experiences would reveal for the group to summarize the idea.

4. After the information, opinions, experiences were gathered enough, one or two answers would come up for selection. The members must choose either one.

5. When the members unanimously agreed, they would choose the most appropriate, reasonable answer.

Group Discussion Facilitator

Duties of Facilitator (Nopkaysorn,T., 1998)

1. Understand the aims and purposes of the meeting.
2. Prepared the major issues according to aims and purposes to be given to the brainstorm group to set up the concurred activities and procedures.
3. Cooperated work with the meeting organizer to collect basic crucial information for the meeting participants.
4. Coordinated work with the meeting organizer to set up types and numbers of the meeting participants.
5. Coordinated with the meeting organizer to create the right atmosphere for sharing ideas.
6. Informed the meeting rules, purposes and aims of the meeting.
7. Created the formal atmosphere, fun to share opinion.
8. Prompts and reminder on all members to express opinion equally, reflected, reviewed, connected, summarized issues to the actual meaning, gently prevented and corrected the conflict from ideas. .
9. Built the transparency in the member's opinion.
10. Adapted the flexible procedures if necessary to promote the member participation.
11. Facilitator was forbidden to show or tell the group regarding problems or ways to correct them.
12. Facilitator should always bear in mind that the meeting process was only the start. Extended activities from the meeting were more important.
13. Facilitator should act as the liaison for each member to access news information in order to analyze, make decision and practice appropriately.

Facilitator Qualification

1. Possessed good skills in communication, knowing ways to make persons respond with each other with good relationship and trust.
2. Knowing when to use proper, concise, clear speech as well as capture the issues to connect with ideas, enabled to summarize the issues.
3. Flexible idea, positive thinking, listening to others opinion, creative mind, no control on others ideas.
4. Friendly, understandable, humorous, sensitive to the member's emotional changes, created relaxed atmosphere.
5. Faired without making decision whether right or wrong, not judging only in value.
6. Believed in the ability of the underprivileged as well as respected human rights.

2.3.2 Mind Map

Mind Map (Polanan,T 2001:25) was a crucial instrument for the group meeting, brainstorm, creative thinking, problems solving, arranging concept and recording.

Mind Map was the recording of memorandum, color and forms, important issues or words including various pictures to create holistic event.

Mind Map (Department of Communicable Disease Controlling, 2001:45) was the technique to assist the brain in thinking process 330 degree. The idea could branch out as compared to the root of the brain for main idea. The minor idea derived from the various main idea and fun to imagine it.

Procedures for Mind Map

1. Interesting topics or issues of the meeting to brainstorm should be placed at the center of the paper.
2. Main idea was branching out from the topics or issues to brainstorm. Minor idea from the main idea in each side would continue branching out. Emphasized on the lining by drawing thick line on the main idea and even out when branching out the idea.

3. Increased depth of the concept, color and wrote different key words on the mind map. Adapting pictures and colors to make it fun and interesting along with idea and imagination.

4. Connected and arranged ideas of different related issues to summarize and add on.

Mind Map was quite useful technique to benefit individual brainstorm for creative idea and these different ideas were recorded to prevent loss. It has helped all concerned parties to follow the issue or brainstorm topics and feel as the owner of such mind map.

In this research, the researcher had arranged activities according to the Exercise Promotion Program by using group discussion for the sample group to express own opinion regarding health problems, exercise setbacks, set up procedures for problems solving and alternative exercise. This was also arranged for the sample group to perceive self-efficacy in exercise behavior by actual practicing for own accomplishment. Mind Map was used in recording connection and arranging sample group per ideas. Lessons had been summarized for the group during the last part of each activity.

2.3.3 Modeling

Bandura had summarized the influence of modeling on the observer in 3 areas:

1. Modeling Effect referred to the situation in which the observer could learn the plan to respond the arousal by noticing from the behavior of sample model. The observer had gathered the behavior of sample model to clearly show the plan for new response for him to duplicate and memorize the same response as the sample model.

2. Inhibitory and Disinhibitory Effect referred to the situation in which the observer could learn the plan to respond the arousal by noticing from the behavior of sample model. The observer had gathered the behavior of sample model to connect with the existing emotion until able to design own respond. Therefore, the

sample model must clearly show the plan for new response for the observer to duplicate and memorize the same response as the sample model.

3. Response Facilitation Effect was the response toward the sample model in different ways depended on the background and experiences of each individual, referred to the family background or education that differentiated the type of respond**.** For some behavior, the sample model might be taught as menace to society. In this case, the response would not be the same as the sample model since the decision was already decided by previous learning. On the contrary, if the receiver had not been exposed to the menace ideas, he might imitate the sample model.

Modeling Presentation

Modeling could be presented in 2 ways. First display the desire behavior of the sample model from the beginning to the end along with the narration. Showing behavior of sample model to discover any problems and behavior that might occur step by step in order to assist the modeling presentation effectively imitated, especially with the concerned observer. Presenting the sample model under the situation from the beginning to the end and follow-up behavior could help an individual to reduce fear and anxiety.

Another way to present the modeling involved in the action display of the sample modeling when facing problems or immediate response to the dissatisfaction events or danger, thus derived at the satisfy results. The sample modeling would display confidence behavior toward arousal that might cause dissatisfaction by revealing the behavior to cope with problems.

Two types of modeling:

1. Live Model referred to the sample model that the observer was able to interact or directly observe without any assistant from the media or other symbols.

2. Symbolic Model referred to the sample model that the observer had learned through symbol, such as, movies and video.

For research purposes, the researcher had selected sample models from 3 live models for the Perceived Self-efficacy Program to follow others sample from

the elderly who regularly exercise. The objective was to discuss the reasons for exercise, results from exercise, time management in exercise as the good example for the sample group and judging themselves whether they could exercise as well as the sample model from learning others experiences.

2.3.4 Demonstration

Demonstration was the display or actions while explaining to show the steps of such action.

Demonstration Strategies

1. Explained to the audiences what was going on.
2. Demonstration step by step for the audiences to see clearly.
3. Emphasizing on the new statement, vocabularies or process and be certain that the audience understood before proceed further.
4. Emphasizing on the important things to memorize or practice during the demonstration, never demonstrated on things unwanted to remember or practice.
5. During the demonstration, the audience must be prompts and reminder by asking questions or guessing what was going to happen.
6. Noticing the audience's reaction to see if they understood or bored in order to make demonstration more interested.
7. Dispersing the documents for demonstration to make the audience followed the demonstration steps.

According to Boonyong Gaewkarnkae(1992:412),advantages of demonstration were as follows:

1. Seeing the actual event made the audiences understand better and remember longer.
2. Some demonstration allowed the audience to touch with 5 senses that helped in learning.
3. Drawing the interest and alert the audience to stay with it made them receive the intended knowledge.

Save time in explaining details of contents to create learning.

Disadvantages of Demonstration

1. Some demonstration needed large equipment that inconvenience to move and arrange the location.
2. Unable to use with the intangible contents or full of details.
3. Unable to see thoroughly by large group of audience.
4. Some demonstration was time-consuming in preparation and costly. In this research, the researcher had arranged the exercise demonstration by path walking, warming body, muscle relaxation, practicing movement during work by making the elderly practice exercise correctly and effectively to benefit health.

2.3.5 Prompts and Reminder

Prompts and reminder was another method to create desire behavior by reminding that person to start behave by himself or others. It might be the telephone call, postcard or self-reminder with short messages. There were few studies in results from prompts and reminder for exercise behavior, such as, receiving treatment per appointment**.** Findings that prompts and reminder through the postcard work better with the children department and heart clinic. As for the chronic disease patients, the prompts and reminder by telephone could increase treatment per appointment 13-20%. Furthermore, there were more studied of prompts and reminder with other methods, such as, Pill packages to help the patient eat regularly.

This research has made the prompts and reminder as one of the exercise promotion program among the elderly to guide the exercise behavior according to the set program, using the following prompts and reminder:

1. Contacting the sample participants at home to prompts and reminder by the exercise leader of the elderly group and the researcher.
2. Prompts and reminder from the advice of the Public Health officers.

3. Related Research

Related Research on exercises both domestic and international

Mutna Inpang (2001:ง-จ) studied exercise behavior and setbacks among the elderly in the city and suburb of Kampangpetch Province and the relationship between exercise behavior and setbacks. Findings that the elderly in the city and suburb had less exercise behavior and setback. The elderly in the city had more exercise behavior and setbacks than the suburb, having statistical difference. The major setback for the elderly in both groups was the setback on knowledge in exercise. The setback on body exercise, spirit, economic and social was negatively related with exercise behavior among the elderly in the city, having statistical difference.

Sukanya Yaiwong (2003:V) studied the determination of the diabetes patients for not depending on Insulin to control sugar in the blood: Case study of Diabetes Clinic, Jun Hospital, Prayao Province by arranging the subgroup meeting and giving support to the committed family and community. This enabled the patient to analyze problems, plan and implement in controlling food consumption and exercise with the family support. Findings that practicing food consumption and exercise were higher than the set standard, having the statistical difference.

Meauoey & Jacobsen, 1991:185-191) studied Self-capability, Self-motivation and body weight to find out which factor could tell the participation in exercise within the sample group. Sample group consisted of 55 females whose jobs required sitting down at the desk most of the times. Finding that after 8 weeks participation in the Arobic exercise program, only the Perceived Self-efficacy could predict the participation in exercise of the sample group.

Christopher (1997:154) studied the results of the following 3 methods in promoting exercise among the workers whose job required less exertion, such as, executive.

1. Fitness assessment of 75 sample participants, such as, body index, high ratio of oxygen usage, weakness and strength of muscle.

2. Fitness consultation for 61 sample participants for 30 minutes. Exercise information was given to 43 sample participants through books and the exercise gym. The sample participants would periodically receive questionnaires formulated in accordance to stage of change model. The experiment started at 4 weeks, following by 3 months and 6 months and recording exercise behavior in each week. Findings from the result of studying that all 3 methods could increase exercise among the sample

participants, having the statistical difference at 0.001. The exercise behavior was continuously extended for 6 months, only to decrease within 3 months after the end of the experiment with the tendency to decrease further. Furthermore, dispersing the news was the least cost method that should be used to create acceptance in exercise behavior initially. Evidences indicated that the consultation could sustain and extend the exercise behavior.

4. Research Conceptual Framework

Studying of factors effecting the need to exercise among the elderly had suggested insufficient knowledge, lacking perceived self-efficacy and outcome expectation from exercise. The researcher had arranged the Holistic exercise Promotion Program by reviewing the related literature on the section of health promotion including the conceptual framework with Bandura's Self-Efficacy Theory as the major guidelines and Holistic Health Care Concept was adapted for Holistic activities for the elderly to formulate the Self-Efficacy.

1. Problem considering by group discussion and presentation for expressing opinion related to health problems and factors, lecture on knowledge for elderly healthcare, advice from the Public Health Officers. Mind Map was used in recording connection and arranging sample group per ideas in discussion and brief narrated knowledge to review crucial issues.

2. Dicision for alternative exercise was built through various activities, displaying video group , the sample model for learning others experiences. lecture on knowledge for exercise and health assessment for right attitude ,discussion besides the lessons were regularly reviewed together to clarify the group's idea, demonstration and practicing exercise, advice from the Public Health Officers , exercise manual

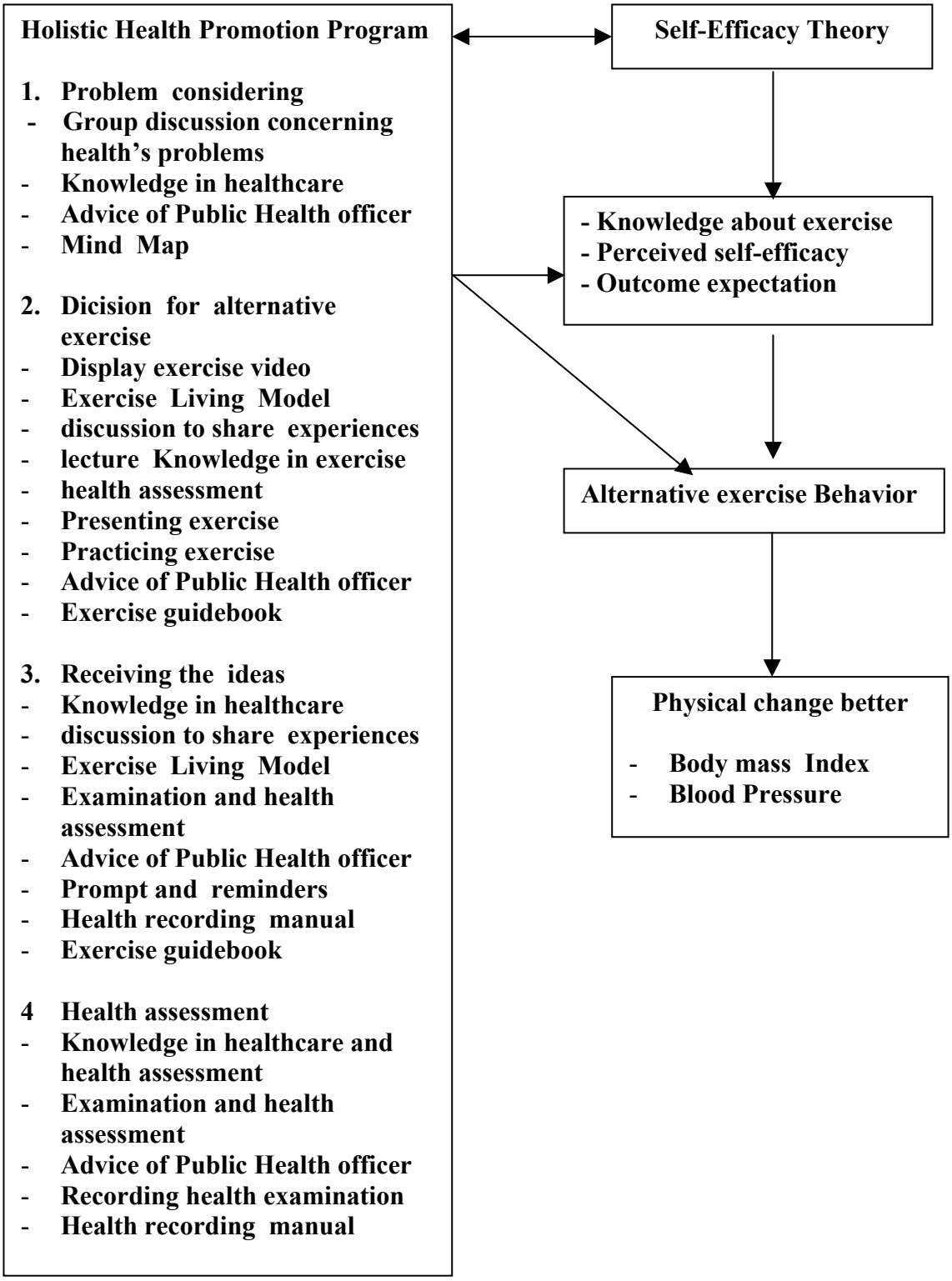
3. Receiving the ideas by arranging group activities to share experiences, body examination and advice from the Public Health officers, prompts and reminders by friends and researcher, dispersing the manual for health recording and exercise manual.

4. Health assessment by arranging activities to lecture on knowledge for healthcare, demonstration and practicing health assessment, body examination and

advice from the Public Health Officers, health examination recording and dispersing manual for health recording.

When the sample group increased knowledge in exercise, perceived self-efficacy and outcome expectation, they could choose the way to care for own health and exercise that would make them exercise regularly and properly to benefit their health until being able to better the blood pressure and body index.

Figure 4 Research Conceptual Framework



CHAPTER 3
MATERIALS AND METHODS

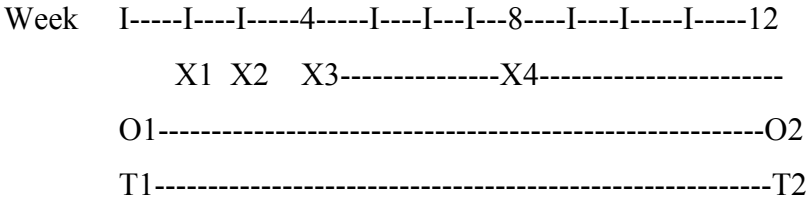
This research was the study of the effectiveness of holistic exercise promotion program by adapting the self-efficacy theory along with the holistic health care concept to formulate self-efficacy among the elderly in Thamasala Municipality, Nakhonpathom Province in the following areas.

1. Research Design
2. Research Instruments
3. Research procedures and Data Collection
4. Data Analysis and Statistical Research

1. Research Design

This research was conducted as Quasi-Experimental research Design for One Group Pretest-posttest design, using the interview questionnaire to measure knowledge, perceived self-efficacy and outcome expectation in exercise, average measurement of blood pressure and body mass index before and after being subjected to Holistic exercise promotion program as illustrated in research design and experimental Figure 5

Figure 5 Research Design



Q1 referred to measurement of exercise behavior through the response of the formulated questionnaires consisted of General Characteristics Data, knowledge about

health exercise, perceived self-efficacy, exercise outcome expectation, exercise behavior before joining the program.

Q2 referred to measurement of exercise behavior after test, giving the first set of questionnaires.

T1, T2 referred to health examination from body mass index and blood pressure

X1 referred to 1st activity consisted of general health examination and advice of Public Health officer, group relationship, group discussion about health problems, mind map usage, lecturing on change in elderly and health assessment, health self-assessment, record in the health recording manual, disperse the health recording manual , summarized the lesson.

X2 referred to 2nd activity consisted of general health examination and advice of Public Health officer, group relationship, viewing exercise video ,group discussion of benefit from exercise and exercise living model, , summarized lecturing on exercise for health, exercise demonstration and practicing, summarized issues with mind map, disperse the exercise guidebook, summarized the lesson.

X3 referred to 3rd activity consisted of general health examination and advice from the Public Health officers,group relationship, group discussion of problems, barriers and guidelines for problems solving in exercise, summarized issues with mind map, lecturing on alternative exercise, exercise demonstration and practicing with the leader among the elderly, summarized the lesson.

X4 referred to 4th activity consisted of general health examination and advice from the Public Health officers, health assessment in general, group meeting to discuss the existing issues, practicing alternative exercise together among the elderly, summarized the lesson. Also getting prompts and response by peers and Public Health officers once a week starting from 5th week to 12th week.

2. Population and Sample Group

2.1 Population for this research consisted of the elderly in Thamasala Municipality, Nakhonpathom Province who received health care services at Thamasala primary care unit during April 2004 to June 2004.

2.2 Sample Group was selected from questioning the volunteer program participants after the interview and invitation. Out of 42 program participants of 29 females, 13 males, only 34 persons left after the end of the program, having the following qualifications.

1. Both male and females were 55-74 years old.
2. Having no sickness or symptom that could interfere with exercise.
3. Being interested in joining all activities in the program to the end.

3. Research Instruments

3.1 Data Collection Instrument

Data collection among the elderly was constructed as questionnaires to collect pre and post-test data among the elderly participants. The health assessment data of the elderly participants were recorded as well as recording the elderly participants exercise for exercise frequency by themselves during the experiment as follows.

3.1.1 Health Status Questionnaire for the Elderly

Section 1. Interview questionnaire on socio-demographic characteristics consisted of 9 questions regarding sex, age, level of education, health custodian, occupation, sickness history, financial status. These issues were able to show the background of the sample group that might lead to factors connected with health problems among the elderly. Furthermore, the issue on extending exercise, such as, digging the ground, planting, occupation were designed as questionnaire for movement, exertion during daily activities or elderly occupation as well as issue of digesting heath news. These questions suggested the sending and receiving of health data among the elderly and health supporter of the elderly.

Section 2. Exercise Knowledge Questionnaires contained 20 questions on the meaning and method of healthy exercise and its benefit. Exercise cautions should be known among the elderly for healthy exercise. Alternative exercise for the elderly depended on own decision to choose the appropriate style and health assessment as the questionnaire to compare changing resulted from exercise among

the elderly and their abilities to assess own health in order to balance it. Questionnaires were given 3 selections to choose from, only one response, Yes, No and Uncertain per the following standard scoring:

Answer	**Score**
Correct	1
Incorrect	0
Uncertain	0

Scoring based on the Education Assessment theory of Benjamin Bloom(Rajroj,S., 1994:67-68) as follows:

0-49	Not Passing Low Level
50-59	Passing Low Level
60-69	Medium
70-79	Good
80 up	Excellent

Adapting for this study by arranging 3 levels score:
Below 60% at 0-11 marks classified as low level
From 60-79% at 12-15 marks classified as medium level
From 80% up at 16-20 marks classified as high level

Section 3. Interview questionnaires on Perceived Self-efficacy in healthcare contained 22 questions on ability for healthy exercise in which the elderly felt confidence, having skills for practicing by themselves, ability in self-assessment, giving support to social healthcare as the issue connected with Holistic self healthcare. The questions were positive questions through Rating scale with 3 selections, only one response, Yes, Uncertain, No, per the following standard scoring:

Answer	**Score**
Yes	3
Uncertain	2
No	1

Scoring based on the Assessment theory of Benjamin Bloom (Rajroj,S., 1994:67-68) as follows:

Below 60% at 22-47 marks classified as low level

From 60-79% at 48-56 marks classified as medium level

From 80% up at 57-66 marks classified as high level

Section 4. Twenty questionnaires on outcome expectation from Holistic exercise consisted of questions regarding benefits of exercise for health among the elderly. Alternative exercise and health assessment was to evaluate the benefit and choose alternative in Holistic Health care from exercise as well as social support in heath care in connection with the concept in Holistic health care as the rating scale questions both positive and negative questions. There were 3 selections to choose from, Agreed, Uncertain, Not agreed. Only one response, per the following standard scoring:

	Positive	**Negative**
Answer	**Scores**	**Scores**
Agreed	3	1
Uncertain	2	2
Not Agreed	1	3

Scoring based on the Assessment theory of Benjamin Bloom (Rajroj,S., 1994:67-68) as follows:

Below 60% at 20-43 marks classified as low level

From 60-79% at 44-51 marks classified as medium level

From 80% up at 52-60 marks classified as high level

Section 5. Sixteen questionnaires on alternative exercise behavior for health based on the practice according to the exercise procedures and standard of exercise. Exercise duration, regularity, self-health assessment and the social support in healthy exercise were connected to the Holistic health care by using rating scale

with questions that provided selections in 4 levels per the following the standard scoring:

Selection	**Scores**
Regularly Practice	4
Often Practice	3
Occasionally Practice	2
Never Practice	1

Scoring based on the Assessment theory of Benjamin Bloom (Rajroj,S., 1994:67-68) as follows:

Below 60% at 16-44 marks classified as low level

From 60-79% at 45-54 marks classified as medium level

From 80% up at 55-64 marks classified as high level

3.1.2 Recording health examination data was checking the general health status before and after the test, such as, blood pressure, body index according to the assessment standard of sport science (sport of Thailand, 1992:60), categorized into 5 level, such as, excellent, good, medium, low, very low per the following standard scoring.

Systolic Blood Pressure

Blood Pressure (mmHg)	**Level**
Under 120	Very Good
120-139	Good
131-140	Medium
141-150	Low
Over 150	Very Low

Diastolic Blood Pressure

Blood Pressure (mmHg)	**Level**
Under 80	Very Good
80-82	Good
83-86	Medium
87-90	Low
Over 90	Very Low

Body Mass Index (Kiligram Cubicmetre)

(http:/nhlbisupport.com/bmi/bmicalc.htm)

BMI	=	Weight in kilogram/(Height in meter)^2
BMI	<18.5	Underweight
BMI	18.5-24.9	Normal Weight
BMI	25 -29.9	Over Weight
BMI	30 or greater	Fat

3.1.3 Recording exercise behavior of the elderly to monitor exercise frequency among the elderly during program activities.

3.2 Experimental Instrument

The experiment according to the Holistic Health Promotion Program was the exercise promotion for elderly.They are mention as follows.

3.2.1 Holistic Exercise Promotion Program referred to the process in Health Education combining with Holistic health care concept to adapt for arranging activities in Holistic Health care , combining with considering in health problems,decision about alternative exercise,received idea: giving and receiving health data and assessing health from exercise to develop knowledge of Exercise for health, perceived self-efficacy of the elderly, outcome expectation from exercise and alternative exercise behavior of the elderly. Experiment was done through the following instruments:

3.2.2 Program equipment are as follow:

- Video of "Exercise for health"
- Poster of "Exercise for elderly"
- Health recording manual
- Exercise guidebook
- Health recording form
- flipchart and chemical pen

3.2.3 Equipment used to measure the physical changes are as follows

- Weight scale
- height strip
- earphone
- Blood pressure monitor ,Testing by health officer.The sample rest for at least 15 minute before measure, by removing tight fitting clothing from upper arm,seated position.Rest arm on table so that the cuff is at the same level as the heart.

3.3 Formulation of Instrument and Quality Development

The researcher studied primary data from texts, theories and other research materials, thesis and related documents. The purpose was to set up the scope and construct contents for interview questionnaires and experimental instruments before seeking advice from scholars in Health Education and Behavioral Science as well as Sport Science, Statistic and subject experts. Questionnaires and scoring standard were set up and afterward reviewed for contents validity by the Thesis Control Committee to be improved per their suggestions. Those instruments were being tried out with the group of elderly over 55 years old in Nakhonpathom Province, as similar as 30 group samples. Results were analyzed for Reliability by using Cronbach's alpha Coefficient as follows:

Interview questionnaires on knowledge in exercise: Reliability was shown at .4401. Later, some questionnaires were modified and taken out before actual implementation with the elderly in Thamasala, finding the Reliability of the instrument at .7521.

Interview questionnaires on perceived self-efficacy in exercise for health had shown the Reliability at .8467.

Interview questionnaires on outcome expectation in the Holistic Exercise had shown the Reliability at .7817.

2. Step of Research procedures and Data Collection

2.1 Preparation period

2.1.1 Getting permission from the chief of Thamasala Primary Care Unit

2.1.2 Explaining the research objecttive, research steps,and expected benefits to the health team and related staffs in regard to having the same concept.

2.1.3 Imforming the name list of samples to the health team in cluding marking a mark on family folder

2.1.4 Setting the meeting for all related personnel

2.2 Preparing the samples

2.2.1 Selecting samples ,informing them about the research objecttive and expected benefits ,asking them to sign a consent record for the willingness to participate in the programme.

2.2.2 Physical examination among the elderly by the doctor. if the elderly was not permitted to exercise ,had to drop out from this experiment.

2.2.3 Informing the elderly about time,date, and place of meeting.

Data were collected before and after testing questionnaires as well as health status of the elderly, knowledge about exercise for health and healthcare, perceived self-efficacy in exercise, exercise outcome expectation, behavioral exercise, averaging blood pressure and body mass index. The research was conducted continuously for 12 weeks according to the Holistic Health Promotion Program per the following details:

1st week: Data collection before the experiment through questionnaires for elderly health status consisted of testing knowledge in exercise for health, perceived self-efficacy, outcome expectation for exercise, alternative exercise behavior among the elderly, averaging blood pressure and body mass index.

2nd week: General health examination to build up group relationship, subgroup discussion on issue "Our concerns in the past year". Summarized issues from mind map and lecturing on changes among the elderly, health assessment, practicing self-health assessment, dispersed and recorded in the health guidebook, summarized lessons, group appointment.

3rd week: General health examination to build up group relationship, group discussion on issue " Exercise…for what". Viewing exercise video for health, summarized knowledge on exercise for health, forms of exercise, demonstration and practicing exercise, summarized lecture from mind map, disperse exercise manual and summarized lessons, group appointment.

4th week: General health examination to build up relationship within the group, presentation of healthy exercise from discussion "Exercise….Created Life Energy", group discussion, problems and setbacks, guidelines for problems solving "Leading toward road to good health". Summarized issue from mind map, demonstration and practicing exercise by the leader from the elderly group to choose appropriate alternative exercise, summarized lesson, group appointment.

5th-11th week: Group meeting among the elderly, general health examination, total health assessment and advice from the Public Health officer, sub group meeting per existing problems, practicing alternative exercise together, summarized lesson, prompts and reminder by exercise leader and researcher to build income expectation from the exercise.

12th week: Data collection after testing with former questionnaires and general health examination among the elderly.

5. Data Analysis and Statistical Research

The researcher had collected data after the experiment to check for completion and validity per set standard. Formulated manual for coding and coded before being analyzed by the computer through the finished program SPSS per the following details.

1. General data on sex, age, education level, helper, occupation, sickness history, economic status, extending exercise, digesting health news, analyzed with statistic, frequency, percentage, average, standard deviation.

2. Comparison between the difference of average scores within the group before and after the test regarding knowledge in exercise, perceived self-efficacy , outcome expectation in exercise, alternative exercise behavior, average blood pressure and body mass index by using Paired test , having the statistical difference at 0.05.

CHAPTER 4
RESULTS

This research study was conducted as a quasi experimental research design by collecting data before and after the experiment through the Holistic Exercise Promotion Program among the elderly in Thamasala Municipality, Nakhonpathom Province. Research was conducted for 12 weeks from April 7th, 2004 to June 10th, 2004. Data collected was analyzed using the program SPSS. Results of the analysis are presented in the following areas:

Part 1 General Characteristics Data
Part 2 Results of research outcomes

Part 1 General Characteristics Data

The sample participants in this research consisted of 34 persons, the majority. 20 females or 58.8%,and 14 males or 41.2%. Most were aged between 55-59 years old at 38.2%, 70-74 years old at 29.5%, 60-64 years old at 14.7%. Age average was 64.41 years with the highest at 74 years and the lowest at 55 years. For educational level, most participants or 82.4% finished primary school, secondary school was 2.9% and never received any education was 14.7%. Regarding occupation, findings show that most participants had an occupation in agriculture, such as fruit growers, farmers at 20.6% employees 11.7%, and merchants at 5.9%. Most participants had no occupation as well as second job. For economic status most participants or 55.9 % reported adequate income, no savings, 23.5% adequate income ,with savings, 20.6% inadequate income. For illness history, 29.5% of the sample participants had hypertension, 26.5% diabetes, and having both hypertension and diabetes, 38.2%, osteartritis 2.9%, and no personal sickness 2.9%. Concerning the number of years of illness starting from 1-20 years, the average illness was 6.24 years, the standard deviation was 5.19 Most or 67.6% had an illness history under 5 years,

next 20.6% with 6-10 years, 2.9% with 11-15 years, and 8.9% over 16-20 years, Findings show that most custodians were cared for by children, 73.5%, by spouses, 58.8%, by nieces or nephews, 23.5%, relatives and alone was 5.9%. (Table 1).

Table 1 Number and percentage of general characteristics of elderly

Characteristics		Number (n = 34)	Percentage (100.0)
Sex			
Male		14	41.2
Female		20	58.8
Age (years)			
55 - 59		13	38.2
60 - 64		5	14.7
65 - 69		6	17.6
70 - 74		10	29.5
Average	64.41		
Standard Deviation	5.12		
Education level			
Non		5	14.7
Primary school		28	82.4
High school		1	2.9
Occupation			
Agriculturists		7	20.6
Traders/business owner		2	5.9
Employees		4	11.7
None		21	61.8
Economic status			
Inadequate		7	20.6
Adequate ,no savings		19	55.9
Adequate ,with savings		8	23.5
History of illness			
Hypertension		10	29.5
Disbetes mellitus		9	26.5
Hypertension and Disbetes mellitus		13	38.2
Osteartritis		1	2.9
None		1	2.9

Table 1 Number and percentage of general characteristics of elderly (cont.)

Characteristics		Number (n = 34)	Percentage (100.0)
Years of illness			
1 - 5		22	67.6
6 - 10		7	20.6
11 - 15		1	2.9
16 - 20		3	8.9
Average	6.24		
Standard Deviation	5.19		
Residence			
Spouse		20	58.8
Children		25	73.5
nephews		8	23.5
Relative		2	5.9
Alone		2	5.9

For lifestyle exercise prior to the experiment 52.9% exercised by watering plants, lifting heavy items, and sweeping the floor 52.9%. After the experiment, it increased to 85.3%. As for receiving health information, findings show that prior to the experiment, most participants, 73.5%, received news from the media, such as, radio, and television, next, 38.2% from advice of the public health office, 20.6% from reading books., 5.9% from friends and some never received news from any family members. After the experiment, the participants received more information from every channel: 100%, from the public health officers, 94.1% from media, 88.2% from friends, reading 61.8%, and family members 20.6% (Table 2).

Table 2 Number and percentage of general characteristics of elderly between pretest and posttest

Characteristics	Pre-test		Post-test	
	n	%	n	%
Lifestyle exercise				
Do	18	52.9	29	85.3
Undo	16	47.1	5	14.7
Received data				
Reading	7	20.6	21	61.8
Mass media	25	73.5	32	94.1
Health officer	13	38.2	34	100.0
Family	-	-	7	20.6
Friend	2	5.9	30	88.2
Total	**34**	**100.0**	**34**	**100.0**

Part 2 Results of research outcomes

2.1 Knowledge on Exercise

Findings show that prior to the experiment, 73.5% had low scores of knowledge, 17.6% with medium scores, and high scores were 8.9%. After the experiment, 67.7% had medium scores, high scores were 29.4% and low scores were 2.9% (Table 3).

Table 3 Number and percentage of elderly classified by level of knowledge about exercise

Level of knowledge about exercise	Pre-test		Post-test	
	n	%	n	%
Low	25	73.5	1	2.9
Medium	6	17.6	23	67.7
High	3	8.9	10	29.4
Total	**34**	**100.0**	**34**	**100.0**

Results from the score analysis indicate the knowledge of the elderly on exercise from the full score of 20 before the experiment was at low level or 8.79%; the standard deviation was equal to 4.54. After the experiment, average scores increased to 14.91%; the standard deviation was 2.18. Findings from testing statistical difference suggest the exercise for health knowledge among the participants was better after the experiment, having a statistical p-value < 0.001 (Table 4)

Table 4 Comparison of the mean of different score of knowledge about exercise between pretest and posttest

	n	x	S.D.	t	df	p
Pre-test	34	8.79	4.54	9.07	33	<0.001
Post-test	34	14.91	2.18			

2.2 Perceived Self-efficacy in Exercise

Prior to the experiment, The findings suggested most participants or 47.1% with scores of Perceived Self-efficacy in Exercise for Health were at a low level, 38.2% at a medium level and 88.8% at a high level. Findings after the experiment show most participants or 58.8% were at a high score level, 35.3% at a medium and 5.9% at a low score level (Table 5).

Table 5 Number and percentage of elderly classified by level of Perceived Self-efficacy in exercise.

Level of Perceived Self-efficacy in exercise	Pre-test		Post-test	
	n	%	n	%
Low	16	47.1	2	5.9
Medium	15	38.2	12	35.3
High	5	14.7	20	58.8
Total	**34**	**100.0**	**34**	**100.0**

Results from the score analysis suggest the Perceived Self-efficacy in Exercise for Health from the full score of 66 before the experiment was at a low level or 47.09%, the standard deviation was equal to 8.47%. After the experiment, average scores increased to 56.05%; the standard deviation was at 6.39. Findings from testing statistical difference suggest the Perceived Self-efficacy in Exercise for Health among the participants was better after the experiment, having a statistical p-value < 0.001 (Table 6)

Table 6 Comparison of the mean of different score of Perceived Self-efficacy in exercise between pretest and posttest

	n	x	S.D.	t	df	p
Pre-test	34	47.09	8.47			
				7.061	33	<0.001
Post-test	34	56.05	6.39			

2.3 Outcome Expectation from Exercise

Prior to the experiment, The findings suggested most participants or 38.2% with scores of Outcome Expectation from Holistic Exercise Health Promotion were at a medium level, 35.3% at a high and 26.5% at a low level. Findings after the experiment show the participants or 94.1% were at a high score level, 5.9% at a low score level, and none were at medium level (Table 7).

Table 7 Number and percentage of elderly classified by level of Outcome Expectation from exercise.

Level of Outcome Expectation From exercise	Pre-test		Post-test	
	n	%	n	%
Low	9	26.5	2	5.9
Medium	13	38.2	-	-
High	12	35.3	32	94.1
Total	**34**	**100.0**	**34**	**100.0**

Results from the score analysis suggest the Outcome Expectation from Exercise from the full score of 60 before the experiment was at a medium level or 48.20%; the standard deviation equal to 5.87. After the experiment, averaging scores increased to 56.00%; the standard deviation was at 4.07. Findings from testing statistical difference suggest the Outcome Expectation from Exercise among sample participants was better after the experiment, having a statistical p-value < 0.001 (Table 8)

Table 8 Comparison of the mean of different score of Outcome Expectation from exercise between pretest and posttest

	n	x	S.D.	t	df	p
Pre-test	34	48.20	5.87	8.02	33	<0.001
Post-test	34	56.00	4.07			

2.4 Alternative Exercise Behavior

Prior to the experiment, the findings suggested most sample participants or 79.4% with exercise behavior were at a low level, 14.7% at a medium level and 5.9% at a high level. Findings after the experiment show the exercise behavior of 61.8% of the sample participants were at a medium level, 23.5% at a high level and 14.7% at a low level (Table 9).

Table 9 Number and percentage of elderly classified by level of Alternative Exercise Behavior

Level of Alternative Exercise Behavior	Pre-test		Post-test	
	n	%	n	%
Low	27	79.4	5	14.7
Medium	5	14.7	21	61.8
High	2	5.9	8	23.5
Total	**34**	**100.0**	**34**	**100.0**

Results from the score analysis of alternative exercise behavior from the full score of 64 suggest the averaging scores before the experiment ware at low level or 32.88%; the standard deviation was equal to 11.51%. After the experiment, average scores increased to a medium level 48.14%; the standard deviation at 7.80%. Findings from testing statistical difference suggest the average scores of exercise behavior among the elderly were better after the experiment, having a statistical p-value < 0.001 (Table 10).

Table 10 Comparison of the mean of different score of alternative exercise behavior between pretest and posttest

	n	**x**	**S.D.**	**t**	**df**	**p**
Pre-test	34	32.88	11.51	9.44	33	<0.001
Post-test	34	48.14	7.80			

2.5 Physical Change

2.5.1 Systolic Blood Pressure

Prior to the experiment, most of the elderly or 29.4% had a systolic blood pressure at a low level, 23.5% at a good level, 20.5% at the lowest level and 8.9% at an excellent level. Findings after the experiment show systolic blood pressure at a good level 41.2%, 17.6% at a medium level, 14.7% at an excellent level and the lowest level at 8.9%(Table 11).

Table 11 Number and percentage of elderly classified by level of Systolic Blood Pressure

Level of Alternative Exercise Behavior	Pre-test		Post-test	
	n	%	n	%
Lowest	7	20.6	5	14.7
Low	10	29.4	14	41.2
Medium	6	17.6	6	17.6
Good	8	23.5	6	17.6
Excellent	3	8.9	3	8.9
Total	**34**	**100.0**	**34**	**100.0**

Results from the comparison of score analysis of average systolic blood pressure of the sample participants prior to the experiment were at a low level or 141.76 mmHg; the standard deviation was equal to 19.14. After the experiment, average scores increased to a medium level133.82 mmHg; the standard deviation was at 18.62%. Findings from testing statistical difference suggest the average systolic blood pressure levels were better after the experiment, having a statistical p-value = 0.018 (Table 12).

Table 12 Comparison of the mean of different score of Systolic blood pressure between pretest and posttest

	n	x	S.D.	t	df	p
Pre-test	34	141.76	19.14	-2.496	33	0.018
Post-test	34	133.82	18.26			

2.5.2 Diastolic Blood Pressure

Prior to the experiment, most of the elderly or 29.4% had a diastolic blood pressure at low level, 29.4% at a good level, 26.5% at an excellent level 23.5%, 20.6% at the lowest level and none at a medium level. Findings after the experiment show the blood pressure scores at a good level 38.2%, 17.6% at an excellent level, 29.4% at a low level 23.5% and lowest level at 8.9%. (Table 13).

Table 13 Number and percentage of elderly classified by level of Diastolic Blood Pressure

Level of Diastolic Blood Pressure	Pre-test		Post-test	
	n	%	n	%
Lowest	7	20.6	3	8.9
Low	10	29.4	8	23.5
Medium	-	-	-	-
Good	9	26.5	13	38.2
Excellent	8	23.5	10	29.4
Total	**34**	**100.0**	**34**	**100.0**

Results from the comparison of score analysis of average diastolic blood pressure scores of the participants prior to the experiment were at a medium level or 84.71 mmHg; the standard deviation was equal to 10.80%. After the experiment, average scores were at a good level at 81.8 mmHg; the standard deviation was at 10.66%. Findings from testing statistical difference suggest the average scores of diastolic blood pressure levels were better after the experiment, having a statistical p-value < 0.110 (Table 14).

Table 14 Comparison of the mean of different score of Diastolic blood pressure between pretest and posttest

	n	x	S.D.	t	df	p
Pre-test	34	84.71	10.80			
Post-test	34	81.18	10.66	-1.643	33	0.110

2.5.3 Body Mass Index

Prior to the experiment, 53.0% of most sample participants had a body mass index at a normal level, overweight level was at 35.2%, and obesity level was at 11.8%, Findings after the experiment show the body mass index was not different (Table 15)

Table 15 Number and percentage of elderly classified by level of Body Mass Index

Level of Body Mass Index	Pre-test		Post-test	
	n	%	n	%
Normal Weight	18	53.0	18	53.0
Over Weight	12	35.2	12	35.2
Obesity	4	11.8	4	11.8
Total	**34**	**100.0**	**34**	**100.0**

Results from the comparison of average body mass index scores of the sample participants prior to the experiment were at an overweight level at 25.52; the standard deviation was equal to 4.28. After the experiment, body index average scores of the sample participants increased to 25.53; the standard deviation decreased to 4.26. Findings from testing statistical difference suggest no statistical difference at all (Table 16).

Table 16 Comparison of the mean of different score of Body Mass Index between pretest and posttest

	n	x	S.D.	t	df	p
Pre-test	34	25.52	4.82	0.26	33	0.793
Post-test	34	25.53	4.26			

CHAPTER 5
DISCUSSIONS

The finding from the study of the effectiveness of the Holistic Exercise Promotion Program among the elderly in Thamasala Municipality, Nakhonpathom Province, will be discussed in two parts as follows:

Part 1 Discussion of the research methodology

Part 2 Discussion of the research outcomes

Part 1 Discussion of the research methodology

1. Research design

This research was a quasi experimental research design with a one group Pretest-Posttest design aiming to study the effectiveness of the exercise promotion program among the elderly. The data were collected from the elderly aged 55-74 years for a period of time and used data from the real situation in the analysis. This method was suitable for this study because the research questions were answered and could be described. However, there should be a study of the experimental group and the control group by random sampling and measuring results before and after the experiment to compare results from the program and make the data more reliable than a single group before and after the experiment.

2. The sample

The sample were 34 elderly people aged 55-74 years old who lived in Thamasala Municipality, Nakhonpathom Province. The sample size was appropriate for using a group process, and the data showed the normal distribution pattern. The researcher selected the sample group from designed criteria and all accepted treatment. The sample group was selected purposively, and might not represent to the elderly population. However, the researcher interviewed the participant by questionnaire and invited them to participate in the program. The reason for selecting

elderly people was that the elderly population will increase, suffer from non-communicable disease and have a low quality of life. In this study, the researcher found that many of the elderly lived alone with illness. After they participated in the program, they had the opportunity to exchange experience about self-care. They had the chance to relate their stress, to find facts together and analyze in detail, carefully by group discussion and mind map technique. The researcher lectured about exercise for the elderly with different diseases for the sample, who had illness too.

3. Research Instrument

3.1 Data Collection Instruments: Interview questionnaires used in this study were both closed-ended and open-ended, consisting of 5 parts, which were general characteristics, knowledge level about exercise, perceived self-efficacy in exercise, outcome expectation from exercise and alternative exercise behavior. All of these interview questionnaire were examined for content validity by thesis advisors and experts and results of testing for reliability were higher than 0.7. This meant that the interview questionnaires were valid and reliable and could be used for data collection with the intended group. In this study, the researcher defined the alternative exercise behavior according to the measure as defined. This study did not directly observe the exercise behavior. Therefore, indirect evaluation by interview process, check list and records of testing about physical change from exercise such as weight, blood pressure and BMI was conducted.

3.2 Experiment Instrument: The Holistic Exercise Promotion Program among the elderly included Holistic Health care concepts in arranging activities for health care that coincided with the Exercise Promotion policies of the government under the project “30-baht universal health care scheme” for overall health insurance, starting in 2001. The index for exercise promotion was set for the elderly to exercise 3-5 days per week at 50% in primary health care activities. Results from such policies have contributed to the exercise fever in the year 2002 regarding the Health Fair. Findings from a survey of Thais aged 15-65 years, after “1st Health Fair” (http//www.anamai.moph.go.th/dopah) show that exercise among them was at 64.2%; most of them aged between 20-29 years. The most popular exercise was running, followed by soccer, walking, badminton and arobic exercise. Findings from the health

establishment in the community show that only 1-4 of the sample participants, or 26.5% had participated in the activities. Apparently, the exercise promotion policies of the government were unable to reach the elderly since most community group exercises of Nakhonpathom Province were arranged as high impact arobic exercise that was considered unsuitable for the elderly. Therefore, the elderly in Thamasala Municipality showed the signs of lacking exercise. The Holistic Exercise Promotion Program arranged from the Holistic Health care concept regarding healthy exercise, health care for the elderly and related research set up the guidelines for exercise promotion to match the elderly lifestyle. They would be able to observe the factors connected with health problems in order to choose alternative exercises to create harmony along with the health supporter. Giving and receiving health information made them able to choose appropriate alternative exercises until arriving at the desired results. Change in health status resulted from 12 weeks of exercises during the promotion period. Findings that in the first stage of the group meeting, the elderly were afraid of expressing their opinion since the researcher never got acquainted by unfreezing behavior activities with them before. After becoming more acquainted with each other, the elderly exchanged more opinions. However, the elderly usually relied on the same experiences that might not be right for expressing opinion. The facilitator had to present correct data for the group to observe together. In practicing exercise for health, the researcher presented the model for correct movement in occupation to prevent muscle injury without the follow-up observation. Therefore, the exercise assessment according to the principles of exercise for health could not be done. Instead, the researcher asked the elderly to record their exercise behavior from the checklist but most elderly failed to follow this practice, indicating that such an approach might not be appropriate. Data in this section was missing for this reason. In this program the researcher used follow-up visits at the elderly home by public health officers and the researcher to recognize the factors related to problems of each elderly person to for quickly solve the problems. It was used as the data for effectively arranging activities and building good relationship between the researcher, the public health officers and sample participants, including the family members of the sample participants.

4. Data collection

Data were collected by interview questionnaires. The researcher was the interviewer, and there were 5 research assistants. The researcher explained the objectives of the study, methodological techniques and details of the study research assistants. They were trained before conducting the real interviews. The benefit of the interview was to gain complete and appropriate required data. The interviewer could explain more about the questions to the samples. There were public health volunteers leading the researcher during the home visits and collecting the data. In this way, good relationships was developed, as well as more trust, and participation and the researcher recognize the factors related to problems of each elderly person.

5. Data analysis

Descriptive statistics used in this study include frequency, percentage, mean, and standard deviation to show the general characteristics of the sample Comparison between the differences of average scores within the group before and after the test regarding knowledge in exercise, perceived self-efficacy, outcome expectation in exercise, alternative exercise behavior, average blood pressure and body mass index were done using Paired t-test, at a the statistical difference of 0.05. These statistical analyses were suitable for this study and could answer the objective and research hypotheses having the dependent variable and independent variables in an ordinal scale. Although the Holistic Exercise Promotion Program relied on the Holistic health care concept for arranging the program, the researcher included Self-efficacy Theory to promote the exercise behavior. Thus, there was no measurement of the effectiveness of program factors that could result in increasing the change in exercise behavior, and the immediate results cannot be summarized as the direct assessment from such activity.

Part 2 Discussion of the research results

2.1 General Characteristics

1. Aged and Elderly Custodian

Findings from this research study show that the sample participants were 34 elderly. Most of them were females, aged 55-74 years old with an average age of 64.41 years. For the custodian, findings show that most elderly lived with children, followed by next with spouse, relatives and lived alone (Table 1). Since their health had degenerated at a faster rate than improved ailments occurred in most organs that brought in health problems and handicaps. Therefore, the health care has become the burden of the custodian when the elderly age. This finding coincides with the study of Siriwan Siriboon and Pattama Amornsirisomboon (2001:32) that most custodians of the elderly were family members. Thus, the elderly and family members as the custodians must know and understand the health problems of the elderly to reduce the handicaps that might have risen from the elderly illness.

2. Previous Illness History

The sample participants had chronic diseases, such as, diabetes, hypertension and osteartritis. The number of years of illness started from 1-20 years, with the average illness at 6.24 years (Table 1). Chronic diseases were caused by inappropriate health behavior, such as eating too many sweets, high cholesterol level, lacking exercise or being stressed. (Archanaupab,S.,1989) It also included body degeneration along with aging that coincided with the study of Yaorut Porapukkam and Supatra Artipoo (2000) in health status of the elderly from the standard data of 1996 to 1997 finding that most elderly had chronic diseases.

3. Educational Level and Economic Status

Findings from this study show that most elderly finished primary school, follow by secondary school, and never received any education. On economy status, most elderly reported were adequate without savings, follow by struggling with spending (Table 1) by getting little allowances from their children. The low level of education, difficulties in reading and writing and inability to understand the meaning of technical terms from the public health officers had contributed to loss of interest in

reading and receiving information in self health care. Being unable to practice correctly, as stated in the study of Yaoluck Porapukkam and Supatra Artipoch (2000), who found that the elderly had income below the poverty level, caused the elderly to become more interested in living condition rather than health as well as no access to quality healthcare. This has coincided with the work of Siriwan Siriboon and Pattama Amornsirisomboon (2001:31) who found social inferiority in educational level or income or income had a direct effect toward health problems among the elderly.

4. Occupation and Lifestyle Exercise

Findings show that most sample participants had occupations in agriculture such as fruit growers, farmers and most sample participants had no occupation.A total of 52.9% had exercise accumulation 52.9% on non-daily basis and stopped when they felt tired, which suggested the daily chores of the elderly lacked activities that required body exertion or movement for exercise. Some related factors were caused by a lack knowledge in exercise, such as most elderly understood that 10 minutes stretching represented exercise for health. Everyone was afraid of accident or injury from exercise. Therefore, the Holistic Exercise Promotion has helped to promote knowledge and correct understanding in exercise for health, and. Presented alternatives for exercise appropriate for the elderly to match with daily living. Findings after the experiment suggested on increase in exercise among the elderly lifestyle (Table 2).

5. Health Information Received

Findings revealed that the sample participants received most health information from television and radio, follow by from reading books, receiving information from the public health officers and friends without health support from any family members (Table 2). This can be explained. The most received information was from mass media that broadcasts to introduce the knowledge (Pankawe,A.,2001). However, mass media were used to bulid health promotion advocacy in the community. Finding show they received little information from the public health officers and friends which limited the participant sample had no chance to participate in activities for health and health support. Findings show that most elderly custodians,

are family members. In addition, the elderly were supported with care and health expenses. This may greet with the information about health care in upcountry areas being too little and inadequate. This study agreed with the study by Saruttaya Parichanont (2002) which found that social support of osteosporosis prevention utilized close care for each other in the family and among neighbors. The subjects (90%) received little information support about symptoms and was not specific to the health prevention behavior and was not specific to the health prevention behavior. After the experiment the participants received increased health information from all channels, because this program was be able to open up their minds and share experiences to improve elderly selfcare. This study agrees with the study by Waraporn Boonchieng that used holistic health care programs to distribute information form the leaders to the members of People with HIV/AIDS. Results of the study showed leaders and members significantly gained aids and holistic health care knowledge, receiving the ideas and holistic health care practice.

2.2 Hypothesis testing

The research results can answer the objectives and research hypothesis of the study as follows:

Hypothesis 1. The Holistic Exercise Promotion Program has increased knowledge on exercise among the elderly, perceived self-efficacy in exercise, outcome expectation from exercise and alternative exercise behavior better than before participation in the program.

1. Knowledge on Exercise

Findings show that after the experiment, the average knowledge scores in exercise had increased, having a statistical p-value < 0.001 in agreement with to the hypothesis 1 (Table 4) suggesting knowledge among the elderly in the following areas (1) definition and methods in exercise for health, (2) benefit of exercise for health. (3) cautions for exercise, (4) alternatives exercise for elderly. (5) General health assessment before participation in the program found the sample participants had average knowledge scores at low level. This can be explained by the

fact that most elderly finished primary school and never received any education. The low level of education, and difficulties in reading and writing contributed to loss of interests in reading and receiving information about exercise. findings about definition and methods in exercise for health show 100% of the sample agreed with "the movement of the body about 10 minutes is exercise for health". 61.7% agreed with statement "the man having healthy does not need to exercise", and 85.2% incorrect though "high impact aerobic dance was suitable for the elderly". About cautions for exercise 79.4 % agreed with " heart disease patients do not need exercise"82.3% agreed with the statement that "to do exercise can relieve fever" About exercise alternatives for the elderly 85.2% choose exercise style only by their liking. According to Mantana Inpang (2000: 4-5), who studied exercise behavior and disadvantages of exercise among the elderly in the City and Suburb District of Kampangpetch Province, it was discovered that lack of knowledge in exercise was the primary disadvantage of the elderly. Therefore, arranging the activities to promote such learning could reduce disadvantages in exercise among the elderly Findings show that the program consisting of group meetings to create learning atmosphere and participation in expressing opinion promoted creative concepts in exercise; viewing VCD, and exercises for health aroused their interests, making it easy to remember. They summarized lectures and demonstrated health assessments to review crucial issues by themselves as well as practicing skills using their memory from different sensory perceptions. Furthermore, dispersing exercise manuals with pictures and in language that could be easily understood made participants able to review at home. Summarized lessons using mind map technique to show details opinions and categorize concepts for transparency and easy understanding, giving sample to participants allowing the opportunity for questions and providing answers will all support correct understanding. Thus, the participants gained better exercise knowledge after the experiment.

2. Perceived Self-efficacy in Exercise

Findings from the study suggest that after the experiment, the average scores of perceived self-efficacy of the sample participants were increased, having a statistical p-value < 0.001 in agreement with hypothesis 1 (Table 6). Activities were

arranged to increase the perceived self-efficacy among the elderly in these areas: (1) ability to exercise for health, (2) ability to assesses health, and (3) ability to give social support on health care. Before participation in the program finding the participants had average scores in perceived self-efficacy in exercise were at a low level. This can be explained that lack of knowledge in exercise was the primary disadvantage of the elderly for exercise. The information about exercise in upcountry areas is too little and inadequate. Findings from interviews explain about the ability to exercise for health. Of the sample, 29.4% agreed with statement "can move all of the body when you exert energy", (26.5% were uncertain and 44.1% disagreeed)Of the sample, 44.1% did not select exercise activities, (11.8% agreeed and, 44.1% uncertain) For exercise intensity, 44.1% of the sample can exerse to feel tired, sweat and have a faster heartbeat (8.8% uncertain, 47.1% no) "do exercise regulary" 29.4%. said yes. About ability to assesses health, 23.5% of the sample can assess appearance signs and symptoms.About ability to give social support on healthcare, 20.6% of the sample "can give advice about exercise to friends," and 44.1% "can give prompts and reminders about exercise to friends." The study agreed with Saruttaya Parichatnont (2002) who studied factors affecting osteosporosis preventive behavior among adult women. The results suggest that the factors which were significantly associated with osteoporosis preventive behavior were perceived self-efficacy of osteosporosis prevention and social support. Findings show that the researcher created activities to improve perceived self-efficacy in exercise for elderly. group discussion to exchange experience. These areas included discussions to assist the learners in sharing opinions, knowledge, tangible experience, and adapting themselves. Presenting models of elderly who received good results from exercise to share experiences, solve problems, get rid of disadvantages in exercise also made learners adjust themselves and relieve anxiety from doing exercise. The group discussion on current health problems and any causes and related factors, whether correctable or adaptable for balancing by considering appropriate alternatives as agreed with Somchid Hanucharoenkul (1988) he stated that Holistic Health should judge only the individual not the illness or symptom by having that person involved with the imbalance of body, mind, spirit and environment as well as practicing alternative exercises and health assessment, receiving advice from the public health officers,and have conversation to share

experiences in exercise and health care within the group. After arranging program activities, findings show that the group had more concern for each other through hugging, helping, and expressing opinion. Participation in activities suggested good internal relationships and prompts and reminders by the researcher and public health officers from home visitation built more confidence in health care and exercise among the sample participants. The average scores of perceived self-efficacy increased after the experiment that coincided with the study of Chokchai Mongkolsin (2001: 4) This study adapted the self-efficacy theory to promote exercise among the group of merchants by arranging activities, such as, small group discussions, model presentations, practicing exercise, invitations from friends, and prompts and reminders for exercise. Findings show that after the experiment with the sample participants, perceived self-efficacy in exercise was better, having a statistical value coinciding with Nipa Chaethong (2001: 4) She adapted the self-efficacy theory along with the social support to promote health among the elderly at Taemuang District, Kanjanaburi Province through arranging program activities, such as practicing exercise, presenting positive models in exercise, support from friends, and social support from home visitation of the researcher and peers. Findings show that the sample participants had increased perceived self-efficacy in exercise and healthy food consumption after the experiment at statistical value (p-value < 0.001).

3. Outcome Expectation from Exercise

Research results suggest that after the sample participants had participated in the Exercise Promotion Program, the average scores of outcome expectation from exercise increased, having a statistical p-value < 0.001 in agreement with to hypothesis 1 (Table 8). The Holistic Exercise Promotion increased outcome expectation from exercise among the elderly in these areas: (1) benefit of exercise (2) exercise alternatives,(3) health assessment, and (4) social support in health care. Before participation in the program finding show the sample participants had average outcome expectation from exercise scores at a medium level Findings from the interview about the benefit of exercise, 61.8% of the sample agreed that “exercise had a risk of accident for the elderly”, (23.5% uncertain, 14.7% did not agreed) 70.6% agreed that “exercise makes us eat a lot”. About health assessment, 64.7% of the

sample agreed that “health assessment would help us to know about impact from exercise”. For social support in health care, findings show that “prompts and reminders from friends had make regular exercise,” (58.8% agreed, 32.4% were uncertain and 8.8% did not agreed). This can be explained by the fact that the elderly discovered the knowledge in exercise and health assessment for exercise, and lacked social support for prompts and reminders. To increased outcome expectation from exercise in the elderly activities were included to give knowledge in healthy exercise, presenting models of elderly regular exercise, general health examination, and advice from the public health officers and the researcher. This coincided with the study of Narremal Nelapaijit (2002: 4) The effectiveness of the exercise promotion Program among the Muslim elderly at Nongjok District, Bangkok Metropolitan Area was increased through activities to promote knowledge in exercise and food consumption, presenting positive model, health promotion and advice from public health officers. Findings show that after the experiment increased outcome of the sample participants, had the statistical value (p-value < 0.001).

4. Alternative Exercise Behavior

Results from the study of exercise behavior of the elderly suggest improved change in the average scores of the exercise behavior, having a statistical p-value < 0.001 in agreement with agreed to the hypothesis 1 (Table 10). Therefore, arranging activities according to the Holistic Exercise Promotion Program enabled the sample participants to increase exercise behavior since the program activities had included the knowledge in health care, and correct understanding in exercise for health. The elderly could choose the most appropriated for themselves as shown in the study of Mutana Inpang (2000: 4-5) who found that lack of knowledge was the primary disadvantage to exercise. Knowledge promotion was considered to reduce in the disadvantages and increase exercise among the elderly. Findings show that after the study the sample participants had increased their average scores, perceived self-efficacy and outcome expectation from exercise after participating in the exercise program. According to Bandura, relationship between perceived self-efficacy and outcome expectation was an individual tendency to commit if an individual had high level of perceived self-efficacy and outcome expectation. Increasing knowledge in

exercise and perceived self-efficacy and outcome expectation resulted in increased exercise behavior among the elderly as well. It coincided with the study of McCuley & Jacobsen (1991:185-191) regarding factors in perceived self-efficacy in exercise, self-motivation and body weight helping to predict the participation in exercise among the sample participants. It also coincided with the study of Chokchai Monkolsin (2001,๑) on the effectiveness of the Exercise Promotion Program among the merchants in Somdej Municipality, Kalasin Province. Findings show that the sample participants had increased knowledge in exercise, perceived self-efficacy, outcome expectation in good exercise behavior after the experiment, having statistical value. (p-value < 0.001).

Hypothesis 2. Holistic Exercise Promotion Program has changed the body mass index, blood pressure level appeared decrease than before participation in the program.

1. Blood Pressure

1.1 Systolic Blood Pressure

Prior to the experiment, most of the elderly or 29.4% had a systolic blood pressure at a low level, 23.5% at a good level, 20.5% at the lowest level and 8.9% at an excellent level. Findings show that after the experiment, a systolic blood pressure were at a good level, 41.2%, 17.6% at a medium level, 14.7% at an excellent level and the lowest level was at 8.9%(Table 11).

Results from the comparison of score analysis of averaging systolic blood pressure scores of the sample participants prior to the experiment were at a low level or 141.76 mmHg; the standard deviation equal to 19.14. After the experiment, average scores increased to medium 133.82 mmHg; the standard deviation at 18.62. Findings from testing statistical difference suggest that average systolic blood pressure was better after the experiment, having a statistical p-value =0.018 (Table 12).Prior to the experiment, sample participants had a low level of average systolic blood pressure . Findings show that after the experiment, the average blood pressure was at a medium level. A comparison of statistical differences suggest better average blood pressure scores after the experiment, having a statistical p-value

= 0.018,in agreement with the hypothesis 2 (Table 12). This can be explained by the fact that the Holistic Exercise Promotion Program had induced regular exercise behavior for good health. The arterial walls throughout the body would receive the benefits of exercise as well, enabling blood to transport oxygen to the tissues in prevention of artherosclerosis and help arteries to maintain the blood chemicals, such as cholesterol, sugar, and uric acid normal level (Chek Tanasiri, 1997:149). As a result, the heart and blood circulation functioned better from the release of endofins during exercise (Dumrong Kitkusol, 2001:15), making the elderly feel relax without stress and reducing blood pressure This coincided with the study of De Vries (De Vries, 1970 referenced Chokchai Mongkolsin, 2001) who found that after 6 weeks of exercise among the elderly aged 52-88 years, the heart rate was lower reduction of systolic blood pressure. This finding was coincided with the study of Sonyaporn Vongkumlear (1995, referenced Nipa Chaethong, 2001) who found that the average of systolic blood pressure among the elderly reduced after 12 weeks of participation in the Walking for Exercise Program It also coincided with the study of Nipa Chaethong (2001) who found that the elderly changed their average systolic blood pressure after participation in the Health Education Program by adapting the self-efficacy theory along with social support to promote elderly health which related to exercise behavior and healthy food consumption.

1.2 Diastolic Blood Pressure

Prior to the experiment, most elderly or 29.4% had a diastolic blood pressure at low level, 26.5% at a good level, 23.5% at an excellent level and 20.6 % at the lowest level. Findings show that after the experiment, the diastolic blood pressure was at good level 38.2%, 29.4% at an excellent level, 23.5% at a low level, and the lowest level was at 8.9%(Table 13).

Results from the comparison of score analysis of average diastolic blood pressure of the sample participants prior to the experiment were at a medium level or 84.71 mmHg; the standard deviation equal to 19.14. After the experiment, averaging scores decreased to medium 81.18 mmHg, the standard deviation at 18.62. Findings from testing statistical differences suggest that average diasystolic blood

pressure were better after the experiment, having a statistical p-value =0.110 (Table 14)

Findings after the experiment show that the average diastolic blood pressure increased to a good level from a medium level. However, finding show the statistical difference p-value at 0.110, and disagreed with hypothesis 2 (Table 14). It could be that exercise for health involved the body movement at a moderate level and must be practiced regularly for a longer period than 12 weeks to clearly see better results for the blood circulation. To summarize the meeting of health experts in sports science of the United States (1996) regarding body movement for health at the lowest level for the exercise capacity having a heart rate at 65%-85% of the highest heart rate was needed to increase the heart and lung capacity.

It was also found that the sample had illness with hypertension The number of years of illness started from1-20 years, the average illness at 6.24 years (Table 1)all were under medication. However, findings show that before experiment most had lower systolic blood pressure level and medium diastolic blood pressure level. This can be explained by the fact that only using medicine was not suitable for the sample to control blood pressure level.

2. Body Mass Index

Prior to the experiment, 53.0% of most sample participants had a body mass index at a normal level, overweight level was at 35.2%, obesity level was at 11.8%. Findings show that the experiment, the body mass index was not difference.

Results from the comparison of average body mass index scores of the sample participants prior to the experiment were at an overweight level or BMI = 25.52; the standard deviation equal to 4.28 After the experiment, the body mass index averaging scores of the sample participants increased to 25.53; the standard deviation decreased to 4.26. Findings from testing statistical difference suggested no statistical differences at all (Table16).

Results of the findings suggest that the body mass index before and after the experiment had no statistical difference (p-value = 0.793) which disagreed with the hypothesis 2 (Table 16) resulting from a lack of control in the diet of the sample participants. The program activities included knowledge on the diet and weight

control but excluded the activities to control food consumption of the sample participants as well as changing the metabolism rate occurred during the aging process of the elderly. Findings show the metabolism rates among men and women between 20-29 years old were 24.2 and 23.2 kilocalories per kilogram per day, respectively. Between 60-69 years of age, the metabolism rate among men reduced to 22 kilocalories per kilogram per day and 20.9 kilo calories per kilogram per day for women. The overall energy consumption for the metabolism rate was 60 % of daily energy usage. (Prasutdilok,P., 2002:42). Although the energy usage decreased as well as the food burning rate, the energy generated from food remained at a constant level making an individual unable to lose weight.

CHAPTER 6
CONCLUSIONS AND RECOMMENDATIONS

The purpose of this quasi Experimental research was to study the effectiveness of the Holistic Exercise Promotion Program among the elderly in Thamasala Municipality, Nakhonpathom Province. The sample participants consisted of 34 persons, aged between 55-74 years. Research was conducted for 12 weeks from April 7th, to June 10th, 2004. Data collection was conducted by the researcher and assistant prior to the group experiment to plan the activities matching with the problem situations of the sample participants. The researcher had arranged the Holistic Exercise Promotion Program by reviewing the related literature on the section of health promotion including the conceptual framework with Bandura's Self-Efficacy Theory as the major guideline and Holistic Health Care Concept was adapted for Holistic activities for the elderly to formulate Self-Efficacy in exercise consisting of (1) problem considering, (2) decision for alternative exercise, (3) receiving the ideas and (4) Health assessing for the sample to develop exercise behavior within 12 weeks.

The research instruments consisted of experimental tools, such as, planning for health activities per program, health examination equipment, different teaching media for data collection, such as, interview forms for elderly health status, recording health forms and exercise, and general health examination reporting forms. Data collection was done twice, before and after the experiment consisting of general data of the sample participants, knowledge of exercise, perceived self-efficacy in exercise for health, outcome expectation from exercise, alternative exercise behavior and physical change data. Data were checked for validity before being analyzed by SPSS program through percentage and mean and standard deviation. Comparison of average scores was done through statistical paired t-test to set the statistical level at 0.05.

1. Conclusion of the result

The summary of data analysis and recommendations are as follows:

1.1 General Characteristic

The sample participants in this research consisted of 34 persons, aged between 55-74 years. Averaged age was at 64.41 years old, with females 58.8% and males 41.2%. For educational level, most sample participants or 82.4% finished primary school and secondary School at 82.4% and 2.9%, respectively, and 14.7% never received any education. On occupation, findings showed that most sample participants had occupation in agriculture, daily workers and merchants at 20.6%, 11.8% and 5.9%, respectively and no occupation was 61.8% Findings showed that lifestyle exercise had increased from 52.9% to 85.3% after the experiment, caused by previously lacking proper knowledge in exercise, absence from supporting activities that required body exertion or movement in daily lifestyle of the sample participants and the aging body that contributed to low levels of exercise behavior. For illness history, 29% of the sample participants had hypertension, 26.5% had diabetes, and osteoarthritis was 2.9% (illness ranged from 1-20 years). General health examination suggested low average systolic blood pressure (141.76 mmHg). The average diastolic blood pressure was at a medium level (84.71 mmHg). The body mass index on overweight (BMI = 25.562) suggested the bodily health care yielded low results toward the health of the elderly. Most illnesses of the sample participants were chronic diseases caused by inappropriate exercise behavior and aging body that made the elderly unable to care for themselves. As a result, most elderly were cared for by children, spouses and relatives 73.5%, 58.8%, 23.3%, respectively. As for receiving health information, findings showed that most sample and participants received health news from the media, followed by public health officers, reading books and friends at 73.5%, 38.2%, 20.6% and 5.9%, respectively some and never received news from any family members. Health information from the media was the data to create change only at the knowledge level. Not receiving health information from other media, such as, the public health officers, friends and family members was due to missing opportunity in health promotion. It was noticeable that although most custodians were family members, most elderly never received health information from the family members. Perhaps most families of the elderly were well to do,

follow by next with some savings and under poverty, 55.9%, 23.5% and 20.6%, respectively. Therefore, the burden of family care caused the absence of interest in health and knowledge in health care of the elderly. Findings revealed that after the program experiment, sample participants had increased channels in receiving more health news with the most news from the public health officers, follow by media, friends and reading books, equal in percentage to 100%, 94.1%, 88.2% and 61.8%, respectively. The family members or 20.6% who participated in the program along with the elderly, contributed the data.

1.2 Knowledge on Exercise

Findings showed that after the experiment, the sample participants had increased the average score of exercise at a statistical p-value < 0.001. Arranging activities per program involved the activities to promote knowledge by the learners, who participated in expressing opinions with pictures and simple language to adapt skills for self-practice and summarize lessons using the mind map technique to categorize concepts for easy understanding and more knowledge after program participation.

1.3 Perceived Self-efficacy in Exercise

After the experiment, the average scores of the perceived self-efficacy had increased at a statistical p-value < 0.001. Arranging program activities to formulate perceived self-efficacy of the sample participants in order to share tangible experiences made the elderly able to practice for self-examination what caused the health problems, factors involved and ability to solve or balance by considering appropriate alternatives. The social support and follow-up home visitation to give advice, prompts and reminders had helped the sample participants adapt and reduced the anxiety regarding problems in exercise, thus increasing the perceived self-efficacy among the elderly.

1.4 Outcome Expectation from Exercise

After the experiment, the average scores of the outcome expectation from exercise had increased at the statistical p-value < 0.001. Arranging program

activities to formulate outcome expectation resulted in promoting knowledge from se appropriate exercise for the elderly. Positive outcome from health assessment model and advice from the public health officers, group and discussion to find guidelines for selfcare opened channels for knowledge in alternative health care resulted in better outcome expectation from exercise after the program participation by the sample participants.

1.5 Alternative Exercise Behavior

After the experiment, the exercise behavior improved at a statistical p-value<0.001 as the result from increasing knowledge, enabling participants to reduce drawbacks from exercise among the elderly, and increasing perceived self-efficacy and outcome expectation from exercise according to the relationship between high perceived self-efficacy and high outcome expectation. An individual had the tendency to commit to certain behavior that increased exercise behavior.

1.6 Physical Changes

After the experiment, the average scores of the systolic blood pressure had increased at the statistical p-value = 0.018 as a result of proper exercise regularly among the sample participants to benefit blood circulation. Increased average scores of the systolic blood pressure after the experiment without the statistical differences. (p-value = 0.110).This due to the fact that exercise for health as the exertion at medium intention must be practiced longer than 12 weeks to send in transparent results in the cardiovascular system and blood circulation. As for the body mass index, there were no differences between before and after the experiment. Perhaps the program of exercises had no control over food consumption of the sample participants that could result in the unchanged body index and reduction in the metabolism rate according to age as well as energy consumption, making it harder for the elderly to reduce weight.

2. Recommendations from this study

2.1 Results of the study suggest the sample participants received most health information through the media, such as news stations, voice broadcast, television, and

community broadcasts. Therefore, mass media should be used to build exercise promotion currency advocacy in the community .

2.2 Building close relationships between the researcher and sample participants to cooperate in arranging activities is important. The researcher should understand the problems facing the sample participants and help them to solve the existing problems by themselves without expecting only the result of the wanted research study.

2.3 Arranging activities to promote exercise among the elderly by matching them to the lifestyle of the sample participants to be practiced in daily life.

2.4 Teaching media for the elderly should be in language that is easily understandable, with big print that emphasizes on pictures accompanied by short statements rather than full narration since the vision of the elderly has deteriorated.

2.5 Follow-up visits at the elderly home by the public health officers and the researcher to recognize the factors related to problems of each elderly person quickly solved problems. It was used as the data for effectively arranging activities and building good relationships between the researcher, the public health officers and the sample participants including the family members of the sample participants.

2.6 Using the mind map technique to arrange for activities, and brainstorming programs to record the member's opinion completely for connecting data was useful Considering alternatives as instruments for systematically summarized lessons when the activities ended, as to draw attention of sample participants with less cost, should be one of the best methods to arrange learning activities. However, the facilitator should be able to decode the lessons to summarize existing overall concepts and present to the group with transparency, according to the aim for effectiveness.

2.7 Arranging activities to promote exercise among the elderly should be carefully planned with the concerned public health officer and community leaders to extend results after ending the program activities.

2.8 Findings from the activities show that the sample participants had good relationships by sharing data in self-health care and group health care as well as selecting core leaders with leadership ability to set up support group for members in health care within the group. This assisted the public health officers in health care for the elderly by getting their support and technical advice continuously and regularly.

3. Recommendations for Further Research

3.1.Since the Holistic Exercise Promotion Program helped to promote exercise for health with medium intention, there should be the study of exercise duration to give good health results.

3.2 Findings from this study show that the elderly lacked social support in health news, especially the elderly in the family. Therefore, there should be a study of related factors that affected the health care of the elderly toward the family custodians. Building social to the elderly form the custodians should include a study of the change in exercise behavior among the elderly.

3.3 There should be a study of the tolerance level of exercise behavior to recognize the effectiveness of the program and whether it could create tolerance behavior.

3.4 Findings from this study suggest that most elderly had the lifestyle exercise accumulation and daily work that should be developed in the form of effective lifestyle exercise that could be used in the daily life of the elderly.

3.5. There should be a study of the effectiveness of the Holistic Exercise Promotion Program that includes the core leader in planning and arranging activities.

3.6. There should be a study of factors involved with the prediction of exercise behavior, such as, social support, home visitation, advice from the public health officers and perceived change after the exercise to determine which factors are related to the exercise behavior.

3.7 There should be a study of the effectiveness of the Holistic Exercise Promotion Program with other areas to know the effectiveness of the program toward good health and in which areas.

3.8 There should be a study with experimental and control groups by random sampling and measuring results before and after the experiment to compare result from the program to make it more reliable than a single group before and after the experiment.

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APPENDIX

ตารางที่ 17 แสดงจำนวนและร้อยละของกลุ่มตัวอย่างจำแนกตาม ความรู้ในการออกกำลังกายเป็นรายข้อก่อนการทดลอง

ข้อความ	ร้อยละ	
	ใช่	ไม่ใช่/ไม่แน่ใจ
1. การออกกำลังกายหมายถึงการออกแรงให้ส่วนต่างๆของร่างกายเคลื่อนไหว เพื่อให้เกิดสุขภาพดี(+)	73.5	26.5
2.การออกแรงทำงานบ้านหรืองานประจำทุกวัน อย่างน้อยวันละ 30 นาที เช่น การรดน้ำต้นไม้ กวาดบ้าน การยกของหนัก เป็นการออกกำลังกายเพื่อสุขภาพ (+)	70.5	29.5
3. การยืดเส้นยืดสาย เช่นการแกว่งแขน หมุนไหล่ เหวี่ยงขา นาน 10 นาที คือการออกกำลังกายเพื่อสุขภาพ (-)	100	0
4. ผู้ที่สุขภาพดีอยู่แล้ว ไม่จำเป็นต้องออกกำลังกาย (-)	61.7	38.3
5. การเลือกรูปแบบวิธีการออกกำลังกายควรเลือกตามความชอบเท่านั้น(-)	85.2	14.8
6. ผู้สูงอายุสามารถออกกำลังกายที่ใช้แรงกระแทกสูงได้ เช่น การเต้นแอโรบิค(-)	79.4	20.6
7. การเดินเร็ว แกว่งแขน เป็นการออกกำลังกายที่เสริมสร้างความแข็งแรงของปอดและหัวใจได้ (+)	61.7	38.3
8. การใช้ท่ากายบริหารช่วยทำให้อาการข้อเสื่อมดีขึ้น (+)	73.5	26.5
9. การออกกำลังกายเพื่อสุขภาพทำให้ร่างกายหลั่งสารความสุขได้ (+)	61.7	38.3
10. ผู้สูงอายุควรปรึกษาแพทย์ก่อนการออกกำลังกาย(+)	47.1	52.9
11. ผู้ป่วยโรคหัวใจห้ามออกกำลังกาย (-)	79.4	20.6
12. ผู้สูงอายุควรออกกำลังกายอย่างน้อยสัปดาห์ละ 3 วัน (+)	35.3	64.7
13.ผู้ที่แข็งแรงดีไม่ต้องออกกำลังกายเป็นประจำก็ได้(-)	67.6	32.4
14. การออกกำลังกายที่ถูกต้อง มี 3 ขั้นตอน คือ ขั้นอบอุ่นร่างกาย ขั้นออกกำลังกาย และขั้นผ่อนคลายกล้ามเนื้อ (+)	44.2	55.8
15.การออกกำลังกายเพื่อให้เกิดผลดีต่อสุขภาพจะต้องออกแรงจนร่างกายรู้สึกเหนื่อย มีเหงื่อออก หัวใจเต้นเร็ว (+)	61.7	38.3

ตารางที่ 17 แสดงจำนวนและร้อยละของกลุ่มตัวอย่างจำแนกตาม ความรู้ในการออกกำลังกายเป็นรายข้อก่อนการทดลอง (ต่อ)

ข้อความ	ร้อยละ	
	ใช่	ไม่ใช่/ไม่แน่ใจ
16.ขณะออกกำลังกายมีอาการเหนื่อย หายใจขัด ควรหยุดออกกำลังกาย(+)	79.4	20.6
17. การดื่มเครื่องดื่มบำรุงกำลัง ช่วยทำให้ออกกำลังกายได้นานขึ้น (-)	50	50
18. ถ้ามีอาการไข้ ควรออกกำลังกายให้เหงื่อออกเพื่อลดไข้ (-)	82.3	17.7
19. หลังออกกำลังกายรู้สึกเหนื่อยมากเป็นเรื่องปกติ (-)	2.9	97.1
20. ผู้สูงอายุที่แข็งแรงดี ควรตรวจสุขภาพอย่างน้อยปีละ 1 ครั้ง (+)	26.5	73.5

(+) ข้อความทางบวก

(-) ข้อความทางลบ

ตารางที่ 18 แสดงจำนวนและร้อยละของกลุ่มตัวอย่างจำแนกตาม การรับรู้ความสามารถตนเองในการออกกำลังกายเป็นรายข้อก่อนการทดลอง

	ข้อความ	ร้อยละ		
		ทำได้	ไม่แน่ใจ	ทำไม่ได้
1.	ท่านสามารถออกแรงทำงานโดยทุกส่วนของร่างกายได้เคลื่อนไหว (+)	29.4	26.5	44.1
2.	ท่านสามารถเลือกวิธีการออกกำลังกายที่เหมาะสมด้วยตนเองได้(+)	11.8	44.1	44.1
3.	ท่านสามารถจัดเวลาออกกำลังกายได้เพียงพอสัปดาห์ละ 3 วัน(+)	32.4	17.6	50
4.	ท่านสามารถออกแรงเคลื่อนไหวในการทำงานบ้านหรืองานอาชีพได้นานครั้งละประมาณ 30 นาที (+)	8.8	11.8	79.4
5.	ท่านสามารถออกกำลังกายจนรู้สึกเหนื่อย มีเหงื่อออก หัวใจเต้นเร็วได้(+)	44.1	8.8	47.1
6.	ท่านสามารถออกกำลังกายได้เองที่บ้าน(+)	2.9	17.6	79.4
7.	ท่านสามารถหาสถานที่ออกกำลังกายได้(+)	17.6	20.6	61.8
8.	ท่านสามารถเข้าร่วมกิจกรรมกลุ่มออกกำลังกายได้(+)	44.1	29.4	26.5
9.	ท่านสามารถเข้าร่วมกิจกรรมออกกำลังกายกับคนอื่นอย่างสม่ำเสมอ(+)	50	35.3	14.7

ตารางที่ 18 แสดงจำนวนและร้อยละของกลุ่มตัวอย่างจำแนกตาม การรับรู้ความสามารถตนเองในการออกกำลังกายเป็นรายข้อก่อนการทดลอง

ข้อความ	ร้อยละ		
	ทำได้	ไม่แน่ใจ	ทำไม่ได้
10. ท่านสามารถออกกำลังกายเพื่อสุขภาพได้อย่างถูกต้อง (+)	20.6	52.9	26.5
11. ท่านคิดว่าจะสามารถออกกำลังกายได้ต่อเนื่องเป็นประจำ(+)	29.4	32.4	38.2
12. ท่านสามารถประเมินสุขภาพตนเองได้ว่าท่านมีอาการเจ็บป่วย เช่น เวียนศีรษะ เจ็บปวดตามข้อ ที่ขัดขวางการออกกำลังกายของท่าน(+)	23.5	38.2	38.2
13. ท่านสามารถชั่งน้ำหนักของตนเองก่อนการออกกำลังกายได้(+)	52.9	2.9	44.1
14. ท่านสามารถประเมินได้ว่าท่านรู้สึกไม่สบายใจ เช่น ขาดสมาธิ วิตกกังวล , เศร้าใจ ก่อนการออกกำลังกาย(+)	17.6	38.2	44.1
15. ท่านสามารถสังเกตอาการผิดปกติขณะออกกำลังกายได้ถูกต้อง(+)	8.8	41.2	50
16. ท่านสามารถเปรียบเทียบน้ำหนักของท่านก่อนการออกกำลังกาย และภายหลังการออกกำลังกายได้(+)	41.2	26.5	32.4
17. ท่านสามารถบอกค่าดัชนีมวลกายที่เหมาะสมของตนเองได้(+)	79.4	8.8	11.8
18. ท่านสามารถออกกำลังกายเพื่อการควบคุมน้ำหนักได้(+)	47.1	32.4	20.6
19. ท่านสามารถไปตรวจสุขภาพตามเกณฑ์กำหนดได้ทุกครั้ง(+)	2.9	41.2	55.9
20. ท่านสามารถหาวิธีการออกกำลังกายที่ไม่ต้องเสียค่าใช้จ่ายมากได้(+)	2.9	26.5	70.6
21. ท่านมั่นใจว่าสามารถแนะนำเพื่อนในการออกกำลังกายได้(+)	20.6	32.4	47.1
22. ท่านสามารถกระตุ้นเตือนเพื่อนในการร่วมกิจกรรมออกกำลังกาย(+)	44.1	41.2	14.7

(+) ข้อความทางบวก

(-) ข้อความทางลบ

ตารางที่ 19 แสดงจำนวนและร้อยละของกลุ่มตัวอย่างจำแนกตาม ความคาดหวังในผลลัพธ์ของการออกกำลังกายเป็นรายข้อก่อนการทดลอง

ข้อความ	ร้อยละ		
	เห็นด้วย	ไม่แน่ใจ	ไม่เห็นด้วย
1. การออกกำลังกายช่วยให้เคลื่อนไหวร่างกายได้ดีขึ้น (+)	76.5	23.5	0
2. การออกกำลังกายสม่ำเสมอช่วยลดระดับไขมันในเลือดได้(+)	58.8	41.2	0
3. การออกกำลังกายทำให้เสี่ยงต่อการบาดเจ็บได้ในผู้สูงอายุ (-)	61.8	23.5	14.7
4. การออกกำลังกายจะช่วยให้รู้สึกสดชื่น สบายใจ (+)	76.5	20.6	2.9
5. การออกกำลังกายช่วยชะลอความแก่ได้ (+)	50	41.2	8.8
6. การออกกำลังกายทำให้กระปรี้กระเปร่า ตื่นตัว นอนหลับยาก(-)	38.2	32.4	29.4
7. การออกกำลังกายเป็นหมู่คณะทำให้ได้พบเพื่อนไม่เหงา (+)	70.6	26.5	2.9
8. หลังการออกกำลังกายทำให้รับประทานอาหารได้มาก อ้วนง่าย (-)	70.6	5.9	23.5
9. ร่างกายเสื่อมโทรมเร็วขึ้น ถ้าออกกำลังกายมากกว่า 30 นาที (-)	29.4	41.2	29.4
10. การออกกำลังกายช่วยลดค่าใช้จ่ายในการรักษาโรคได้ (+)	79.4	17.6	2.9
11. การเข้าร่วมกลุ่มออกกำลังกายทำให้รู้จักเพื่อนมากขึ้น (+)	88.2	8.8	2.9
12. การออกกำลังกายจนรู้สึกเหนื่อย หัวใจเต้นเร็ว จะทำให้เป็นโรคหัวใจขาดเลือดได้ (-)	58.8	29.4	11.8
13. การประเมินสุขภาพตนเองช่วยป้องกันอาการผิดปกติในขณะออกกำลังกาย (+)	61.8	32.4	5.9
14. การเลือกวิธีการออกกำลังกายที่เหมาะสมได้ ช่วยให้ไม่เบื่อและได้ประโยชน์จากการออกกำลังกาย(-)	73.5	26.5	0
15. การประเมินสุขภาพหลังการออกกำลังกายทำให้ทราบผลการเปลี่ยนแปลงที่เกิดขึ้นต่อสุขภาพ (+)	64.7	35.3	0
16. เข้ากลุ่มออกกำลังกาย จะได้แลกเปลี่ยนวิธีดูแลสุขภาพกับเพื่อน (+)	61.8	32.4	5.9
17. เพื่อนในกลุ่มออกกำลังกายช่วยกระตุ้นเตือนให้ออกกำลังกายได้อย่างสม่ำเสมอ (+)	58.8	32.4	8.8
18. การตรวจสุขภาพทำให้เลือกวิธีออกกำลังกายที่เหมาะสมได้ (+)	70.6	29.4	0
19. การออกกำลังกายต้องสิ้นเปลืองค่าใช้จ่ายโดยไม่จำเป็น (-)	14.7	23.5	61.8
20. การให้คำแนะนำเพื่อนในการออกกำลังกายหรือดูแลสุขภาพทำให้รู้สึกว่าตนเองมีคุณค่า (+)	79.4	14.7	5.9

(+) ข้อความทางบวก (-) ข้อความทางลบ

ตารางที่ 20 แสดงจำนวนและร้อยละของกลุ่มตัวอย่างจำแนกตาม พฤติกรรมการออกกำลังกายทางเลือกเป็นรายข้อก่อนการทดลอง

ข้อความ		ร้อยละ			
		ไม่ปฏิบัติ	นานๆครั้ง	บ่อยครั้ง	ประจำ
1.	ท่านออกกำลังกาย	26.5	38.2	14.7	20.6
2.	ท่านออกแรงเคลื่อนไหวร่างกายทุกส่วนในการทำงาน	14.7	47.1	14.7	23.5
3.	ท่านเลือกวิธีออกกำลังกายที่เหมาะสมกับตนเอง	44.1	14.7	23.5	17.6
4.	ท่านออกกำลังกายแต่ละครั้งนาน 30 นาทีขึ้นไป	32.4	23.5	14.7	29.4
5.	ท่านอบอุ่นร่างกายก่อนการออกกำลังกาย	61.8	14.7	2.9	20.6
6.	ท่านออกกำลังกายจนกระทั่งรู้สึกเหนื่อยหัวใจเต้นเร็วขึ้น	44.1	26.5	11.8	17.6
7.	ท่านจัดเวลาสำหรับการออกกำลังกาย	55.9	8.8	11.8	23.5
8.	ท่านสวมเสื้อผ้าที่เหมาะสมกับการออกกำลังกาย	67.6	2.9	14.7	14.7
9.	ท่านได้ตรวจสอบร่างกายตนเองก่อนการออกกำลังกายว่าพร้อมจะออกกำลังกายได้	67.6	26.5	0	5.9
10.	ท่านสังเกตอาการผิดปกติของตนเองขณะออกกำลังกาย	44.1	20.6	17.6	17.6
11.	ภายหลังการออกกำลังกายท่านได้ประเมินสุขภาพตนเอง	52.9	26.5	2.9	17.6
12.	ท่านไปตรวจสุขภาพตามกำหนด	5.9	26.5	26.5	41.2
13.	ท่านเข้าร่วมกลุ่มออกกำลังกายได้	73.5	17.6	2.9	5.9
14.	ท่านพูดคุยกับเพื่อนเรื่องการออกกำลังกาย	41.2	47.1	11.8	0
15.	ท่านพูดคุยกับเพื่อนเรื่องการดูแลสุขภาพ	32.4	52.9	11.8	2.9
16.	ท่านชักชวนเพื่อนให้เข้าร่วมการออกกำลังกาย	64.7	26.5	5.9	2.9

แบบสัมภาษณ์สภาวะสุขภาพผู้สูงอายุ

ส่วนที่ 1 ข้อมูลทั่วไป

คำชี้แจง 1. ผู้สัมภาษณ์ทำการสัมภาษณ์เป็นรายคน

2. ผู้สัมภาษณ์กรอกคำ ข้อความในช่องว่างหรือเขียนเครื่องหมาย/ลงในช่อง □ หน้าคำตอบตามสภาพที่เป็นจริงของผู้สูงอายุที่ให้สัมภาษณ์……

…….

1. อายุ..... ปี
2. เพศ

□ 1. ชาย □ 2. หญิง

3. ท่านจบการศึกษาสูงสุดชั้นใด

□ 1. ไม่ได้เรียน □ 2. ประถมศึกษา

□ 3. มัธยมศึกษา , ปวช. □ 4. อนุปริญญา , ปวส

□ 5. ปริญญาตรี □ 6.สูงกว่าปริญญาตรี

4. การประกอบอาชีพปัจจุบัน

□ 1. อาชีพหลัก ระบุ ……..

□ 2. อาชีพเสริม ระบุ……..

□ 3. ไม่ได้ทำงาน

5. ท่านมีโรคประจำตัวหรือไม่

□ 1. มี ระบุ.....

□ 2. ไม่มี

6. ปัจจุบันท่านอาศัยอยู่กับใคร (ตอบได้มากกว่า 1ข้อ)

□ 1. คู่สมรส □ 2. บุตร

□ 3. หลาน □ 4. ญาติอื่นๆ

□ 5. เพื่อนบ้าน □ 6. ไม่มีผู้ดูแล

7. ฐานะทางเศรษฐกิจของครอบครัวท่านเป็นอย่างไรในแต่ละเดือน

□ 1. เดือดร้อนขัดสน

□ 2. พอมีพอกินไม่เหลือเก็บ

□ 3. ไม่เดือดร้อนมีเหลือเก็บ

8. ท่านได้ทำกิจกรรมอื่นที่ต้องใช้กำลังกาย เช่น ทำสวน ยกของหนัก รดน้ำต้นไม้ หรือไม่

□ 1. ทำ ระบุกิจกรรม.....

□ 2. ไม่ได้ทำ

9. ท่านได้รับข้อมูลข่าวสารด้านสุขภาพจากแหล่งใด(ตอบได้มากกว่า 1 ข้อ)

□ 1. การอ่านหนังสือ □ 2. หนังสือพิมพ์ โทรทัศน์ วิทยุ

□ 3. เจ้าหน้าที่สาธารณสุข □ 4. บุคคลในครอบครัว

□ 5. เพื่อน,กลุ่ม,ชมรม □ 6. อื่นๆ ระบุ

…….....

ส่วนที่ 2 แบบทดสอบความรู้เกี่ยวกับการดูแลสุขภาพด้านการออกกำลังกาย

คำชี้แจง โปรดทำเครื่องหมาย / ลงในช่องที่ท่านคิดว่าถูกต้องเพียงข้อเดียว

ข้อความ	ใช่	ไม่ใช่	ไม่แน่ใจ
1. การออกกำลังกายหมายถึงการออกแรงให้ส่วนต่างๆของร่างกายเคลื่อนไหว เพื่อให้เกิดสุขภาพดี 2. การออกแรงทำงานบ้านหรืองานประจำทุกวัน อย่างน้อยวันละ 30 นาที เช่น การรดน้ำต้นไม้ กวาดบ้าน การยกของหนัก เป็นการออกกำลังกายเพื่อสุขภาพ 3. การยืดเส้นยืดสาย เช่นการแกว่งแขน หมุนไหล่ เหวี่ยงขา นาน 10 นาที คือการออกกำลังกายเพื่อสุขภาพ 4 . ผู้ที่สุขภาพดีอยู่แล้ว ไม่จำเป็นต้องออกกำลังกาย 5. การเลือกรูปแบบวิธีการออกกำลังกายควรเลือกตามความชอบเท่านั้น 6. ผู้สูงอายุสามารถออกกำลังกายที่ใช้แรงกระแทกสูงได้ เช่น การเต้นแอโรบิค 7. การเดินเร็ว แกว่งแขน เป็นการออกกำลังกายที่เสริมสร้าง ความแข็งแรงของปอดและหัวใจได้ 8. การใช้ท่ากายบริหารช่วยทำให้อาการข้อเสื่อมดีขึ้น 9. การออกกำลังกายเพื่อสุขภาพทำให้ร่างกายหลั่งสารความสุขได้ 10. ผู้สูงอายุควรปรึกษาแพทย์ก่อนการออกกำลังกาย 11. ผู้ป่วยโรคหัวใจห้ามออกกำลังกาย 12. ผู้สูงอายุควรออกกำลังกายอย่างน้อยสัปดาห์ละ 3 วัน 13. ผู้ที่แข็งแรงดีไม่ต้องออกกำลังกายเป็นประจำก็ได้ 14. การออกกำลังกายที่ถูกต้อง มี 3 ขั้นตอน คือ ขั้นอบอุ่นร่างกาย ขั้นออกกำลังกาย และขั้นผ่อนคลายกล้ามเนื้อ 15. การออกกำลังกายเพื่อให้เกิดผลดีต่อสุขภาพจะต้องออกแรงจนร่างกายรู้สึกเหนื่อย มีเหงื่อออก หัวใจเต้นเร็ว 16. ขณะออกกำลังกายมีอาการเหนื่อย หายใจขัด ควรหยุดออกกำลังกาย 17. การดื่มเครื่องดื่มบำรุงกำลัง ช่วยทำให้ออกกำลังกายได้นานขึ้น 18. ถ้ามีอาการไข้ ควรออกกำลังกายให้เหงื่อออกเพื่อลดไข้ 19 หลังออกกำลังกายรู้สึกเหนื่อยมากเป็นเรื่องปกติ 20. ผู้สูงอายุที่แข็งแรงดี ควรตรวจสุขภาพอย่างน้อยปีละ 1 ครั้ง			

ส่วนที่ 3 การรับรู้ความสามารถตนเองในการดูแลสุขภาพด้านการออกกำลังกาย

คำชี้แจง โปรดใส่เครื่องหมาย / ลงในช่องที่ตรงกับความรู้สึก ความคิดเห็น หรือความเชื่อของผู้สูงอายุมากที่สุดเพียงข้อเดียว

ข้อความ	ทำได้	ไม่แน่ใจ	ทำไม่ได้
1. ท่านสามารถออกแรงทำงานโดยทุกส่วนของร่างกายได้เคลื่อนไหว			
2. ท่านสามารถเลือกวิธีการออกกำลังกายที่เหมาะสมด้วยตนเองได้			
3. ท่านสามารถจัดเวลาออกกำลังกายได้เพียงพอสัปดาห์ละ 3 วัน			
4. ท่านสามารถออกแรงเคลื่อนไหวในการทำงานบ้านหรืองานอาชีพได้นานครั้งละประมาณ 30 นาที			
5. ท่านสามารถออกกำลังกายจนรู้สึกเหนื่อย มีเหงื่อออก หัวใจเต้นเร็วได้			
6. ท่านสามารถออกกำลังกายได้เองที่บ้าน			
7. ท่านสามารถหาสถานที่ออกกำลังกายได้			
8. ท่านสามารถเข้าร่วมกิจกรรมกลุ่มออกกำลังกายได้			
9. ท่านสามารถเข้าร่วมกิจกรรมออกกำลังกายกับคนอื่นอย่างสม่ำเสมอ			
10. ท่านสามารถออกกำลังกายเพื่อสุขภาพได้อย่างถูกต้อง			
11. ท่านคิดว่าจะสามารถออกกำลังกายได้ต่อเนื่องเป็นประจำ			
12. ท่านสามารถประเมินสุขภาพตนเองได้ว่าท่านมีอาการเจ็บป่วย เช่น เวียนศีรษะ เจ็บปวดตามข้อ ที่ขัดขวางการออกกำลังกายของท่าน			
13. ท่านสามารถชั่งน้ำหนักของตนเองก่อนการออกกำลังกายได้			
14. ท่านสามารถประเมินได้ว่าท่านรู้สึกไม่สบายใจ เช่น ขาดสมาธิ วิตกกังวล , เศร้าใจ ก่อนการออกกำลังกาย			
15. ท่านสามารถสังเกตอาการผิดปกติขณะออกกำลังกายได้ถูกต้อง			
16. ท่านสามารถเปรียบเทียบน้ำหนักของท่านก่อนการออกกำลังกายและภายหลังการออกกำลังกายได้			
17. ท่านสามารถบอกค่าดัชนีมวลกายที่เหมาะสมของตนเองได้			
18. ท่านสามารถออกกำลังกายเพื่อการควบคุมน้ำหนักได้			
19. ท่านสามารถไปตรวจสุขภาพตามเกณฑ์กำหนดได้ทุกครั้ง			
20. ท่านสามารถหาวิธีการออกกำลังกายที่ไม่ต้องเสียค่าใช้จ่ายมากได้			
21. ท่านมั่นใจว่าสามารถแนะนำเพื่อนในการออกกำลังกายได้			
22. ท่านสามารถกระตุ้นเตือนเพื่อนในการร่วมกิจกรรมออกกำลังกาย			

ส่วนที่ 4 ความคาดหวังในผลลัพธ์ของการออกกำลังกายแบบองค์รวม

คำชี้แจง โปรดใส่เครื่องหมาย / ลงในช่องที่ตรงกับความรู้สึก ความคิดเห็น หรือความเชื่อของผู้สูงอายุมากที่สุดเพียงข้อเดียว

ข้อความ	เห็นด้วย	ไม่แน่ใจ	ไม่เห็นด้วย
1. การออกกำลังกายช่วยให้เคลื่อนไหวร่างกายได้ดีขึ้น			
2. การออกกำลังกายสม่ำเสมอช่วยลดระดับไขมันในเลือดได้			
3. การออกกำลังกายทำให้เสี่ยงต่อการบาดเจ็บได้ในผู้สูงอายุ			
4. การออกกำลังกายจะช่วยให้รู้สึกสดชื่น สบายใจ			
5. การออกกำลังกายช่วยชะลอความแก่ได้			
6. การออกกำลังกายทำให้กระปรี้กระเปร่า ตื่นตัว นอนหลับยาก			
7. การออกกำลังกายเป็นหมู่คณะทำให้ได้พบเพื่อนไม่เหงา			
8. หลังการออกกำลังกายทำให้รับประทานอาหารได้มาก อ้วนง่าย			
9. ร่างกายเสื่อมโทรมเร็วขึ้น ถ้าออกกำลังกายมากกว่า 30 นาที			
10. การออกกำลังกายช่วยลดค่าใช้จ่ายในการรักษาโรคได้			
11. การเข้าร่วมกลุ่มออกกำลังกายทำให้รู้จักเพื่อนมากขึ้น			
12. การออกกำลังกายจนรู้สึกเหนื่อย หัวใจเต้นเร็ว จะทำให้เป็นโรคหัวใจขาดเลือดได้			
13. การประเมินสุขภาพตนเองช่วยป้องกันอาการผิดปกติในขณะออกกำลังกาย			
14. การเลือกวิธีการออกกำลังกายที่เหมาะสมได้ ช่วยให้ไม่เบื่อ และได้ประโยชน์จากการออกกำลังกาย			
15. การประเมินสุขภาพหลังการออกกำลังกายทำให้ทราบผล การเปลี่ยนแปลงที่เกิดขึ้นต่อสุขภาพ			
16. การเข้าร่วมกลุ่มออกกำลังกาย จะได้แลกเปลี่ยนวิธีดูแลสุขภาพกับเพื่อน			
17. เพื่อนในกลุ่มออกกำลังกายช่วยกระตุ้นเตือนให้ออกกำลังกายได้อย่างสม่ำเสมอ			
18. การตรวจสุขภาพทำให้เลือกวิธีออกกำลังกายที่เหมาะสมได้			
19. การออกกำลังกายต้องสิ้นเปลืองค่าใช้จ่ายโดยไม่จำเป็น			
20. การให้คำแนะนำเพื่อนในการออกกำลังกายหรือดูแลสุขภาพ ทำให้รู้สึกว่าตนเองมีคุณค่า			

ส่วนที่ 5 แบบสัมภาษณ์พฤติกรรมการออกกำลังกายของผู้สูงอายุ

คำชี้แจง โปรดทำเครื่องหมาย / ลงในช่องขวามือตามคำตอบที่ผู้สูงอายุเลือกเพียงข้อเดียว

ปฏิบัติเป็นประจำ หมายถึง ทำสม่ำเสมอ 3 ครั้งขึ้นไปใน 1 สัปดาห์ หรือตามที่กำหนด หรือทำทุกครั้งที่ออกกำลังกาย

ปฏิบัติบ่อยครั้ง หมายถึง ทำสม่ำเสมอ 1-2 ครั้ง ต่อสัปดาห์ หรือทำบางครั้งที่กำหนด หรือทำบางครั้งที่ออกกำลังกาย

ปฏิบัตินานๆครั้ง หมายถึง ทำบ้างไม่สม่ำเสมอแทบไม่ได้ทำเลย

ไม่ปฏิบัติ หมายถึง ไม่ได้ทำเลย

ข้อความ	ไม่ปฏิบัติ	ปฏิบัติ		
		นานๆครั้ง	บ่อยครั้ง	ประจำ
1. ท่านออกกำลังกาย				
2. ท่านออกแรงเคลื่อนไหวร่างกายทุกส่วนในการทำงาน				
3. ท่านเลือกวิธีออกกำลังกายที่เหมาะสมกับตนเอง				
4. ท่านออกกำลังกายแต่ละครั้งนาน 30 นาทีขึ้นไป				
5. ท่านอบอุ่นร่างกายก่อนการออกกำลังกาย				
6. ท่านออกกำลังกายจนกระทั่งรู้สึกเหนื่อย หัวใจเต้นเร็วขึ้น				
7. ท่านจัดเวลาสำหรับการออกกำลังกาย				
8. ท่านสวมเสื้อผ้าที่เหมาะสมกับการออกกำลังกาย				
9. ท่านได้ตรวจสอบร่างกายตนเองก่อนการออกกำลังกายว่าพร้อมจะออกกำลังกายได้				
10. ท่านสังเกตอาการผิดปกติของตนเองขณะออกกำลังกาย				
11. ภายหลังการออกกำลังกายท่านได้ประเมินสุขภาพตนเอง				
12. ท่านไปตรวจสุขภาพตามกำหนด				
13. ท่านเข้าร่วมกลุ่มออกกำลังกายได้				
14. ท่านพูดคุยกับเพื่อนเรื่องการออกกำลังกาย				
15. ท่านพูดคุยกับเพื่อนเรื่องการดูแลสุขภาพ				
16. ท่านชักชวนเพื่อนให้เข้าร่วมการออกกำลังกาย				

โปรแกรมส่งเสริมการออกกำลังกายแบบองค์รวม

โปรแกรมส่งเสริมการออกกำลังกายแบบองค์รวม เป็นโปรแกรมสุขศึกษาที่จัดขึ้นเพื่อให้ผู้สูงอายุเกิดการเปลี่ยนแปลงในพฤติกรรมการออกกำลังกาย โดยนำความรู้เกี่ยวกับการออกกำลังกายและการดูแลสุขภาพผู้สูงอายุ แนวคิดสุขภาพองค์รวมและทฤษฎีความสามารถตนเองมาประยุกต์ใช้ในการส่งเสริมการออกกำลังกายของผู้สูงอายุ โดยแบ่งกิจกรรมเป็น 4 ช่วงคือ

ช่วงที่ 1 การประเมินภาวะสุขภาพ

ช่วงที่ 2 แลกเปลี่ยนเรียนรู้

ช่วงที่ 3 ออกกำลังสร้างพลังชีวิต

ช่วงที่ 4 สรุปบทเรียน

ช่วงที่ 1 การประเมินสุขภาพ ใช้เวลาประมาณ 60 นาที

การตรวจร่างกายทั่วไป ประกอบด้วย การชั่งน้ำหนัก การวัดความดันโลหิต การนับชีพจร การพูดคุยซักถามปัญหาสุขภาพและให้คำแนะนำในการปฏิบัติตน โดยเจ้าหน้าที่สาธารณสุขและจดบันทึกลงในสมุดบันทึกสุขภาพ

ช่วงที่ 2 แลกเปลี่ยนเรียนรู้ ใช้เวลาประมาณ 60 นาที

กิจกรรมนี้จะเป็นการพูดคุยแลกเปลี่ยนความคิดเห็นในประเด็นที่เกี่ยวข้องกับสุขภาพ โดยเปิดประเด็นปัญหาให้ผู้สูงอายุได้แสดงความคิดเห็นในประเด็นที่เกี่ยวข้องกับสุขภาพโดยเปิดประเด็นปัญหาให้ผู้สูงอายุได้แสดงความคิดเห็นอย่างกว้างขวางและร่วมกันเสนอแนวทางการแก้ไขโดยเจ้าหน้าที่สาธารณสุขเป็นผู้ให้ข้อมูลเพื่อให้ผู้สูงอายุเกิดแนวทางการดูแลสุขภาพที่ถูกต้องเหมาะสมกับตนเอง โดยใช้แผนที่ทางความคิดในการนำเสนอความคิดเห็นของกลุ่ม

ช่วงที่ 3 ออกกำลังสร้างพลังชีวิต ใช้เวลาประมาณ 45 นาที

กิจกรรมนี้ เป็นกิจกรรมการออกกำลังกายร่วมกันของผู้สูงอายุในรูปแบบที่เหมาะสม โดยผู้สูงอายุที่เป็นแกนนำในการออกกำลังกาย แบ่งเป็น 3 ขั้นตอน คือ

ขั้นที่ 1 ระยะอบอุ่นร่างกาย

ขั้นที่ 2 ระยะออกกำลังกาย

ขั้นที่ 3 ระยะผ่อนคลายกล้ามเนื้อ

ช่วงที่ 4 สรุปบทเรียน ใช้เวลาประมาณ 15 นาที
กิจกรรมนี้เป็นการสรุปประเด็นที่เกิดขึ้นหลังการจัดกิจกรรมทั้งหมดเพื่อให้ผู้สูงอายุได้จัดลำดับความคิดทบทวนแนวทางที่ได้จากการพิจารณาเพื่อใช้เป็นทางเลือกในการตัดสินใจดูแลสุขภาพที่เหมาะสมกับตนเอง

รวมเวลาที่ใช้ในการจัดกิจกรรมทั้งสิ้นประมาณ 3 ชั่วโมง

แผนการจัดกิจกรรมตามโปรแกรมส่งเสริมการออกกำลังกายแบบองค์รวม

ครั้งที่ 2 สถานที่ ศูนย์สุขภาพชุมชน ตำบลธรรมศาลา

กิจกรรม	วัตถุประสงค์	อุปกรณ์	เวลา	ผู้รับผิดชอบ
1.ตรวจประเมินสุขภาพ	1.ผู้สูงอายุเข้าใจสภาพการเปลี่ยนแปลง	สมุดบันทึก	60 นาที	เจ้าหน้าที่สาธารณสุข
		สุขภาพ		
2.การให้คำแนะนำโดยเจ้าหน้าที่สาธารณสุข	ด้านร่างกายและจิตใจของตนเอง	เครื่องวัดความดันโลหิต		ผู้วิจัย
3.ประชุมกลุ่มพิจารณาปัญหาสุขภาพ	2.ผู้สูงอายุสามารถดูแลสุขภาพตนเองได้	ตารางดัชนีมวลกาย	30 นาที	วิทยากรกระบวนการ
ประเด็น ทุกข์ของเราในรอบ 1 ปีที่ผ่านมา		เครื่องชั่งน้ำหนัก		
4.บรรยายความรู้การเปลี่ยนแปลงสุขภาพใน		ที่วัดส่วนสูง	30 นาที	
ผู้สูงอายุ การดูแลสุขภาพและการประเมิน		กระดาษ		
สุขภาพ		ปากกาเคมี		
5.สาธิตและฝึกปฏิบัติการประเมินสุขภาพ		นาฬิกา	30 นาที	เจ้าหน้าที่สาธารณสุข
6.ฝึกการใช้สมุดบันทึกสุขภาพ			10 นาที	
7.แจกสมุดบันทึกสุขภาพ			5 นาที	
8.สรุปบทเรียนโดยใช้แผนที่ความคิด			10 นาที	วิทยากร
9.นัดหมายครั้งต่อไป			5 นาที	

แผนการจัดกิจกรรมตามโปรแกรมส่งเสริมการออกกำลังกายแบบองค์รวม

ครั้งที่ 2 สถานที่ ศูนย์สุขภาพชุมชน ตำบลธรรมศาลา

กิจกรรม	วัตถุประสงค์	อุปกรณ์	เวลา	ผู้รับผิดชอบ
1.ตรวจประเมินสุขภาพ 2.การให้คำแนะนำโดยเจ้าหน้าที่สาธารณสุข	1.ผู้สูงอายุเข้าใจสภาพการเปลี่ยนแปลงด้านร่างกายและจิตใจของตนเอง	สมุดบันทึกสุขภาพ เครื่องวัดความดันโลหิต ตารางดัชนีมวลกาย เครื่องชั่งน้ำหนัก นาฬิกา	60 นาที	เจ้าหน้าที่สาธารณสุข ผู้วิจัย
3. ประชุมกลุ่ม ประเด็น ออกกำลังกาย...เราได้อะไร 4. ชมวีดีทัศน์ การออกกำลังกายเพื่อสุขภาพ 5.บรรยายความรู้ในการออกกำลังกาย 6.สาธิตและฝึกปฏิบัติการออกกำลังกาย	2.ผู้สูงอายุมีความรู้ในการออกกำลังกาย 3.ผู้สูงอายุสามารถพิจารณาทางเลือกในการออกกำลังกายได้ 4. ผู้สูงอายุสามารถออกกำลังกายได้อย่างถูกต้อง	กระดาษ ปากกาเคมี ชุดวีซีดี ภาพชุดนิทรรศการ การออกกำลังกายเพื่อสุขภาพ คู่มือการออกกำลังกาย	30 นาที 5 นาที 25 นาที 45 นาที	วิทยากรกระบวนการ
8.สรุปบทเรียนโดยใช้แผนที่ความคิด 9.นัดหมายครั้งต่อไป			10 นาที 5 นาที	ผู้วิจัย

แผนการจัดกิจกรรมตามโปรแกรมส่งเสริมการออกกำลังกายแบบองค์รวม

ครั้งที่ 3 สถานที่ ศูนย์สุขภาพชุมชน ตำบลธรรมศาลา

กิจกรรม	วัตถุประสงค์	อุปกรณ์	เวลา	ผู้รับผิดชอบ
1.ตรวจประเมินสุขภาพ 2.การให้คำแนะนำโดยเจ้าหน้าที่สาธารณสุข	1.ผู้สูงอายุเข้าใจสภาพการเปลี่ยนแปลงด้านร่างกายและจิตใจของตนเอง	สมุดบันทึกสุขภาพ เครื่องวัดความดันโลหิต ตารางดัชนีมวลกาย เครื่องชั่งน้ำหนัก นาฬิกา	60 นาที	เจ้าหน้าที่สาธารณสุข ผู้วิจัย
3. การเสนอตัวแบบในการออกกำลังกาย ประเด็นเสวนา ออกกำลัง...สร้างพลังชีวิต	2.ผู้สูงอายุมีความรู้ในการออกกำลังกาย 3.ผู้สูงอายุสามารถพิจารณาทางเลือกในการ	กระดาษ ปากกาเคมี	30 นาที	วิทยากรกระบวนการ
4. ประชุมกลุ่ม แนวทางการออกกำลังกาย ประเด็น สู่ถนนสายสุขภาพดี	ออกกำลังกายได้ 4. ผู้สูงอายุสามารถออกกำลังกายได้อย่าง		30 นาที	
5.สาธิตและฝึกปฏิบัติการออกกำลังกาย	ถูกต้อง		45 นาที	
6.สรุปบทเรียนโดยใช้แผนที่ความคิด			10 นาที	ผู้วิจัย
7.นัดหมายครั้งต่อไป			5 นาที	

แผนการจัดกิจกรรมตามโปรแกรมส่งเสริมการออกกำลังกายแบบองค์รวม

ครั้งที่ 4 ,5,6,7,8,9,10 สถานที่ ศูนย์สุขภาพชุมชน ตำบลธรรมศาลา

กิจกรรม	วัตถุประสงค์	อุปกรณ์	เวลา	ผู้รับผิดชอบ
1.ตรวจประเมินสุขภาพ 2.การให้คำแนะนำโดยเจ้าหน้าที่สาธารณสุข	1.ผู้สูงอายุเข้าใจสภาพการเปลี่ยนแปลงด้านร่างกายและจิตใจของตนเอง	สมุดบันทึกสุขภาพ เครื่องวัดความดันโลหิต ตารางดัชนีมวลกาย เครื่องชั่งน้ำหนัก นาฬิกา	60 นาที	เจ้าหน้าที่สาธารณสุข ผู้วิจัย
3. การประชุมกลุ่มตามประเด็นปัญหาที่พบ 4.สรุปประเด็นโดยใช้แผนที่ความคิด 5.ฝึกปฏิบัติการออกกำลังกายร่วมกัน	2.ผู้สูงอายุมีความรู้ในการออกกำลังกายและการดูแลสุขภาพตนเอง 3. ผู้สูงอายุสามารถออกกำลังกายได้อย่างถูกต้อง	กระดาษ ปากกาเคมี	30 นาที 30 นาที 45 นาที	ผู้วิจัย แกนนำผู้สูงอายุ เจ้าหน้าที่สาธารณสุข
6.สรุปบทเรียนโดยใช้แผนที่ความคิด 7.นัดหมายครั้งต่อไป			10 นาที 5 นาที	ผู้วิจัย

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BIOGRAPHY

NAME	Paradee Sriposhang
DATE OF BIRTH	February 20, 1969
PLACE OF BIRTH	Nakhonpathom Province
INSTITUTIONS ATTENDED	Sukhothai Thammathirat University,1989-1994: Bachelor of Public Health Rajabhat Nakhonpathom University, 1990-1992: Bachelor of Science Boromarajchonee Chakrirat Nursing College, 1994-1996: Mahidol University,2000-2004: Master of Science (Public Health)
	1999-Present
OFFICE	Nakhonpathom Public Health Office
POSITION	Public health technical officer