UTILISATION OF COMMUNITY PRIMARY HEALTH CARE CENTRE (CPHCC) AND ITS AFFECTING FACTORS IN PODHARAM DISTRICT IN RATCHABURI PROVINCE, THAILAND

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A comparative study was conducted on factors affecting utilisation of tw Community Primary Health Care Centres (CPHCCs) in Podharam District Ratchaburi Province, Thailand. One centre was located in high utilisation village and the other in a low utilisation village. The objectives of the study were t identify the socio-demographic profiles, perceptions of the villagers on roles and activities of CPHCCs, availability and accessibility to CPHCCs, attitudes of the villagers towards roles and activities of the CPHCCs and health seeking behaviour of the villagers.

One hundred and six villagers from high and low utilisation villages were interviewed. There were 53 respondents from each village. The results of the study showed that there was no difference in age, sex, education, and income of the respondents between the two villages. There was significant difference among respondents in the two villages on occupation of respondents, availability and accessibility to the services at the CPHCCs by the villagers and availability of other funds at the CPHCCs in the two villages. Occupation, income, knowledge about CPHCC activities, means of travel and duration was associated with use of the CPHCC in the high utilisation village. In the high utilisation village again, there was an association with accessibility, availability and distance from the house of respondent with the utilisation of the CPHCC. Respondents had good knowledge about the CPHCC in the high utilisation village and were more likely to use the CPHCC than those with poor knowledge about the CPHCC. Participation in activities and meetings at the CPHCC were associated with utilisation of CPHCC in the high utilisation village.

The recommendations resulting from the findings of this study are as follows: the continuation of Information, Education and Communication (IEC) materials should continue to be distributed widely. This in turn will increase the membership at the CPHCCs. Moreover, the existing incentives to the Village Health Volunteers (VHVs) will also lead to an increase in utilisation of the CPHCCs and therefore benefit the communities.

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CHAPTER I

INTRODUCTION

1.1 Rationale and justification

The utilisation of health services by people in any community is vital for the promotion of health for the people. It is more important when the health facility is located within easy reach of the people. Therefore, utilisation of health facilities by people especially those situated within the communities "reach" and live in rural areas is of more importance for provision of simple treatment and prevention to illness. Utilisation of health services in the community also lessens the chances of illnesses to progress to severity because of no delays in seeking medical treatment. In most cases, delaying in seeking medical treatment is as a result of long distances to health facility. Also, the long expensive journeys to district or provincial hospitals, over crowding and long waits, the expenses incurred, are some of the reasons why rural people do not seek medical attention quickly. They wait till the illness become serious before seeking medical treatment (1).

In Thailand, there has been a series of developmental changes in the health system to cope with the needs of people and times since the "popular" conference in USSR in 1978 (2). This conference gave birth to the "Alma Ata Declaration." Among other things that were adopted at this conference was the strategy of attaining health for all by the year 2000 through Primary Health Care (PHC) Programme approach. The adoption of Alma-Ata strategy has paved the way for PHC activities in Thailand as it has served as a guiding principle to Primary Health Care Programmes. The PHC approach was first incorporated in the Fourth National Five - Year Economic and Social Development Plan (1977-1981). Since then, it has and continues to be included in all Five - Year National Health Development Plans (3).

Utilisation of Community Primary Health Care Clinic (CPHCCs) by the villagers in a community is part of implementation of PHC programme activities and fulfilling the WHO and Thai government strategy in the provision of equable, cheap, accessible health services to the un-reached people especially those in the rural areas. The lives of people have shown to improve and the nutritional status of the children in the communities has also improved where villagers use the CPHCC (4).

Community Primary Health Care Centres (CPHCCs) are important centres for the provision of equitable, accessible and low cost health care to the majority of the population. It is also a centre for co-ordination of knowledge, sharing experiences among Village Health Volunteers (VHVs) on PHC activities. The centres also serves as an education centre for villagers. In order to achieve PHC strategies, (VHVs) who are selected by the community and stationed at these centres to provide simple health services. The government and non-governmental organisations in some instances provide simple medical instruments. Increasingly, PHC is seen as an approach to part of the overall social and economic development and the Thai government adopted this approach. Primary Health Care programme therefore, is vital for the implementation of essential health services in communities. It is also worthy to mention that all PHC activities done in the communities are planned, implemented and monitored at the CPHCCs with assistance from health workers from health centre. Hence, the utilisation of CPHCC is a vital component in delivering essential health services and uplifting the standards of life of the people in rural areas. Because of the importance of CPHCC as explained above, it is important to determine factors that affect the utilisation of Community Primary Health Care Centres (5).

In Thailand, since the Fourth National Health Development Plan (1977-1981), VHVs selection system has been used as a primary strategy for implementing PHC programme activities. The construction of CPHCCs within the villages started from 1992. This activity further improved the implementation of PHC programme activities at the village level. These strategies have greatly contributed to the improvement of the health status of the people in Thailand especially in rural areas.

Many health programmes were integrated and introduced to the villages by health workers with the assistance of the Village Health Volunteers (VHVs) under the programme of Health Reforms which was introduced in 1992. Startegies that were included at that time were the provision of basic treatment, health promotion and prevention and rehabilitation. Village Health Volunteers (VHVs) use local resources on implementing these activities. Health Centre staff give technical support and supervision on how to plan, implement, monitor and evaluate PHC programme activities in those communities. Nowadays, all PHC programme activities are done at the CPHCCs in all villages. Therefore, this makes the CPHCC remain an important centre for continuity of PHC programme activities (6).

Community Primary Health Care Centres (CPHCCs) are centres built in the community for the purpose of providing information on PHC programme activities in the community. It serves people in communities with basic health problems and provides home remedies or some essential drugs at a cheap price. The CPHCC act as a linkage between community/village and government health system with proper referral system from the village to the higher levels. The centre acts as a co-ordinating centre and provision of technical support and equipment both from government and non-governmental organisation, serve as a centre for health surveillance, health education and health services in the village (4,5).

The Ministry of Public Health in Thailand launched the Community Primary Health Care Centre Project during the Seventh National Health Development Plan (1992-1996). At that time, all health centres and community hospitals were responsible to set up at least one CPHCC in one village as a model for other villages both in rural and urban communities. It was envisaged at the beginning of the programme that, by 1996, all villages in Thailand were going to have a CPHCC as a lowest level of health facility and managed by the people themselves (7).

As a consequence of establishing and the utilisation of the CPHCCs through implementing PHC programme activities at village level, the health status, and nutritional status of children less than five years has been improved in Thailand.

Morbidity and mortality rates of some communicable diseases have been controlled. Population growth has also declined. Though there have been these achievements, the Thailand government has noticed new pattern of health problems because of the rapid socio-economic growth and environmental degradation. The new trends are cardiovascular diseases, accidents, cancer problems and mental health. These new patterns of health problems have affected the morbidity pattern of the people. The disease pattern has changed from communicable to non-communicable diseases (8).

In the past decade, PHC in Thailand has achieved some of the strategies as indicated by the Quality of Life/Basic Minimum Needs (QoL/BMN). These achievements have been considerable as measured by improvements in the overall levels of health of the people. However, utilisation of CPHCCs by the community has shown to be low in some communities because villagers are economically viable, many health facilities within the village, perceptions of the communities about the CPHCCs role and its activities have changed since their implemetation. The other problem is that CPHCCs, though in the village, some people in the community do not even know its proper name and could call it "Sala" (public building). They also perceived the CPHCC as a village meeting place, a place to collect and exhibit village information and a place for weighing the pre-school children (9).

In view of enhancing efficiency, equity, quality, social accountability and choice at community level, The Thailand government has adopted the "Heath Care Reform Project". The reform project encourages people to use CPHCC first before going to health centre or hospital. People are to follow the normal referral system i.e. CPHCC to Health Centre and then Hospital. All activities were to be done and monitored at CPHCCs in the communities. The project will look at Strategies aimed at reforming the financing of the sector, aim at reforming health care delivery, and aim at empowering clients. All these strategies will be applied at all levels of health delivery point i.e. from CPHCC level to hospital level. On reforming the financing sector, decentralising the management of merged funds, new ways paying health care providers that provide incentives for quality performance and universal coverage with national health insurance. While the strategy aims at reforming health care delivery; a

defined core package of essential care that will be guaranteed to all citizens, develop family practice, organise health care providers networks, promote quality assurance. Lastly, the strategy aims at empowering clients to increase clients' freedom of choice of provider and civil involvement in health care. These are just guidelines and will be used mostly at all levels especially at CPHCCs (10).

Although Primary Health Care in Thailand started sometime before 1977, the progress towards self-reliance and self-management of Primary Health Care by the villagers is still low. Thailand has 610,321 rural village health volunteers in 65,167 villages and 14,283 urban health volunteers. There are 50,824 CPHCCs through out the country and it represents coverage of 78% of the all the villages with CPHCC in Thailand. Though this looks to be good coverage of communities with CPHCCs and progress on the implementation of PHC programme activities, there is some doubt that the Community Primary Health Care Centres are being adequately utilised. There is need to establish the factors that affect the utilisation of the CPHCCs in the communities (10,11).

This study is going to determine the factors that affect the utilisation of CPHCC and therefore solve future problems of that are associated with the utilisation of CPHCC in the communities. Since Community Primary Health Care Centres (CPHCCs) have shown to be the centre for health and socio-economic activities in the communities in implementing PHC programme, their utilisation by the community around them is important for the continued uplifting of peoples' lives in the villages especially on their health status.

1.2 Research problem

The implementation of Community Primary Health Care Centres (CPHCCs) in Thailand started in 1993. It was expected that by 1996, at least all villages in Thailand were going to have a CPHCC. Community Primary Health Care Centres are centres for co-ordination and provision of technical support and equipment both from

government and non-government organisation. The centre serves as a centre for health surveillance, health education and health services in the village. Since the start of the programme of establishing the CPHCCs in Thailand, some of the CPHCCs are highly utilised while others are lowly utilised. Health workers need to establish factors that affect the utilisation of the CPHCC to continue improving the health status of Thai people especially those in the villages.

The research questions are:

a) What are the factors that affect the villagers to use CPHCC?
b) What are perceptions and attitudes of the villagers towards the roles of the CPHCC?
c) What is the geographical location of the CPHCC in the village?
d) What kinds of other health facilities are in the village?
e) What activities are being done at the CPHCC?

1.3 Research objectives

1.3.1 General objective

To determine factors affecting the utilisation of CPHCCs in Podharam district in Rachaburi Province, Thailand.

1.3.2 Specific objectives

1. To identify activities being done at the CPHCC (e.g. weighing children under five years, urine sugar checks, Blood pressure checks, Nutritional clinics, receiving simple treatment, family planning activities, health meetings and availability of other funds at the centre).

2. To describe the respondents factors in terms of; socio-demographic variables, perceptions and attitudes towards the roles of the CPHCC by villagers, availability and accessibility to the services at

the CPHCC by the villagers, utilisation of the CPHCC by the villagers, participation of the villagers to the activities that are done at the CPHCC and the health seeking behaviour of the villagers.

3. To compare factors that affect utilisation of Community Primary Health Care Centres (CPHCCs) among highly utilised and lowly utilised CPHCC

4. To determine factors affecting the utilisation of the CPHCC in the villages. Factors that are to be determined are; the socio-demographic factors, perceptions and attitudes of the villagers towards the roles and uses of the CPHCC in the village, the availability and accessibility of CPHCC services by the villagers, the health seeking behaviour of the villagers when one is seek in the village and the availability of other funds apart from health funds at the CPHCC.

1.3 Hypothesis

1. Are there differences between lowly and highly utilised CPHCCs in terms of; socio-demographic factors, perceptions of the villagers towards the activities done at the CPHCC, availability and accessibility of CPHCC services by villagers, attitudes of villagers towards roles of the CPHCC activities and health seeking behaviour of the villagers?

2. Are there any associations between the utilisation of CPHCC and these factors: socio-demographic, perceptions of the villagers towards the activities done at the CPHCC, availability and accessibility of CPHCC services by villagers attitudes towards roles of the CPHCC activities by villagers and health seeking behaviour of the villagers?

1.5 Scope of the study

The study is going to be conducted in communities that established the CPHCCs 5 years or more ago to evaluate the utilisation of the centres. In Thailand, the implementation of CPHCCs started in 1993, and by 1996, all villages had the centres. Therefore, five years or more will give more information to evaluate the villagers experience and performance of the CPHCCs. The length of time will give good measurement of on utilisation of the CPHCCs as it will cover all conditions that Thai people have gone through like the "economic crisis and a period before then.

1.6 Study limitations

The study will be conducted in one province and one district of Thailand. It is not possible in this case to study all communities in Thailand and therefore, the results from this study may not represent overall situation in Thailand.

1.7 Operational definitions

Community Primary Health Care Centres (CPHCCs): are centres built in the community for the provision of information, management and organisation of PHC services. The centres are there to serve people in the communities with basic health problems and provide home remedies or some essential drug at a cheap price. It acts as linkage between community/village and government health system with proper referral system from the village to higher level. CPHCCs are centres for co-ordination and provision of technical support and equipment both from government and non-government organisation, to serve as a centre for health surveillance, health education and health services in the village. At one CPHCC, there are 2-5 VHVs. The VHVs work at the CPHCC on rotation basis. The CPHCC is equipped with; a box to keep equipment, diabetic test papers, eye sight measurement poster, cotton wool, first aid sets for care of fresh wounds, health care hand book for VHVs, faecal collecting sets, model of dental teaching, sputum collecting sets, Blood Pressure machine, stethoscope and weighing scale.

Highly utilised CPHCC: According to the reports and definitions from Ratchaburi Provincial Health Office; what is regarded as a highly utilised CPHCC is the total number of villagers who went to the CPHCC for the utilisation of any type of service that is available at the CPHCC out of the total population of that village. In case of village number 10, which is regarded as the highly utilised village, it was 25% and above of the total population (12).

Lowly utilised CPHCC: According to the reports and definitions from Ratchaburi Provincial Health Office; what is regarded as a lowly utilised CPHCC is the total number of villagers who went to the CPHCC for the utilisation of any type of service that is available at the CPHCC out of the total population of that village. In case of village number 5, where the research was done is regarded as the lowly utilised village, it was 5% and below of the total population (12).

Utilisation of CPHCC: In Ratchaburi utilisation of CPHCC means the attendance of people at the CPHCC both those with health elements that can be managed there and those that need to be referred to a higher level. It also means the convenience of the centre to the villagers i.e., distance from the homes of the respondents to the centre and the distance from the homes to the CPHCC as compared to the distance to other health facilities that are available in the villages with CPHCC and, also, activities at the CPHCC done by the villagers.

Use: family with someone in the household who used the CPHCC during the past six months

Non use: family with no household member ever used the CPHCC services during the past six months

Family income: Annual income in the family from all sources by all or any member of the family

Village Health Volunteer (VHV) is someone selected by the community and had been trained for longer time by the MOPH. The VHV is responsible for the provision of simple treatment to the villagers when they are sick, keeping records of the activities at the CPHCC, provides information on health and other activities done at the CPHCC, provides health education to villagers from time to time. He/she co-ordinates on activities done at the CPHCC with the government and other Non governmental organisation.

Activities being done at the CPHCC

i. Weighing children under five years; are children being weighed for growth monitoring and immunisation at the CPHCC. Total number of children in the village versus the number of children attending the weighing sessions will be compared to determine the number of children attending the weighing clinics

ii. Receiving simple treatment will mean the total number of people in the village compared to the number of people going to the CPHCC in the last six months to receive treatment

iii. Blood pressure test, family planning activities and urine sugar tests will mean the total number of people who come to the centre for blood pressure check ups in the past six months against the total number of people in the village.

iv. Nutritional clinics will mean number of children known to be under weight in the village compared to number of children attending nutritional clinic

v. Health meetings will mean number of health meetings held at the CPHCC in the past six months

vi. Other funds will mean availability of other funds like buffalo, rice, youth and other funds at the CPHCC

Socio-demographic factors were factors related to the respondents on age, sex, religion, marital status, status in the family, education, main occupation of the respondents, number of people per household, their income per month, the nearest health services from their houses and the distance from the houses to the nearest health service.

Villagers Perception on Roles and activities of the Community Primary Health Care Centres are the perceptions of the respondents on details of CPHCCs such as location of the CPHCC in the village, knowledge about the activities done at the CPHCC and knowledge about the service equipment available at the centre. Respondents were asked if they knew the location, activities and service equipment of the CPHCC. Perception levels were divided into two i.e. low and high. The mean

score was 1.9, SD was 1.1 minimum was 0.0 and maximum was 3.0. If respondents' perception score was less than or equal to 1 then they were regarded to have low perception level and if the respondents' perception score was more than two or equal to 2 then they were regarded to have high level of perception score.

Villagers knowledge score of the respondents on utilisation of the CPHCC was divided into two, i.e., high or low knowledge. The knowledge was regarded as low if the mean score of the response was less than or equal to mean and the score was regarded high when the mean score was equal to or more than the mean score. The mean score for knowledge was 4.9 and SD was 1.1. The minimum score was 3.0 and maximum was 6.0. Respondents were asked to

Availability and accessibility factors: were factors on how accessible the CPHCC was to the respondents on distance from their house to the CPHCC, mode of travel to the CPHCC, length of time it takes them to arrive at the centre, the situation of the CPHCC in the village whether centrally situated or not, convenience of its opening time, whether essential drugs were available or not, availability of other health facilities in the village or not, whether there is communication system (megaphones) and availability of proper referral system (proper management care) for the next health system level.

Utilisation of the CPHCC by the villagers: was determined by the number of visits a member of the family has made to the CPHCC in order to obtain assistance, the availability of other funds at the CPHCC and what activities were done by villagers at the CPHCC.

Participation of villagers towards CPHCC activities: were activities done by the villagers at the CPHCC, the knowledge of who the VHV was at the CPHCC, knowledge who collects data on deaths and births in the village, the relationship between villagers and the VHV, membership status to other funds available at the CPHCC, the number of sessions of weighing children done by villagers at the

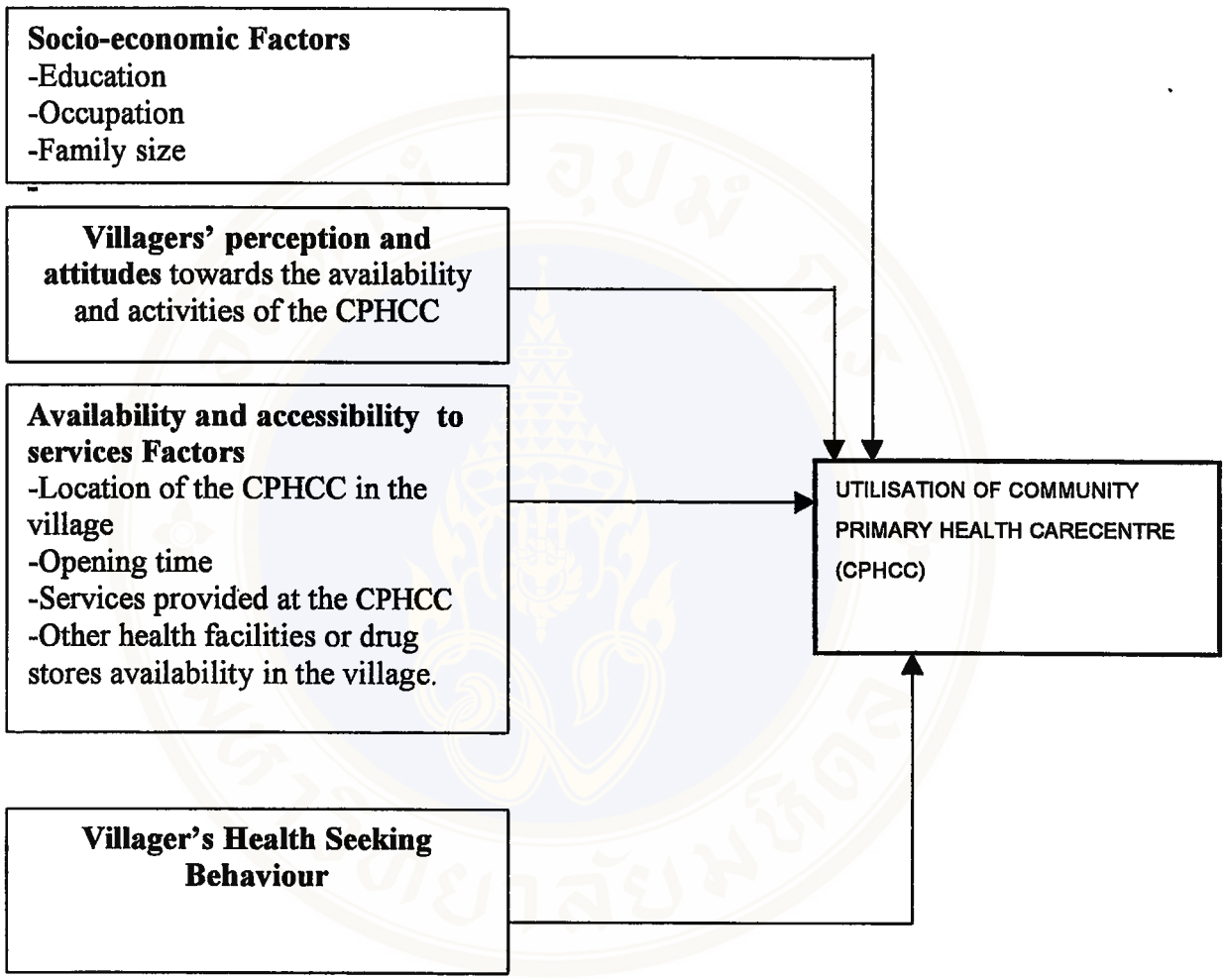
CPHCC, number of meetings held at the CPHCC six month prior to this study, and if the respondent participated to those meetings held at the CPHCC.

Villagers' health seeking behaviour in general was the knowledge of the respondents where they would take their member of the family when sick from common illness or severe illness and also where they obtain the information on health matters when they wanted to know something on health. Those who answered three or all the four questions correctly were regarded to have high knowledge and those who answered two or one question correctly were regarded to have fair knowledge and those who could not answer any question correctly were regarded to have poor knowledge.

Villagers' Attitude towards roles and activities of the CPHCC and Village Health Volunteers: was the opinion of the respondents' towards their relationship with the VHV's, their attitude towards the necessity of the CPHCC in the village, quality of equipment available at the centre, quantity of equipment available at the centre and the convenience of opening hours of the CPHCC. A score level of less than or equal to 7.9 was regarded as disagreeing and a score equal to or more than 8 and less than or equal to 11.5 was regarded as not sure and a score 12 or more was regarded as agreeing.

. **Convenience of time and participation** of villagers to CPHCC were both scored as yes or no according to their perceptions. The score was regarded as "no" when the mean score was less than mean and it was regarded as "yes" when the mean score was equal to or more than the mean. Inter personal relationship with the VHV was scored as low, moderate and high. The score was regarded as low if the response was less than mean and the score was regarded moderate when the score was equal to mean and the score was high when the score was more than mean. The mean score was 2.3 and SD was 0.7 for inter personal relationship. The minimum score was 1.0 and the median was 2.5 and the maximum was 3.

1.8 Conceptual Framework



CHAPTER II

LITERATURE REVIEW

2.1 The Provincial Administrative structure of Thailand

The Provincial Administration is under the supervision of the Office of the Permanent Secretary for Public Health. The Permanent Secretary is in-charge of controlling and monitoring all provincial health activities so that they are implemented in accordance with MOPH's policies and programmes. Agencies under the provincial health administration are Provincial Public Health Offices, District Health Offices, and Health Centres.

The Provincial Public Health Office (PPHO) in each province reports to the office of the Permanent Secretary and is headed by the Provincial Chief Medical Officer (PCMO), who is in charge of all health activities at the provincial level and below under the direct command of the provincial Governor. Under the PPHO, there are a regional hospital, general hospitals and community (district hospitals) reporting to the PCMO.

Health Centres provide integrated health services at Tambon or village level, to people in their designated rural areas, each covering a population of approximately 1,000 to 5,000. A Health Centre, is generally, staffed by a health worker, a midwife, and a technical nurse. Currently, the MOPH is in the process of assigning a dental auxiliary, a professional nurse and a health specialist to work at each of the health centres throughout the country (8). Below is the lay of administrative structure:

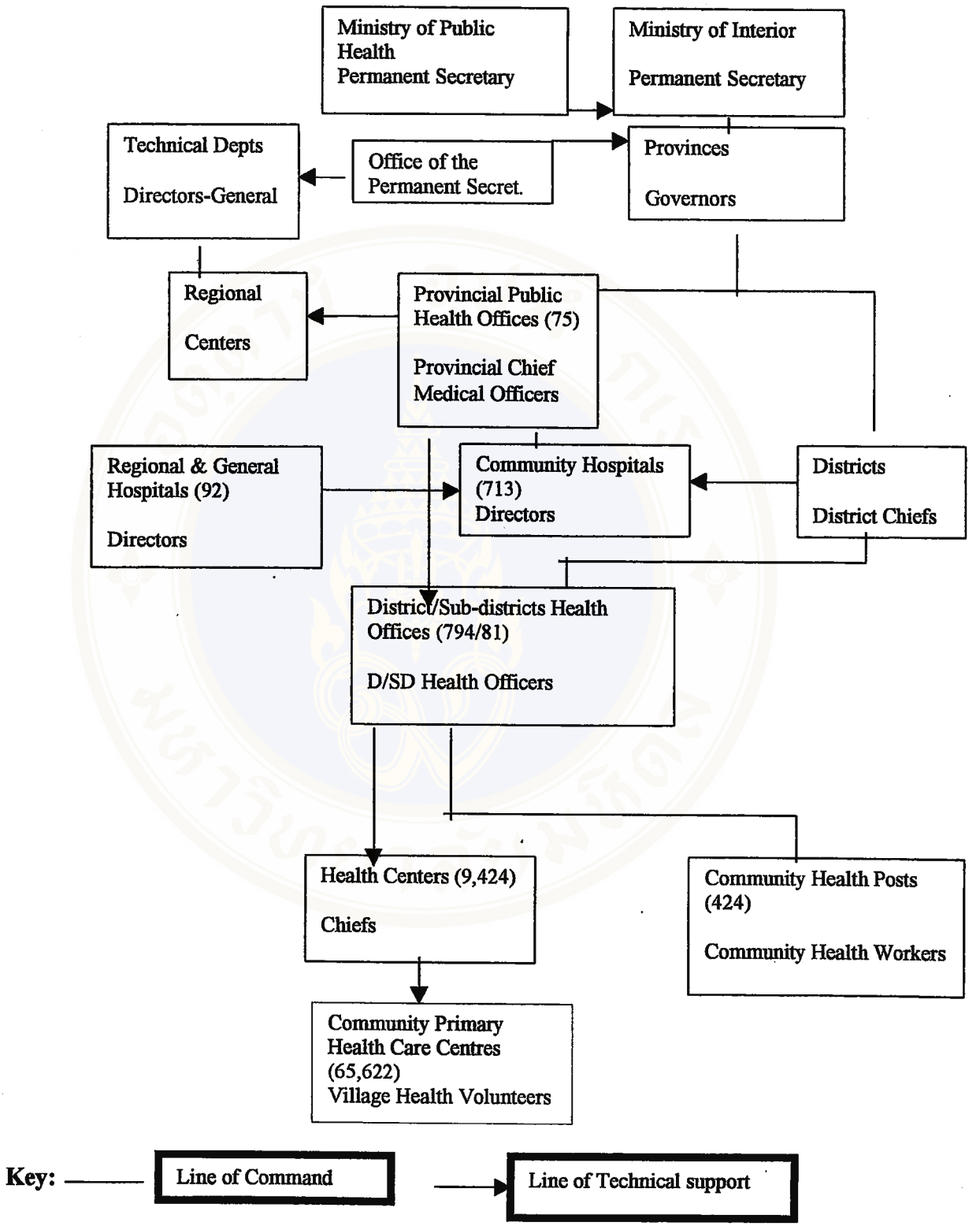


Figure 1: Structure of provincial administrator (1998), Thailand

Source: MOPH, Eighth-Five year National Health Development Plan, 1998-2001,

2.2 The utilisation of CPHCCs by villagers in the Primary Health Care programme implementation in Thailand

The Ministry of Public Health launched the project to establish Community PHC Centres (CPHCC) during the Seventh National Health Development Plan (1992-1996). It was expected that by 1996,all villages in Thailand were to have a CPHCC each. Now, it shows that there are 50,824 CPHCCs in 65,167 villages representing 78% coverage (13).

The Community Primary Heath Centre (CPHCC) is a centre built in the community by the communities for the following purposes (4,14):

a) to provide information, management and organisation of PHC services,
b) to serve patients with basic health problems and provide home remedies or some essential drug at a cheap price,
c) to act as linkage between community/village and government health system with proper referral system from the village to higher level,
d) to be centre for co-ordination and provision of technical support and equipment both from government and non governmental organisation,
e) To serve as a centre for health surveillance, health education and health services in the village.

The Village Health Volunteers (VHVs) and the villagers are responsible for the location of the site where to build the CPHCC. Village Health Volunteers' work in the CPHCC on rotation basis. In each village, there are 2-5 VHVs and 1-2 are on duty at any one time at the CPHCC. All CPHCCs have a standard list of equipment that are kept there and these are : A box to keep equipment, Diabetic test papers, Eye sight measurement poster, Cotton wool, First aid sets for care of fresh wounds, Health care hand book for VHVs, Faecal collecting sets, Model of dental teaching, Sputum collecting sets, BP Machine, Stethoscope and Weighing scale. The CPHCCs serve the communities on the following activities (4):

a) Weighing children under five years old
b) Blood pressure measuring tests

c) Urine sugar tests
d) Essential drugs
e) Family planning
f) Simple treatment
g) Meeting place
h) Activities of other funds

2.3 The socio-economic factors in the utilisation of CPHCCs in Thailand

The utilisation of non-essential drugs as well as health insurance system without effective cost-commitment measures cause high cost of social medical cares. Therefore, people, especially those from rural areas, are encouraged to participate and be self reliant in health care for individual, family and community by using Primary Health Care approach. This approach will function well in rural areas but not in urban areas. This support can be achieved only with the peoples' own initiatives. Since the above mentioned components are dynamic, it is necessary to pay attention to the changes in health situations and trends so that the adjustment of health development strategies and tactics for future of good health of the Thai population is possible (4,15).

It can be seen that where PHC and communities' self-reliance were adopted as a national policy, viable PHC generated. In the opposite direction, research and new findings from PHC programmes generated other national strategies that were later adopted as policy. This is reported in the findings in the research done by Amorn Nondasuta in 1988, where several activities established at community level were assessed on how they were fairing since they were established. It was concluded in this study that the aspects of development are of particular significance since they keep the Health for All (HFA) policy and strategy dynamic as time goes by. An example to this was the "village development funds" which were derived from an attempt to provide essential drugs in the community. Organising the "Village Drug Co-operative" which later was applied in other PHC programmes such as nutrition intervention or sanitation and water supply programmes. The concept was then

expanded and the co-operative became multipurpose, serving various aspects of social developments. Finally, it was adopted as a national policy (1, 16).

It has been seen from other studies in Thailand like the one done by Chanawongse, K., et al on Socio-economic and Cultural Determinants of Primary Health Care at Community Level. In this study it was indicated that that some of CPHCCs were under utilised because of the socio-economic factors, distance to the CPHCC, poor relationship between VHV and the villagers and the villagers perception on roles of the CPHCC (16).

When communities utilise the CPHCCs, many other funds within the village are formed and the CPHCC becomes an active place for implementation of PHC programme activities. In Thailand, utilisation of the CPHCCs has also resulted to the formation of Drug and Medical Products Funds. This has led to the formation and development of other funds such as buffalo funds, rice funds, youth funds etc at community level. The life of people in Thailand has also improved as indicated by Basic Minimum Needs results from the communities and records from Ministry of Public Health. The results show that there has been a shift of disease pattern from Communicable Diseases (CD) to Non Communicable Diseases (NCD). These activities are done at community level at the CPHCCs (16).

The community Based Integrated Rural Development (CBIRD-PROJECT) by Institute of Population and Social Research, Mahidol University, in August 1988, in an evaluation report found out that if the community is aware of the activities, the participation in organised social economic activities is increased. In a another study, by Asean Training Centre for Primary Health Care Joint Project of Mahidol University and Ministry of Public Health in 1988, Thailand, where they wanted to determine factors that influence the utilisation of health facilities in Thailand; Private Clinics were found to be more popular with people. Fourty-five percent (45%) of people though ill, they did not use the community hospital. The first choice centre to go to for the treatment for common cold was health centre (41.7%) while consulting VHVs or drug co-operatives was 26.2% (17).

Though Thailand has been seen to succeed in achieving the Health for All (HFA) goal by demonstrating that there are 50,824 CPHCCs established in the villages, there is also enough evidence to show that utilisation of the established CPHCCs in low in some villages. This is supported by the findings in the Health For All Project in Thailand. In this project, it was established that only 59.9% of 39,007 targeted villages and 24.1% of 394 municipal communities have achieved the set goals of the Basic Minimum Needs (BMN) (18).

2.4 The villagers' perception on roles and activities of the CPHCC

In another study in 1989, a survey to develop models for village health and Basic Minimum Needs Programmes by the National Health Association of Thailand in Collaboration with Canadian Public Health Association. They found out that villagers were aware of their role as trainers to other villages but their knowledge and skills were still restricted including those of volunteers so that in some cases, government workers had to step in to save the situation. Government workers had to step in avoid the activities being discontinued at the CPHCC. Because of lack of understanding of basic need concept and approach coupled with inadequate economic status it was impossible for some families to participate in development activities at CPHCC. Though basic need indicators show good progress that now the morbidity pattern from diseases has changed from communicable to non-communicable diseases. It is apparent that the methods used in coming up with this conclusion came from different people in different studies. It is important therefore, to have a universal model and method on how to conduct such type of an assessment recommended by Amorn Nondasuta. He recommends that there is need to do in-depth study on effectiveness on activities done at CPHCC in relation to the village communities concerned. Also to establish whether the communities themselves could be motivated to bring the village members together to help solve their BMN more effectively(1,19).

In the Seventh National Health Development Plan of Thailand, CPHCCs are clearly defined as centres for operation and exchange of knowledge among Village Health Volunteers (VHVs), it is also to integrate control programmes such as TB

Programme to Thailand's PHC programme. Apart from the community receiving simple treatment and implementing other health activities and funds, it links community/village and government health system with proper referral system from the village to higher level. CPHCCs are centres for co-ordination and provision of technical support and equipment both from government and non-government organisation. The centre serves as a centre for health surveillance, health education and health services in the village (20).

The CPHCCs provide basic treatment to the people in the village. However, despite that the centres are within the villages, villagers seem to be unsatisfied with the services given at these centres as shown in the survey done in 1992 by Wongkhomthong, S. In this survey, they reviewed the Primary Health Care movement and looked at what was done in PHC programme in the past, what was happening then and what the future was going to be like for PHC programme in Thailand. It was found after the this survey that though appropriate technology for diagnosis and treatment at community level were important, the villagers did not follow the system. Therefore, two-way communications on referral system were seen to be important for the programme monitoring and evaluation. It was therefore, strongly recommended to improve on Health Information system. Since CPHCCs act as linkages between village and health centre or hospital in the referral system, CPHCC remains a vital place for the continuity of PHC programme activities if there is good communication, referral system between the village and the health system (21).

With a view of enhancing efficiency, equity, quality, social accountability and choice at Community level, the Thailand government has adopted the Heath Care Reform Project. The reform project was also to ease the problem of referral system. People are to follow the normal referral system i.e. CPHCC to Health Centre and then Hospital. All activities were to be done and monitored at CPHCCs in the communities. The project will look at Strategies aimed at reforming the financing of the sector, aim at reforming health care delivery, and aim at empowering clients. All these strategies will be applied at all levels of health delivery point i.e. from CPHCC level to hospital level. On reforming the financing sector, decentralising the

management of merged funds, new ways paying health care providers that provide incentives for quality performance and universal coverage with national health insurance. While in the strategy aimed at reforming health care delivery; a defined core package of essential care that will be guaranteed to all citizens, develop family practice, organise health care providers networks, promote quality assurance. Lastly, as the Office for Health Care Reform Project found out in 1998 in Thailand on reform programme, that the strategies aimed at empowering clients, is also aimed to increase clients' freedom of choice of services provided to them and civil involvement in health care. These were just to be guidelines and were to be used mostly at all levels especially at CPHCC by the community (10, 11, 22).

According to the Ministry and Department Reorganisation Act of B.E. 2534 (1991), "the MOPH has authority and functions related to medical care, public health, health promotion and development, food and drug control, control of toxic or hazardous substances to the public health, and the Red Cross supervision and support". The major functions include promotion, support, control, and co-ordination of all activities related to physical and mental health including well being of people, and provision of health services. The CPHCC plays a major role in the promotion of health related activities at village level (23).

2.5 Availability and accessibility of services factors

Factors related to consumer show that there is relationship between distance an individual has to take to seek medical help and mode of transport to utilisation of the CPHCC. The logical position of the health facility also plays an important role on the utilisation of its services. Nondasuta, A., in another study to determine the performance of PHC programme in Thailand in 1984 found out that factors affecting utilisation of health services were divided into two. Consumer related had factors such as education, socio-economic, cultural, transport and distance. While service provider related factors were distance, quality and quantity of the service provider, facility equipment, cost of treatment at the facility and behaviour of the service provider to the people (1,24).

2.6 The villagers' perception and attitudes towards Village Health Volunteers.

Though the number of newly established CPHCCs is increasing, the number of VHVs is decreasing. The main cause for the drop out among the VHVs is the poor relationship with the villagers and VHVs. In 1992, a study on CPHCCs Management and Services done by the VHVs and to establish factors related to utilisation of health centre by the population of Royong Province, Thailand, Ponganthai, P. et al found out that the drop out rate by the VHVs results into less health activities. Activities such as immunisations are directly done by the VHVs at the CPHCC. This would mean that if the VHVs continue to drop the voluntary services, the CPHCC would not continue functioning (20, 25).

2.7 Villagers health seeking behaviour

People prefer to seek medical help from hospitals other than from the CPHCCs or health centres in their communities (26). This was concluded in a study done in Royong provincial health office by Moumvong P., et al on Health Services Utilisation of the people in Khon Kaen Province, Thailand in 1980. It found out that many people purchase drugs from drug stores for their common conditions that could be managed at the CPHCCs. In two Tambons, (one that was well utilised and the other one, which was not well utilised) were compared in Muang Samsib District of Ubonrachathani Province, a study on utilisation of married women on utilisation of health services. The survey revealed that 60% of the villagers had used the services of a local midwifery centre in the twelve months prior to the survey. The average number of clients per day was 3.0 in the low utilised centre and 30.0 in the high-utilised centre. Because of convenience, distance from home to the centre, traditional cultural background and perception of the centre by the communities the utilisation of the centre was affected. These factors played a major role in determining causes of utilisation of the centres (17, 27).

2.8 Villagers' attitude towards roles and activities of the CPHCC

The Health for All Projects in Thailand, estimated that only 59.9% of 39,007 targeted villages and 24.1% of 394 municipal communities have achieved the set goals of HFA (5,14,28). As seen above, the continuity of the Community Primary

Health Care Centres (CPHCCs), have shown to improve the nutritional status of children, decrease the morbidity and mortality due to communicable diseases. These indicators are important indicators in attaining the Basic Minimum Needs and act as barometers for the continuity of the CPHCC because the activities are done at the CPHCC. In 1987, in Chantaburi Province, it was seen that agriculture co-operatives and related groups were the oldest organisations in the communities and were seconded by drug co-operatives which were observed to be the oldest with the highest number of health funds. The existence and status of village development plans were assessed and found out that the majority of villages i.e. 86.3% had plans for four or less development activities. But, only 30.3% of these plans in these groups were completed and yet the majority of the activities had not started yet (29).

Since the establishment of the CPHCCs in Thailand, there has been no study to establish the factors that affect the continuity of CPHCCs. It is therefore, important to conduct this study. Thailand ahs a long experience and could act as learning country on the implementation of PHC programme activities. Previous studies have also shown that CPHCCs are the backbone of PHC programme implementation in the communities. Some surveys have demonstrated that many people (due to different reasons) go to community or district hospitals to seek medical treatment jumping health services that are closest to them. Jumping the normal referral system channel in Thailand attracts money payments to the next stage of health system. It also causes unnecessary congestion of patients at the next stage. On the other hand, if villagers can not use the health services closest to them, then those services may close down in the long run. This will be a negative development as all health problems that are being fought out now may easily come back and dominate the scene again. This study will describe, identify and analyse the factors that affect and contribute to the continuity of functioning of the CPHCC.

CHAPTER III

RESEARCH METHODOLOGY

3.1 Study design

The study is a comparative study.

3.2 Study population and sampling technique

The target population in this study were villagers in the rural areas of Ratchaburi Province in Podharam district. Ratchaburi has been chosen as the study area because the province is one of the longest implementing province on PHC programme activities in Thailand. It started establishing CPHCCs in the province in 1994. The province has both urban and rural communities which makes it the best place to represent various types of areas in Thailand.

Villagers who were interviewed in this study were purposively selected villagers who were heads of the households or someone who was available in that particular house on the day of interview and age 18 years old or above. The villagers interviewed were those from both the highly utilised Community Primary Health Care Centre (CPHCC) in village number 10 (Ban Kan Chareansuk) and from the lowly utilised CPHCC in village number 5 (Ban Pra) which is lowly utilised CPHCC village. The selection criteria was based on recommendation from the Provincial Health Office due to previous reports.

3.3 Sample size

Since both highly and lowly utilised CPHCC were to be compared, the sample population was drawn from villagers who came from villages of both highly and lowly utilised CPHCCs. The sample size was calculated according to the following formula:

$$n = \frac{\left[Z_{\alpha}^{2}\sqrt{2\bar{P}\bar{Q}}\; Z_{\beta}^{2}\sqrt{(P_1Q_1)+(P_2Q_2)}\right]^2}{(P1-P2)^2}$$

P_1= 25.0%

P_2= 5.0%

P_1= Utilisation rate in highly utilised CPHCC village; Q1= 1-P_1
P_2= Utilisation rate in lowly utilised CPHCC village; Q2 = 1- P_2

$$\bar{P} = \frac{P_1+P_2}{2} \quad = 0.85$$

$$\bar{Q} = 1-\bar{P} \quad = 0.15$$

$Z_{\alpha} = 1.645$ (for one sided test)

Z= standard r (power of test = 90%) interval) for one sided test is equal to 1.645

$Z_{\beta} = 1.28$

n= sample be interviewed in each village

d= Absolute precision of the study (0.05%)

P= utilisation rate in highly utilised CPHCCs is 25% while in lowly utilised CPHCC is 5.0%.

$$n = \frac{\left[1.645\sqrt{2(0.15)(0.85)}+1.28\sqrt{(0.25)(0.75)+(0.05)(0.95)}\right]^2}{(0.2)^2} = 52.64$$

= 53 people in each village i.e. 53 heads of each household in highly utilised CPHCC village and 53 heads of households in lowly utilised villages. Therefore the total number of sample interviewed in this study were 106.

3.3 Data collection

Data was collected from village number 10 (see map in appendix B) a highly CPHCC and from village number 5 a lowly utilised CPHCCs. Both of these villages are from Podharam District in Rachaburi Province. Community Primary Health Care Centres (CPHCC) that are both, highly and lowly utilised, already known before the study through the records from the Provincial Health Office. Therefore, both types of the CPHCCs were purposively chosen for this type of the study. All households in each village were included in the study and only one member of the household who was either the head of the household or was 18 years old or above was interviewed.

The interviewers attended a one-day training before on how data was going to be collected from both villages. The questionnaire forms were reviewed during the training and all queries regarding the forms and methodology of data collection were sorted out at that time. After this training, a structured questionnaire was administered one per each household in both villages. The questionnaire was the same in both villages. A pre-tested questionnaire translated from English to Thai was used to obtain the information required in this study. (see appendix for more details of Alpha co-efficient for reliability test)

3.4 Study variables

3.4.1 Independent Variables: These are the factors that affect the utilisation of CPHCCs, and are composed of :

-Socio-demographic factors of the respondents

-Perception and attitudes of the villagers on roles of the activities done at the CPHCC.

-Availability and accessibility of health services within the village

-Villagers' health seeking behaviour when one is sick in the village

-Villagers' attitude towards a Village Health Volunteer (VHV)

-Availability of other health facilities in the village

3.4.2 Dependent Variables- utilisation of health service regarding the following activities:

-Provision of simple treatment at the clinic

-Measurement of blood pressure, urine sugar and family planning activities

-Conducting nutritional clinic activities

-Number of health meetings held at the CPHCC

-Availability of other funds available at the CPHCC

3.5 Data analysis

3.5.1 Descriptive Statistics by using count (frequency), percentage, mean and Standard Deviation to describe the respondents' characteristics.

3.5.2 Analytic statistics

Using t-test and z-tests for proportion to test for significant difference between the highly and lowly utilised CPHCC regarding the following factors; socio-demographic, perceptions on roles of the activities of the CPHCC by the villagers by using, availability and accessibility factors, utilisation of the CPHCC by the villagers, participation of villagers towards CPHCC activities, availability and accessibility of the CPHCC by the villagers, attitude towards roles and activities of the CPHCC and health seeking behaviour of the villagers

Using Odds Ratio (OR) and 95% Confidence Interval (CI) and the Chi-square test to determine the association between the utilisation of the CPHCC and the following factors; socio-demographic, perceptions on roles of the activities of the CPHCC by the villagers by using, availability and accessibility factors, utilisation of the CPHCC by the villagers, participation of villagers towards CPHCC activities, availability and accessibility of the CPHCC by the villagers, attitude towards roles

and activities of the CPHCC and health seeking behaviour of the villagers in both highly and lowly utilised CPHCCs.

Data was entered into a computer using EPIINFO version 6.04. The analysis of data was done using both EPIINFO version 6.04 and SPSS Soft ware.

CHAPTER IV
RESEARCH RESULTS

The purpose of this study was to determine factors that affect the utilisation of Community Primary Health Care Centres (CPHCCs) in highly and lowly utilised CPHCCs villages in Podharam District. It also aimed at identifying activities that are done at the CPHCC. Activities done at CPHCC include; weighing of children under five years old, urine sugar checks, blood pressure checks, conducting nutritional clinics, people within the village receiving simple treatment, conducting family planning activities, availability of other funds apart from health funds at the centre and conducting health meetings. The study was also designed to compare the difference of factors that affect utilisation of CPHCC between highly and lowly utilised CPHCC villages.

In order to conduct the study effectively, health officers working in the Provincial Health Office at Rachaburi Provincial Health Office and the researcher conducted the training of interviewers a few days before the research was conducted. After this training, questionnaires were distributed to the interviewers in the two villages (highly and lowly utilised CPHCCs). These two villages were purposively selected before the study was conducted under the criteria recommended by the provincial Health Office.

The research was conducted in Podharam District in villages number 10 and number 5. The highly utilised CPHCC was village number 10 (Ban Kan Chareansuk) while the lowly utilised CPHCC was village number 5 (Ban Pra). Respondents for interviewing were villagers who resided in the two villages and that they were heads of the household or were 18 years old or above. All households in the two villages were selected as for sample. The selected villages are being supervised on health services by the same health centre as villages within its catchment area.

Fifty-three households from each village i.e. highly utilised and lowly utilised CPHCCs were interviewed in this study. Total data collected from both CPHCC villages were 106 completed questionnaire forms. The data from 106 respondents was analysed and shown separately between high and low utilised villages. Details below are summary of the main findings.

Table 1. Comparison of respondents between high and low Community Primary Health Care Centres (CPHCC) villages classified according to socio-demographic factors.

Socio-demographic Factors	High utilisation village (N=53) P_1	%	Low utilisation Village (N=53) P_2	%	Z-test (df)	p-value
Sex						
Male	18	34.0	17	32.0	0.04	0.836
Female	35	66.0	36	68.0	(1)	
Education						
Illiterate/Primary	46	86.5	46	86.5	0.00	1.000
Above Primary	7	13.0	7	13.0	(1)	

Table 1. Comparison of respondents between high and low utilised CPHCC villages classified according to socio-demographic factors (continued).

Socio-demographic Factors	High utilisation village (N=53) P_1	%	Low utilisation Village (N=53) P_1	%	Z-test/ t-test (df)	p-value
Main occupation						
Agriculture	27	50.9	31	58.3	0.6	0.435
Non-Agriculture	26	49.1	22	41.7		
Nearest Health Services						
CPHCC	29	54.7	16	30.2	6.53	0.010*
Health C.	24	45.3	37	69.8		
Number of persons/family						
<3	5	9.4	4	7.5	0.10	0.749
3-6	44	83.0	44	83.0	(104)	
>6	4	7.5	5	9.4		
Mean (persons)		4.3		4.2		
SD (persons)		1.5		1.7		

* Significant at p value < 0.05

Table 1 above shows the results of the difference between socio-demographic factors in the highly and lowly utilised villages. There was significant difference in socio-demographic factor on the nearest health service available between high and low utilisation village (p value < 0.05). Many of the respondents from the highly utilised

CPHCC village said that they were closer to the CPHCC than those in the lowly utilised village.

Table 2. Comparison of respondents between high and low utilisation CPHCC villages classified according to availability and accessibility factors.

Availability and accessibility factors	High utilisation village (N=53) P_1	%	Low utilisation Village (N=53) P_2	%	Z-test/ t-test (df)	p-value
Distance to CPHCC (Km)						
< 0.5	26	49.1	37	69.8	3.73	0.056
0.5-1	13	24.5	6	11.3	(104)	
≥1	14	26.4	10	18.9		
Mean (Km)		1.7		1.4		
SD (Km)		0.8		0.8		
Duration of travel (minutes)						
<5	34	64.2	33	62.3	1.98	0.163
5-10	19	35.5	12	22.6	(104)	
>10	0	0.0	8	15.1		
Mean		5.89		6.32		
SD		1.21		1.87		
Means of travel to CPHCC						
Walk	11	26.8	27	50.9	10.402	0.001*
Transportation	42	79.2	26	49.1	(1)	

*Significant at $p < 0.05$

In Table 2 above is results from respondents on the availability and accessibility factors to the CPHCC by the villagers from both high and low utilisation villages. Thirty-nine (73.6%) of the respondents in the high utilisation village came from a distance of less than 1 kilometre from the CPHCC and 43 (81.1%) of the respondents from the low utilisation village came from a distance of less than 1 kilometre from the CPHCC. In the high CPHCC utilisation village, 11 (26.8%) of the respondents said that they walked when going the CPHCC when they want to utilise the services while 27 (50.9%) from low utilisation CPHCC village said they walked when going to CPHCC when they wanted to utilise its services. All 53 (100%) of the respondents in the high CPHCC utilisation village spent less than 10 minutes to reach the CPHCC while 45 (84.9%) of the respondents in the low utilisation village spent less than 10 minutes to reach the CPHCC when they want to utilise its services. There was significant difference between the high and low utilised CPHCC villages on means of travel to CPHCC ($p < 0.05$).

Table 3. Numbers and percentages of respondents between high and low CPHCC utilisation villages classified according to utilisation of the CPHCC by villagers

Utilisation of CPHCC by the villagers	High utilisation village (N=53) P_1	%	Low utilisation village (N=53 P_2	%	Z-test (df)	p-value
Visits to CPHCC						
Yes	22	41.5	22	41.5	0.00	1.000
No	31	58.5	31	58.5		
Availability of other funds						
Yes	12	22.6	2	3.8	8.23	0.004*
No	41	77.4	51	96.2		
Activities done by villagers						
Yes	6	11.3	11	20.8	1.75	0.186
No	47	88.7	42	79.3		

*Significant at p value < 0.05

Table 3 above shows the utilisation of the CPHCC s by respondents in high and low utilisation CPHCC villages. Visits made to the CPHCC by a member of the family 3 months prior to interview in high utilisation village shows both high and low utilised villages had 22 (41.5%) of the respondents visited the CPHCC. Twelve (22.6%) in the high utilisation CPHCC village and 2 (3.8%) in the low utilisation CPHCC respectively responded that there are other funds available at the CPHCC. On activities done by the villagers, 6 (11.3%) in the high utilisation village were done by

villagers while 11 (20.8%) in low utilisation village were done by villagers. There was significant difference between high and low utilisation villages on availability of other funds at the CPHCC ($p < 0.05$) and utilisation of the CPHCC.

Table 4. Numbers and percentages in high utilisation CPHCC classified according to respondents' on utilisation of the CPHCC.

Factors	Use (N=22)	Not use (N=31)	OR (95%CI)	$\chi 2$ (df)	p-value
Age (years)					
15-44	17	19	2.15	5.485	0.140
≥45	20	12	(0.054-8.85)		
Sex					
Male	9	7	0.42	2.05	0.152
Female	13	24	(0.11-1.64)		
Education					
Illiterate	26	18	1.16	0.04	0.844
Primary &above	5	4	(0.22-5.98)		
Main occupation					
Agriculture	13	11	3.90	4.88	0.018*
Other	7	20	(1.00-14.83)		
Income/month					
≤ 3000	21	9	0.19	5.57	0.061
3001-6000	6	11	(0.05-0.62)		
≥ 6001	4	2			
Number of persons/family					
≤6	20	29	0.69	0.13	0.720
>6	2	2	(0.06-7.65)		

*Significant at p value < 0.05

Table 4. Numbers and percentages in high utilisation CPHCC classified according to respondents' on utilisation of the CPHCC (continued):

Factor	Use (N=22)	Not use (N=31)	OR (95% CI)	$\chi 2$ (df=1)	p-value
Nearest health facility					
CPHCC	12	17	0.99	0.00	0.983
Health	10	14	(0.29-3.42)		
Distance to health facility					
≤ 1 km	11	15	1.07	0.01	0.907
≥1 km	11	16	(0.31-3.67)		
Know activities of CPHCC					
Yes	18	12	7.13	9.74	0.001*
No	4	19	(1.68-32.81)		
Central location of CPHCC				1.66	0.197
Yes	2	7	2.92		
No	20	24	(0.46-23.40)		
See equipment at CPHCC as good quality				7.14	0.197
Yes	6	20	2.92		
No	16	11	(0.46-23.40)		
Means of travel				9.29	0.002*
Walk	11	29	10.04		
Transportation	9	2	(1.61-00.16)		

*Significant at p value < 0.05

Table 4. Numbers and percentages in high utilisation CPHCC classified according to respondents' on utilisation of the CPHCC (continued) :

Factors	Use (N=22)	Not use (N=31)	OR (95%CI)	$\chi 2$ (df=1)	p-value
Duration of travelling to CPHCC					
≤10 minutes	19	15	0.15	8.07	0.004*
>10 minutes	1	16	(0.03-0.70)		
Participate in activities at CPHCC					
Yes	14	16	1.64	1.16	0.384
No	15		(0.46-5.92)		
Membership to other funds					
Yes	4	10	0.44	1.52	0.217
No	19	21	(0.10-1.91)		

*Significant at < 0.05

Among the respondents in the highly utilised village on the use of the CPHCC, there was significant difference among respondents on; occupation, knowledge on the activities done at the CPHCC, means of travel to the CPHCC and duration of travel to CPHCC ($p < 0.05$).

Table 5. Numbers and percentages on utilisation of CPHCC classified according to respondents' from low utilisation CPHCC village.

Factors	Use (N=22)	Not use (N=31)	OR (95%CI)	$\chi 2$ (df=1)	p-value
Age (years)					
≤44	17	19	2.15	0.56	0.455
≥45	5	12	(0.054-8.85)		
Sex					
Male	9	7	2.37	2.05	0.152
Female	13	24	(0.62-9.34)		
Education					
Illiterate	3	1	4.74	2.00	0.157
Primary & above	19	30	(0.39-127.71)		
Main occupation					
Agriculture					
Other	14	17	1.44	0.41	0.521
	8	14	(1.41-5.14)		
Income/month					
≤6000					
≥6001	18	31	0.00	6.10	0.013*
	4	0	(0.00-1.02)		
Number of persons/family					
≤6					
≥6	20	29	0.69	0.13	0.720
	2	2	(0.06-7.65)		
Nearest health facility					
CPHCC	4	10	0.79	0.15	0.696
Health Centre	16	21	(0.20-3.05)		
Distance to health facility				0.00	
≤1 km	8	11	1.04		0.947
≥1 km	14	20	(0.29-3.76)		

*Significant at $p < 0.05$

Table 5. Numbers and percentages of responses on utilisation of CPHCC among respondents from low utilisation CPHCC village (continued):

Factors	Use (N=22)	Not used (N=31)	OR (95% CI)	$\chi^2_{(df=1)}$	p-value
Know activities of CPHCC					
Yes	17	17	2.80	2.82	0.093
No	5	14	(0.72-11.46)		
Locate CPHCC					
Yes	21	21	10.00	6.01	0.014*
No	1	10	(1.12-227.65)		
See equipment at CPHCC as good quality					
Yes	16	10	5.60	8.43	0.003*
No	6	21	(1.44-22.92)		
Means of travel					
Walk	14	13	1.08	0.01	0.906
Use transport	8	18	(0.26-4.43)		
Duration of travelling to CPHCC					
≤10 minutes	17	28	1.36	1.71	0.190
>10 minutes	5	3	(0.06-2.09)		
Participate in activities at CPHCC					
Yes	7	2	0.77	5.87	0.0153*
No	15	29	(1.05-55.24)		
Membership to other funds					
Yes	5	0	-	10.84	0.002*
No	16	31			

*Significant at < 0.05

The above Tables 4 and 5 is a summary of socio-demographic, perceptions' of respondents on the roles of the CPHCC, availability and accessibility factors, and attitudes on roles of the CPHCC by respondents from highly and lowly utilised villages. In the sex group, 7 (13%) of the males in the high utilisation village reported to have used the CPHCC. Fifteen (28.3%) of the female in the high utilisation village reported to have used the CPHCC. In the low utilisation village, 9 (16.9%) males and 13 (24.5%) females reported of having used the CPHCC respectively. On education level, in the high utilisation village, 20 (37.7%) of the respondents who had attained the primary education reported of having used the CPHCC. In the low utilisation village on primary education level, 16 (30.1%) used the CPHCC. Utilisation of the CPHCC in the occupation group, while those whose main occupation was agriculture in the high utilisation village, 7 (37.7%) reported to have used the CPHCC. Those who earned between 3001-6000 Baht per month in the high utilisation village were 11 (20.7%) visited the CPHCC. In the low utilisation village, those that earned between 3000-6000 Baht per month 10 (18.8%) reported having used the CPHCC. Fourteen (26.4%) of the respondents who reported of being 4-6 in the family in the high utilisation village reported of having used the CPHCC. Forty-four (83.0%) in the families that were 3-6 reported having used the CPHCC. For those who reported that their nearest health facility was the CPHCC in the high utilisation village, 12 (26.6%) used the CPHCC and in the low utilisation village, those who reported that their nearest health facility was the CPHCC, 29 (54.7%) reported having used the CPHCC. The respondents from high utilisation village who lived less than 1 kilometre from the CPHCC, 15 (28.2%) used the CPHCC and in low utilisation village, those who lived less than 1 kilometre from the CPHCC, 26 (49.1%) used it.

There was significant difference among respondents in the high utilisation CPHCC on occupation, knowledge of activities done at the CPHCC, travel to CPHCC and duration of travel to CPHCC ($p < 0.05$). This means that respondents were more likely to use the CPHCC those whose occupation was agriculture, had knowledge about the activities at the CPHCC and those that could walk to the centre and took them less than 10 minutes to travel to the CPHCC. On the other hand, there was significant difference among the respondents from lowly utilised CPHCC on income

per month, locating the CPHCC in the village, seeing the importance of equipment at the CPHCC and its use and membership status to other funds available at the CPHCC. Significant in both situation $p < 0.05$. the significant difference in the lowly utilised CPHCC meant that respondents were more likely to use the CPHCC.

Table 6. Number and percentages of respondents' answers between high and low CPHCC utilisation villages classified by participation of villagers towards CPHCC activities.

Activity and related factors	High utilisation village (N=53)	%	Low utilisation Village (N=53)	%	OR (95% CI)	χ2 (df=1)	p-value
Participation in CPHCC activities							
Yes	30	56.6	9	17.0	2.23	17.89	0.000*
No	23	43.4	44	83.0	(0.92-5.47)		
Data collection on deaths and births in village							
Yes	52	97.2	38	71.7	5.69	14.43	0 .000*
No	1	1.9	15	28.3	(2.64-434.41)		
Membership to other funds available at CPHCC							
Yes	13	24.5	6	11.3	1.34	1.72	0.567
No	40	75.5	47	88.7	(0.44-4.07)		
Participate in meetings at CPHCC							
Yes	12	32.1	8	15.1	3.37	0.99	0.320.
No	36	67.9	45	84.9	(1.20-9.65)		

* Significant at $p < 0.05$

In Table 6 above is result of the opinions of the respondents on their participation to activities at the CPHCC in high and low utilisation CPHCC villages. In the high utilisation village, 30 (56.6%) of the respondents reported that they participated in activities at the CPHCC while in the low utilisation village, 9 (17.0%) responded that they participated to activities at the CPHCC. On data collection at the CPHCC, 50 (97.2%) in the high utilisation village reported that villagers and other people in the village were responsible for data collection while 38 (71.7%) in the low utilisation village reported that villagers and other people in the village were responsible for data collection. The respondents in the high utilisation village 13 (24.5%) reported they were members to other funds that were available at the CPHCC while 7 (11.3%) in the low utilisation village reported to be members to the funds that were available at the CPHCC. Twelve (32.10%) of the respondents in the high utilisation village reported that they participated to the meetings that were held at the CPHCC while in the low utilisation village, 8 (15.1%) of the respondents reported to have participated to the meetings that were held at the CPHCC. Respondents who participated in activities at the CPHCC, collected data on deaths and births, were members to other funds available at the CPHCC and participated in meetings at the CPHCC were more likely to use the CPHCC. There was significant difference between high and low utilisation villages on respondents' participation and data collection and participation to meetings at the CPHCC $p < 0.05$.

Table 7. Numbers and percentages of respondents between high and low CPHCC utilisation villages classified by health seeking behaviour:

Health seeking behaviour	High utilisation village (N=53)	%	Low utilisation Village (N=53)	%	χ^2 (df=1)	p-value
When a member of the family is sick from common illness						
Go to Health C.	42	79.2	48	90.6	13.568	0.019*
Go to Hospital	3	5.75	2	3.8		
Buy drugs in shop	1	1.9	1	1.9		
Go CPHCC	6	11.3	2	3.8		
Other	1	1.9	0			
When a member is sick from severe disease						
Go to Health C.	12	22.6	1	1.9	0.745	0.689
Go to Hospital	40	75.5	51	96.2		
Go CPHCC						
Other	1	1.9	1	1.9		
When looking for health information						
Read books	27	50.9	6	11.3	5.651	0.342
Search at CPHCC	6	11.3	15	28.3		
Discuss with friend	17	32.1	10	18.9		
Discuss with H/W			14	26.4		
Other	2	5.7	5	15.1		
	0		0			
Source of information						
TV	1	1.9	21	39.6	5.259	0.259
Radio	20	37.7	1	1.9	(4)	
Health worker	28	52.8	25	47.2		
Newspapers	1	1.9	1	1.9		
Friends	0		1	1.9		
Other	3	5.7	4	7.5		

* Significant at $p < 0.05$

Respondents' health seeking behaviour in Table 7 above shows that 42 (79.2%) of the respondents in the high utilisation village reported that they take their member of the family when sick from a common illness to a health centre while in the

low utilisation village, 48 (90.0%) reported that they take their family member to health centre when sick from a common illness. Forty (75.55) of the respondents from a high utilisation village reported that they take their member of the family to hospital when severe sick and 51 (96.2%) from low utilisation village reported that they take their member of the family to hospital when severe sick. Twenty-seven (50.9%) of the respondents from high utilisation village reported that they read books when they are looking for more information on health while in the low utilisation village, 15 (28.3%) reported to search the health information at the CPHCC when they are looking for more information on health. In the high utilisation village, 28(52.8%) reported that the source of information was health worker and in the low utilisation village, 25 (47.2%) reported that their source of information was also a health worker. There was significant difference among respondents from highly and lowly utilised CPHCC on where to they take their sick member of the family when sick $p < 0.05$.

Table 8. Comparison of answers from respondents between high and low utilisation villages classified according to socio-demographic factors.

Factors	High utilised village (N=53) Mean ± SD	Low utilised village (N=53) Mean ±SD	t-test (df)	p-value
Age	41.23 16.44	40.85 15.02	0.123 (104)	0.902
Income	4009.4 2294.41	4216.98 1491.99	0.552 (89.306)	0.582

In Table 8 is the description of the basic characteristics of the respondents in the high and low CPHCC utilisation villages. The mean age in the high and low utilisation villages was 41.54 years (SD 16.49 years) and 40.84 years (SD 15.01 years) respectively. Sex distribution in the two villages was 18 (34%) male and 35 (66%) female in the high CPHCC utilisation village and 16 (30.2%) male and 37 (69.8%) females in the low CPHCC utilisation village. In the high CPHCC utilisation village, the education attainment of the respondents was; 96.5% were literate. In the low CPHCC utilisation village, 92.5% were literate. The main occupation of the

respondents in both villages was agriculture, 54.9%and 58.3% respectively. The family income per month was 4009.4 Baht (SD 2294.4 Baht) in the high CPHCC utilisation village and 4216.9 Baht (SD 1491.9 Baht) in the low CPHCC utilisation village. The mean number of people per household was 4.3 people (SD1.5 people) in the high CPHCC utilisation village and 4.2 people (SD1.7 people) in the low CPHCC utilisation village. In all socio-demographic factors, there was no significant difference between high and low utilisation villages ($p > 0.05$).

Table 9. Comparison of answers from respondents between high and low CPHCC utilisation villages classified according to perceptions on roles and activities of the CPHCC in the villagers.

Perceptions on roles and activities of the CPHCC	High utilisation village (N=53)	%	Low utilisation Village (N=53)	%	$\chi 2$ (df)	p-value
Low	23	54.8	19	45.2	0.63	0.427
High	30	46.9	34	54.8	(1)	

In Table 9 above are responses on the perceptions the respondents have in the high and low CPHCC utilisation villages. Responses on perceptions were divided into two groups i.e. low and high perceptions. The mean score was 1.9 and SD was 1.1. minimum score was 0.0 and maximum was 3. Low perception score were those who scored less than 1 and high were perception score of 2 or above. Perception score was high in the highly utilised village. This means many people in the highly utilised village had high perception on the roles and activities of the CPHCC than the people in the lowly utilised village. However, there was no significant difference between the two CPHCC ($p > 0.05$).

Table 10. Comparison of respondents answers in the highly and lowly utilised CPHCC classified according to the availability and accessibility of the CPHCC services by villagers.

Availability and accessibility of the CPHCC services by villagers	High utilisation village (N=53)	%	Low utilisation village (N=53)	%	t-test (df)	p-value
No	19	35.8	33	62.3	54.0	0.006*
Yes	34	64.2	20	37.7	(105)	

*Significant at p <0.05

On the comparison between highly and lowly utilisation villages in Table 10 above, 64.2% of the respondents in the highly utilised CPHCC responded that the services at the CPHCC were accessible unlike in the lowly utilised CPHCC where 37.7% said they had access to the CPHCC services. There was significant difference between the highly and lowly utilised CPHCC. Ninety four percent and 84% of the respondents in the high and low utilisation villages responded that the CPHCC was centrally allocated respectively. Eighty one percent of the respondents in the high utilisation village responded that the opening time was convenient and 75.0% in the low utilisation village responded that the time of opening the CPHCC were convenient one. On the availability of the essential drugs at the CPHCC, 56.0% in the high utilisation village and 39% in the low utilisation village responded that the essential drugs were available. In the high utilisation village, 60.0% of the respondents reported that there were other health facilities in the village and 28.0% in the low utilisation village reported that there were other health facilities available in the village. Sixty-four percent of the respondents in the high utilisation village reported that there was a good referral system in the village and 24% in the low utilisation village reported that there was a good referral system in the village. There was significant difference among respondents on availability of other health facilities and referral system between the high and low utilisation villages ($p < 0.05$).

Table 11. Comparison of respondents' perceptions between high and low CPHCC utilisation villages classified according to convenience of the time for opening the CPHCC

Convenience of CPHCC opening time	High utilisation village (N=53	%	Low utilisation village (N=53	%	χ2 (df)	p-value
Yes	43	81.1	40	75.5	0.495	0.481
No	10	18.9	13	24.5	(1)	

Table 11 above shows the respondents' opinions on the convenience of the opening time of the CPHCC in both high and low utilisation villages. Forty-three (81.1%) of the respondents in the high utilisation village thought that the opening time for the CPHCC was convenient while 40 (75.5%) of the respondents in the low utilisation villages thought that the opening was convenient. There was no significance between high and low utilisation villages on the convenience of the opening time of the CPHCC (p=0.481).

Table 12. Comparison of the respondents' membership to other funds available at the CPHCC between high and low utilise CHCC villages

Membership to other Funds available at CPHCC	High utilisation village (N=53)	%	Low utilisation Village (N=53)	%	χ2 (df)	p-value
Yes	13	24.5	6	11.3	3.13	0.07
No	40	75.5	47	88.7	(1)	

Table 12 above shows the numbers and percentages of the respondents between high and low utilisation villages on their membership to other funds that are available at the CPHCCs. Thirteen (24.5%) respondents in high utilisation village were members to the other funds that were available in at the CPHCC while in low utilisation village six (11.3%) were members to other funds that were at the CPHCC. In both villages, 75.5% and 88.7% respectively were not members to the other funds that were at the CPHCC. There is no significant difference between the highly and lowly utilised villages towards the membership status (p 0.07).

Table 13. Types of activities done at high and low utilised CPHCC in the past six months classified according to records at the CPHCC.

Activity	Total number of sessions or people	
	High Utilised Village	Low Utilised Village
Weighing children under five years old	20	47
Receiving simple treatment	30	227
Blood pressure and urine sugar checks	10	227
Family planning activities	0	0
Nutritional clinics	40	26
Health meetings	4	12
Availability of other funds	5	0

Table 14. Summary of comparison of activities done at the CPHCC in both high and low utilised villages classified according to activities done by villagers.

Factor Activity done	High utilisation Village (n=53)	%	Low utilisation village (n=53)	%	OR (95% CI)	χ^2	p-value
Yes	45	84.9	34	64.2	3.14	6.01	0.014*
No	8	15.1	19	35.8	(1.13-8.97)	(1)	

* Significant at $p < 0.05$

Table 14 shows that the responses from questionnaire. There were more activities in high utilisation village of weighing children under five years old, giving simple treatment to minor illnesses, checking BP and urine sugar and other activities done than low utilised CPHCC village. The different is significant in activities done at the CPHCC by villagers in the highly and lowly utilised villages ($p < 0.05$).

Table 15. Comparison of answers from respondents in high and low CPHCC utilisation villages classified according to their attitudes towards roles and activities of the CPHCC

Attitude towards roles and activities of CPHCC in the village	High utilisation village (N=53)	%	Low utilisation village (N=53)	%	χ2	p-value (df)
Disagree	13	24.5	21	39.6	9.00	0.011*
Not sure	9	17.0	13	24.5	(2)	
Agree	31	58.5	19	35.8		

*Significant at p value < 0.05

The Table 15 above shows the results according to the respondents'. Attitudes of the respondents were divided into three categories i.e. those who responded disagreed with the statement, those who were not sure about the response to give and

those who agreed with the statement. The attitude score was also divided into 3 i.e. those who scored 7 or less were regarded as low score and therefore taken as to disagree with the statement. Those whose score was 8 or above but less or equal to 11 were regarded as not to be sure of what to answer while those whose response scores were above 11.5 were regarded as to have agreed with the statement. The minimum score was 5 while the maximum was 12. It was observed that in the highly utilised village, 58.5% had positive attitude (agreed) that with the roles and activities of the CPHCC in the village while in the lowly utilised CPHCC, 35.8% agreed with the roles and activities of the CPHCC in the village. There was significant difference between highly and lowly utilised CPHCC regarding the attitudes of the respondents towards roles and activities of the CPHCC (p value < 0.05).

Table 16. Comparison of respondents' answers in the high and low utilised CPHCC villages classified according to their relationship with the VHV.

Factors Relationship with the VHV and education	High utilisation village (n_1=53) (p_1)		Low utilisation village (n_2=53) (p_2)		Z-test (df)	p-value
Relationship						
Low	13	24.5	8	15.1	1.48	0.200
High	40	75.5	14	26.4		
			8.5			
Education						
Illiterate	7	13.2	7	13.2	0.00	1.000
Primary or above	46	86.8	46	86.8		

The above Table 16 shows the respondents' interpersonal relationship with the Village Health Volunteer (VHV) and their education level in the high and low utilised CPHCC villages. The responses on inter relationship were divided into 3 groups, i.e. those who responded that the relationship was low, and this meant that there score relationship score was less than 1 and those who were not sure meant that there

responses were above 1 but less than 2.3 and those who said the relationship was high had a score of above 2.3. The mean inter relationship score was 2.3, SD 0.7. Minimum score was 1 and median was 2.5 and maximum was 3. There was high (58.5%) inter personal relationship in the lowly utilised village than in the high utilised The education attainment was the same in both CPHCC on illiterate rate and those who had attained primary and above level. There was no significant difference between respondents from high and low utilisation villages on either inter relationship or level of education of the respondents' in both highly and lowly utilised villages ($p < 0.05$).

Table 17. Comparison of the respondents' answers in highly and lowly utilised villages classified according to their knowledge towards the activities of the CPHCC in the village

Knowledge score towards activities of the CPHCC	High utilised Village (N=53)	%	Low utilised village (N=53)	%	t-test	χ^2 (df=1)	p value
No	23	43.4	19	35.8	42.8	0.63	0.427
Yes	30	56.6	34	64.2	(105)		

Table 17 shows respondents in the lowly utilised CPHCC village were more knowledgeable (64.2%) about the activities at the CPHCC than in the highly utilised village. The mean for the responses was 4.9 and SD 1.1. The responses were classified according to those who said no , the mean was less or equal to 4.9 and those who said yes the mean was 4.5 or more. The minimum response score was 3.0 and maximum score was 6.0. However, there was no significant difference among the respondents in the two villages (p value > 0.05).

Table 18. Comparison of respondents' answers between high and low utilised CPHCC villages classified according to participation to CPHCC activities

Participation to CPHCC activities by villagers	High utilised utilised Village (N=53)	%	Low village (N=53		χ^2 (df=1)	p value
No	18	34.0	42	79.2	22.1	0.00*
Yes	35	66.0	11	20.8		

Table 18 above is the result from the respondents on activities that are done at the CPHCC. The responses were "yes" or "no" to the question of if there are activities at the CPHCC and villagers participate to those activities. The mean score of the responses was 5.6 with SD 1.0. the minimum score was 4 and meant that one said no to the question if the score was less than or equal to 5.6 and if the score was yes if the score was more than 5.6. The maximum was 8. The results show that there was significant difference between highly and lowly utilised CPHCC villages. Respondents in the highly utilised CPHCC participated to CPHCC activities more than those from the lowly utilised village (p value < 0.05).

Table 19. Comparison of respondents' knowledge in the highly and lowly utilised CPHCC villages classified according to roles and activities of the CPHCC in the village

Level of knowledge	High utilisation village		Low utilisation Village		χ2 (df=1)	p-value
	Number	%	Number	%		
Know location of CPHCC in the village						
Yes	44	83.2	11	20.5	0.244	0.621
No	9	16.8	42	79.2		
Know the CPHCC activities						
Yes	30	56.6	34	64.2	0.244	0.429
No	23	43.4	19	35.8		

In the above Table 19 shows that 44 (83.2%) of the respondents in the high utilisation CPHCC village reported to know where the CPHCC was allocated and 11 (20.5%) of the respondents in the low utilisation village responded that they knew where the CPHCC was allocated. Thirty (56.6%) of the respondents in the high utilisation village responded that they knew the activities of the CPHCC while in the low utilisation village, 34 (64.2%) of the respondents reported to know the activities of the CPHCC. There was no significant difference among respondents from high or low utilisation villages on knowledge about the CPHCC and utilisation of the CPHCC $p > 0.05$.

Table 20. Association between socio-demographic factors and utilisation of the CPHCC in highly utilised CPHCC.

Factors	Utilisation		OR	χ^2	p -value
	Not used	used	(95% CI)	(df=1)	
Age (years)					
≤ 44	13	9	1.04	0.01	0.940
≥45	18	13	(0.30-3.66)		
Sex					
Male	11	7	1.18		
Female	20	15	(0.32-4.41)	0.08	0.781
Occupation					
Agriculture	20	11	1.82		
Not Agriculture	11	11	(0.52-6.45)	1.12	0.018*
Education					
Illiterate	1	1	0.33		
Primary or above	30	20	(0.01-5.21)	0.07	0.853

*Significant at p value < 0.05

Table 21. Association between socio-demographic factors and utilisation of the CPHCC in lowly utilised CPHCC.

Factors	Utilisation		OR	χ^2	p -value
	Not used	used	(95% CI)	(df=1)	
Age (years)					
≤ 44	13	9	1.04	0.01	0.781
≥45	18	13	(0.30-3.66)		
Sex					
Male	7	9	0.42		
Female	24	13	(0.11-1.62)	2.05	0.152
Occupation					
Agriculture	17	14	0.69		
Not Agriculture	14	8	(0.19-2.45)	0.41	0.521
Education					
Illiterate	1	3	0.21		
Primary or above	30	19	(0.901-2.58)	2.00	0.157

Table 20 and 21 above shows the association between socio-demographic factors and the utilisation of the CPHCC. The results show that there is significant association between the occupation of respondents and the utilisation of the CPHCC (p value < 0.05). However, there was no significant association between the rest of the socio-demographic factors (p value > 0.05). The results of the study according to respondents on their socio-demographic factors shows that there was no significant association between the use of the CPHCC and the socio-demographic factors (p value > 0.05). However, as indicated already above, there was significant association between the use of the CPHCC and occupation of the respondents (p < 0.05).

Table 22. Association between knowledge of respondents and CPHCC utilisation in high utilisation village

Knowledge score	Use (n=22)	Not use (n=31)	OR (95%CI)	χ^2 (df=1)	p-value
Low knowledge (score <4.9)	4	20	7.13 (1.66-33.22)	11.15	0.000*
High knowledge (score ≥4.9)	18	11			

*Significant at $p < 0.05$

Table 23. Association between knowledge of respondents and CPHCC utilisation in low utilisation village

Knowledge score	Use use (n=22)	Not (n=31)	OR 95%CI	(df)	χ^2	p-value
Low knowledge (score ≤ 4.9)	7	15	0.50 (0.14-1.79)		1.46	0.227
High knowledge (score ≥4.9)	15	16				

Tables 22 and 23 above reveal that there is significant association between knowledge of the respondents about the CPHCC activities and the utilisation of the CPHCC in high and low utilisation villages. Respondents in the highly utilised village with good knowledge were 18 times likely to use CPHCC while those in the lowly utilised village with good knowledge were 7 times more likely to use the CPHCC OR 0.50 (0.14-1.79) and $p < 0.05$

Table 24. Association between availability and accessibility factors and utilisation of the CPHCC by villagers in the high utilisation village.

Accessibility and availability of CPHCC to the villagers factors	Used (n=22)	Not used (n=31)	OR (95% CI)	χ^2 (df=1)	p-value
Accessible or not					
Yes	2	10	0.33	2.41	0.120
No	19	21	(0.06-1.63)		

Table 25. Association between availability and accessibility factors and utilisation of the CPHCC by villagers in the low utilisation village.

Availability and accessibility to CPHCC factors	Use (n=22)	Not used (n=31)	OR (95% CI)	χ^2 (df=1)	p-value
Accessible or not					
Yes	17	12	0.19	7.72	0.005*
No	5	19	(0.04-0.74)		

*Significant at $p < 0.05$

Tables 24 and 25 above reveal that there is no association between availability and accessibility of the CPHCC by the villagers in the high utilisation village ($p > 0.05$). However, results from respondents from low utilisation villages show there is significant association between availability and accessibility of the CPHCC to the villagers (p value 0.05). The results also show that those who were accessible to the CPHCC were 17 times OR (0.19, 0.04-0.74 and $p < 0.05$) more likely to use the CPHCC than those who were responded that the CPHCC was not accessible to them.

Table 26. Association between participation to CPHCC activities and utilisation factors of respondents in high utilisation CPHCC village

Participation in CPHCCC activities by villagers factor	Used (n=22)	Not used (n=31)	OR (95% CI)	χ^2 (df=1)	p-value
Participates or not					
Yes	11	18	1.38	0.34	0.561
No	11	13	(0.40-4.86)		

Table 27. Association between participation factor of respondents in low CPHCC utilisation village

Participation in CPHCCC activities by villagers factor	Used (n=22)	Not used (n=31)	OR (95% CI)	χ^2 (df=1)	p-value
Participates in activities					
Yes	15	15	2.29	2.05	0.151
No	7	16	(0.64-8.42)		

In table 26 and 27 above show that there was no significant association among respondents from high and low utilisation villages on their participation to activities at the CPHCC $p > 0.05$.

Table 28. Association between membership status of respondents and utilisation of the CPHCC in low utilisation village

Membership status	Use (n=22)	Not use (n=31)	OR (95%CI)	χ^2 (df=1)	p-value
Yes	6	0	2.94	9.53	0.002*
No	16	31	(1.97 –4.37)		

*Significant at $p < 0.05$

In table 28 above shows that there is association between membership status of the respondents and the utilisation of the CPHCC in the low utilisation village (p= <0.05). respondents who were members to other funds were more likely to utilise the CPHCC than those who were not members to other funds available at the CPHCC.

CHAPTER V
DISCUSSION

Since the concept of Primary Health Care (PHC) was defined and given international recognition at the Alma –Ata conference in 1978, PHC has become the main focus for the promotion of world health. Four basic principles underline the primary health care approach and these are: (a) universal accessibility and coverage on the basis of need, (b) community and individual involvement and self reliance, (c) intersectoral action for health, and (d) appropriate technology and cost-effectiveness in relation to the available resources. Many countries in the world have implemented primary health care strategies in the communities of their countries by establishing Community Primary Health Care Centres. Community Primary Health Care Centre are important structures in the communities because are places where the four basic approaches of PHC can be implemented monitored and evaluated in any community.

Community Primary Health Care Centres in Thailand started in 1993 to ensure universal accessibility and coverage on the basis of need especially health. The other strategy was to involve communities and individuals so that they become self reliant in the long run. It is eight years now since the CPHCC were started in Thailand. In order to ensure and enhance utilisation of the Community Primary Health Care Centres regular evaluation of the programme is required. And, since peoples' behaviour is dynamic with change of times and modernisation and industrialisation of country, there is also need to evaluate the programme from time to time to identify its weaknesses and strengths for proper modification so that the programme becomes effective and achieves its objectives.

The purpose of this study was to identify and determine factors that are influencing the utilisation of Community Primary Health Care Centres between high

and low utilisation villages. The study tried to compare between the two villages with one as high and another low utilisation village. For the purpose of this study, socio-demographic factors, availability and accessibility and membership to other funds available at the CPHCC factor are considered as study variables as influencing factors.

This study was undertaken in Rachaburi Province in Potanam District in villages number 10 (Ban Kan Chareansuk) and number 5 (Ban Pra). One hundred and six households are included in this study pre-purposively selected from two villages (Fifty-three households from high utilisation village and 50 from low utilisation village). There were 276 people in the high utilisation village and 332 in the low utilisation village.

In this study, the utilisation of CPHCC was classified and analysed into two main parts: to compare the differences between high and low utilisation villages in socio-demographic, perceptions, availability and accessibility of CPHCC to villagers, attitudes on roles of CPHCC in the villages by villagers and health seeking behaviour of the villagers. The second part was to identify the association between of utilisation of the CPHCC and the socio-demographic factors, perceptions of the villagers towards the activities of the CPHCC, availability and accessibility factors, attitudes towards roles and activities at the CPHCC and health seeking behaviour of the villagers.

There was no difference in the socio-demographic factors between high and low utilisation villages in age, sex, education, income per month, number of persons per household, and the nearest health facility in the village ($p > 0.05$). The difference among respondents in the high utilisation village on occupation and availability of other funds in the village was significant ($p < 0.05$). On the other hand, respondents in the low utilisation village had shown that there was significant difference among them on mode of travel to CPHCC and utilisation of the CPHCC ($P < 0.05$). The mean age was 41.54 years (16.4years) and 40.8 years (15.0 years) in high and low utilisation

villages respectively. The findings are similar to what Tanvatakul (50) found his study. He found out that age was not a significant factor on the utilisation of CPHCC.

It can also be concluded in this study that there were more female respondents in both villages as there were more female respondents than males 66.0% and 69.8% of total respondents in high and low utilisation villages respectively. This finding is in line with the national population results that there are more females than males. In Thailand, 52.0% of the population are females. Also, it is a known fact that females stay in the villages more that males because males migrate to towns in search of jobs and hence more females stay in the village.

On education, there were more educated respondents in high utilisation village than in low utilisation village. Education level of respondents at primary level and above was 96.5% and 92.5% in high and low utilised villages respectively. It can be concluded therefore that high utilisation village had more educated people than low utilisation village. This can be a contributing factor for the high utilisation of the CPHCC. The more educated people are, the more they tend to seek health advice and consultation than the less educated. Afansan, et al, (51) found similar results in his studies that higher education among people had an effect on CPHCC utilisation. Educated people tend to consult health advice more than often than the less educated.

In both villages, the main occupation of the respondents was agriculture seconded by labourer with 50.9% and 58.3% in agriculture for high and low utilisation villages respectively and 28.3% and 22.0% in high and low utilisation villages as labourers. The difference among respondents in the high utilisation village was significant on responses on main occupation ($p = < 0.05$). the findings are similar to the national findings that most rural people in Thailand were agriculture people than any other occupation.

The mean income in the high utilisation village was 4009.4 Baht and 4216.9 Baht in the low utilisation village. On income, it can be concluded that respondents in

the low utilised village had more income than respondents in the high utilisation village. Other studies elsewhere have shown that when people have more income, they tend to seek services in facilities with sophisticated equipment and highly qualified medical personnel. These findings are similar to what Jinpeng, X (1993) (52) found in his study. He found out that there is an association between income level and the utilisation of Community Primary Health Care Centres (CPHCC). However, there was no statistical difference among respondents on income in the high and low utilisation villages.

In both villages, there was no significant difference on the number of people per household as there were 4.3 people pre household in high utilisation village and 4.2 people per household in the low utilisation village. The findings are similar to what Amoang, A., (1990) (52), Gomez I.V., (1991) (53) and Saparyono, B., (1990) (54) found in their separate studies. They found that the mean number in Thailand per household was 4.1 people. There was no significant difference among respondents on the number of people per household.

The nearest health facility for the majority of respondents in the high utilisation was the CPHCC 54.7% while 30.2% in the low utilisation village responded that CPHCC was their nearest health facility. Because of distance, it can be concluded that most people sought health services at the CPHCC in high utilisation village because it was near than in the low utilisation village. However, there was no significant difference among respondents in the high and low utilised villages.

In the high utilisation village, 24.55 of the respondents said that they were members to other funds that were available at the CPHCC and only 11.3% in the low utilisation village responded that they were members to the other funds that were available at the CPHCC. It can be concluded therefore that because of high membership registration to other funds at the CPHCC in the high utilisation village, there was high number of people utilising the CPHCC than in the low utilisation village. The results are similar to what Afansa, et al (54) found in his study. He found

out that membership to CPHCC activities had significant association to the utilisation of the CPHCC. In this study, there was no significant difference among respondents in high and low utilisation villages.

Differences among respondents on the distance from their houses to CPHCC was significant among respondents from low utilisation villages ($p = < 0.05$). the difference was not significant in the high utilisation village. There was significant difference among respondents in the low utilisation village on the mode of travel from their homes to CPHCC when the wanted to utilise the services at the CPHCC. Respondents from low utilisation village most of them walked to CPHCC than the highly utilised CPHCC. The results are not similar to other studies done elsewhere, Rahaman,B., (1999), (55) found in his study that there was no significant difference between distance and time spent travelling to CPHCC. This was concluded so because of the similarity in the distances and that good road net work system now in Thailand in rural areas. There is was no difference on means of travel used because the distances between households and health facilities are short. Health facilities are found in each village in Thailand.

In this study, it was found out that there was significant difference among respondents in the high utilisation CPHCC village ($p = < 0.05$). This study found out that there were more other funds at the CPHCC in the highly utilised village than low utilised village. Membership to other funds available at the CPHCC has a significant impact on the utilisation of CPHCC.

Many respondents from the high utilisation village in this study participated in activities that were taking place at the CPHCC than those respondents from the low utilisation village (56.6% and 17.0%) respectively. The findings were similar on data collection, on deaths and births by villagers, membership to other funds and participating in meetings that were taking place at the CPHCC. However, the findings in this study were not significant.

There was no significant difference from respondents on the perceptions of the roles and activities done at the CPHCC. The explanation to this is that in Thailand, PHC has been widely publicised and implemented so much so that many people, theoretically, know a lot about PHC. Therefore, many people have knowledge about PHC or CPHCC activities and respond well when asked on these issues. However, implementing is different. That is why no difference in knowledge between high and low utilisation villages.

Looking at the frequency of those who use the CPHCC and those who do not use the CPHCC; this study found out that in the high utilised village, occupation, income, knowledge on CPHCC activities, means of travel to CPHCC, length of time to travel to CPHCC had an association to the use of CPHCC ($p < 0.05$). In the low utilisation village, the use of CPHCC was associated with locating the CPHCC, seeing the importance of equipment at the CPHCC, being a member to the other funds that were available at the CPHCC.

Comparing the availability and accessibility of the CPHCC services responses from high utilisation village showed that there is an association between occupation of respondents, availability and accessibility to CPHCC services and distance from the house to the CPHCC and utilisation of the CPHCC in the high utilisation villages ($p= < 0.05$). in this study it was found out that there were more other health facilities in the high utilisation village than the low utilisation village. It can be concluded that since the CPHCC is closer to most people in the high utilisation village than the low utilisation, many people tend to seek health services at this centre than other facilities. The other explanation is that since the income per household in high utilisation village was low, many people could not afford expensive health services in other facilities other than from CPHCC. There is significant ($p= < 0.05$) association from respondents in the high utilisation on availability of referral system and utilisation of the CPHCC by the villagers. The reason for this is that since there are more other funds available in the high utilisation village and that there are many people who are members to other funds available at the CPHCC. More resources are available for the purchase of ambulance vehicle for the referral of sick people to a higher level of the

health system. On the other hand, in the low utilisation village, it was found out that there is an association between participation to activities done at the CPHCC and availability and accessibility of CPHCC services to villagers and utilisation of the CPHCC ($P < 0.05$).

In this study, the other findings were that there was an association in the high utilisation village on participation and participating to meetings held at the CPHCC and the utilisation of the CPHCC($P < 0.05$). The findings are similar to the findings in the study done by Jinpeng, X., in his study it was concluded that there was an association between community participation to activities done at the CPHCC and the utilisation of utilised of CPHCC.

On knowledge, respondents in the high utilisation village who had good knowledge about the CPHCC were more likely to utilise the CPHCC than those with poor knowledge. In the low utilisation village, it was found out that respondents' with good knowledge were more likely to utilise the CPHCC than those with poor knowledge . again, in the same low utilisation village, respondents with good attitude and being members to other funds available at the CPHCC were more likely to utilise the CPHCC than those with poor or not members to other funds available at the CPHCC respectively.

It can be concluded therefore, that there is an association between knowledge and utilisation of CPHCC in high and low utilisation villages respectively because of the long history of PHC. The reason is that in Thailand, PHC programme has been going on since in the 1970's and as such, there has been wide publicity about the programme and that many people are aware about it. Though the utilisation is different, people's knowledge about CPHCC is abundant.

The results on membership to other funds that are available at the CPHCC showed that 13 (24.5%) of the respondents in the high utilisation village were members to other funds that were available at the CPHCC. In the low utilisation

village, only 6 (11.3%0 of the respondents were members to other funds that were available at the CPHCC. There was significant association between membership to other funds available at the CPHCC and utilisation of the CPHCC.

Utilisation of the CPHCC was same in both villages as seen in Table 4.6. both villages had the same percentage of utilisation i.e. 41.5%. there was significant difference , however on the availability of funds. There were more funds in the high utilised village than the low utilised village ($p < 0.05$). The difference was also significant between the two villages on main occupation of the respondents, income per month, knowing the activities done at then CPHCC, means of travel to CPHCC, duration of travel to CPHCC, locating the CPHCC in the village, seeing the importance of equipment at the CPHCC, participating in activities at the CPHCC and membership status at the CPHCC. Respondents in the high utilisation village were significantly different when responding to their main occupation, income, knowing the activities of CPHCC, means and duration of travel to CPHCC. Contrary, in the low utilisation village, there was significant difference among respondents on locating the CPHCC in the village, seeing the importance of equipment at the CPHCC and participating in activities at the CPHCC and membership status.

Table 4.9 shows that there is significant difference between high and low utilisation villages regarding participation in activities at the CPHCC by respondents and participating in meetings that take place at the CPHCC. These findings are in line with finding in other studies like one done by Krasae (9).

In this study, there was association factor on occupation, and distance from the house in the high utilisation village and utilisation of the CPHCC. While on the low utilisation village, participating to activities at the CPHCC and accessibility and availability of CPHCC services to respondents was associated to utilisation. On knowledge, those with good knowledge score >=8 were 5 times (95% CI 1.13-2.34) likely to use the CPHCC when compared with those with poor knowledge score in the low utilisation village while in the high utilisation village, they were 14 times likely

utilise the CPHCC. The findings on knowledge are similar to what Tanvatakul, V., in his study that there was direct association between knowledge and utilisation of the CPHCC.

On availability and accessibility to CPHCC, those who said "yes" were 9 times (0.00-0.06likely to visit the CPHCC than those who said no access in the high utilisation village while those in the low utilisation village were 17 times (0.04-0.74) to use the CPCHCC. Mikhanom et al (56) found similar results that there was an association between availability of drugs at the CPHCC and utilisation of the CPHCC.

Respondents with positive attitude were 8 times (0.63-6.74) likely to use the CPHCC than those with negative attitude. On membership status, those who were members were 6 time (1.95-??) likely to use the CPHCC than those who were not members. However, Jiranthincanchit , found out that there was no association between utilisation of the CPHCC and attitude of the respondents.

Distance from houses to CPHCC was associated with the utilisation of the CPHCC in the high utilisation village. These findings are similar to findings from other studies done elsewhere. Tauna et al found that distance from house to CPHCC had direct association with the utilisation of the CPHCC.

CHAPTER VI
CONCLUSIONS AND RECOMMENDATION

6.1 CONCLUSION:

The study was a comparative study among two villages in Podharam District in Rachaburi Province. One village was selected from high utilisation and another one from low utilisation village. The aim of the study was to find out factors that affect the utilisation of the Community Primary Health Care Centres in the high and low utilised CPHCC villages. The results of the study reflects the responses from the respondents during the interview of the study.

When comparing the two villages i.e. high and low utilised villages, there were no significant socio-demographic factors between them. The main occupation of the respondents in both villages were farmers. There were more female respondents in both villages. The literacy rate in both villages was high (above 83.0%). Membership to other funds that were available at the CPHCC was more in the high utilised CPHCC. Respondents in the high utilisation village had good knowledge and attitude towards the CPHCC activities. The respondents living in the high utilisation village were closer to CPHCC from their homes.

The difference between high and low utilised CPHCC were that most respondents from highly utilised CPHCC participated in activities at the CPHCC village. Respondents in high utilisation had good knowledge about activities of the CPHCC. High utilisation had more educated respondents than the low utilised. CPHCC were utilised mostly by women in both villages. High and low utilisation villages were different on utilisation in respondents main occupation, availability of funds were more found in highly utilised village than in low utilised village. Most respondents who used the CPHCC in the highly utilised village were different from those in low utilisation on the following factors; occupation, income, knowledge

about CPHCC activites, means of travel from house to CPHCC, and duration of travel.

Membership status to other funds available at the CPHCC was significant with the utilisation of the CPHCC. Knowledge about activities and roles of the CPHCC in the village and attitude of the respondents and participation to activities of CPHCC by villagers were significant associations with utilisation of the CPHCC.

There is an association between utilisation of CPHCC and socio-demographic, perceptions, availability and accessibility of CPHCC services, attitude towards roles of the CPHCC and utilisation of the CPHCC. Knowledge is also associated to utilisation of the CPHCC.

6.2 RECOMMENDATIONS

To ensure that all the "un-reached" are reached with the concept of Primary Health Care (PHC) the basic principles of primary health care approach have to intensified in communities that are lagging behind in the implementation of PHC activities through continued monitoring of PHC activities in the communities. From the study analysis, the following recommendations need to be implemented to improve the utilisation of the CPHCC:

1. To improve knowledge, attitude and participation to the CPHCC activities by the villagers, villagers need constant I.E.C. messages about the benefits and activities done at the CPHCC.

2. To improve the utilisation of the CPHCC, focus should be increasing the number of membership to other funds that are available at the CPHCC as this will ensure community participation as they will be share holders to those other funds available and will act as apart and parcel to all activities at the CPHCC.

3. To adapt activities among lowly utilised CPHCC regarding the health promotion activities in the primary health care. The idea of primary health care is to change the peoples' dependance on health centre to self care. In this regard, in Thailand Family Health Volunteer cadre has been established for the purpose. The system will decrease the number of people going to upper level of health care and hence reduce the long queues and congestion in hospital wards. The CPHCC also is a centre for other activities and will promote the economic self-reliance of the people if the become members to other funds available at the CPHCC.

4. Village Health Volunteers (VHV) need to be rewarded for the continuity of the activities at the CPHCC and to boost their morale. Experiences from other studies indicate that if VHV are rewarded (not in form of salary or monetary) their morale is boosted and activities continue (50).

5. Emphasis should be made here that we should not compare the services done at the Health Centre and the CPHCC because the two have different philosophies. CPHCC should not be closed even if there is low utilisation or the distance is short between health centre and the CPHCC because it is not the distance but the idea of people helping themselves on health and other related services. We still need the CPHCC even if it is close to the health centre.

RECOMMENDATION FOR FURTHER RESEARCH

1. More households and more districts need to be sampled for a good variety of places with different socio-demographic factors. This will be more representative and give more reliable results.

2. To conduct a qualitative study to find out why there I sa difference between highly and lowly utilised CPHCCS.

3. Focus group discussion study on various aspects factors that affect the utilisation of CPHCC will be ideal. The majority of opinion leaders and other groups could give more precise information about factors that influence utilisation of CPHCC.

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APPENDIX

APPENDIX A

INTERVIEW QUESTIONNAIRE

UTILISATION OF COMMUNITY PRIMARY HEALTH CARE CENTRE (CPHCC) AND ITS AFFECTING FACTORS

Your answers to the questions will be used for research purpose only and this will be treated and remain confidentially and anonymous.

Name of Interviewee_____

Date of interview_____

Name of Interviewer_____

Name of Village _____CPHCC_____

Tambon_____

District_____

Province_____

Part 1. Socio-demographic (General Information on the household)

Please tick [ ] in the appropriate box.

1. Age: _____years

2. Sex: [ ]male [ ]female

3. Religion: [ ]Buddhist [ ]Christian [ ]Moslem

4. Marital status: [ ]Married [ ]single [ ]widow [ ]divorce

5. Status in the Family: (a) head of house hold [ ]

   (b) household member specify the relationship with household i.e.[ ] housewife [ ] husband [ ]son/daughter [ ] relative [ ]other (specify_____)

6. Education: [ ] Illiterate [ ]primary [ ] secondary [ ] high school

   [ ] university/college

7. Main occupation: [ ] Agriculture [ ] Labour [ ] Trade
[ ] Civil service [ ] Other (specify_____)
8. How many members in your family? _____

9. Annual household income: _____Baht /month

10. What is the nearest health services from your house:
[ ] CPHCC [ ] Health Centre [ ] Private clinic [ ] Hospital

[ ] Other

11. What is the distance from your house to nearest health service
[_____km _____m]

Part 2. Perception on roles of the activities of the CPHCC by the Villagers

12. Do you know the location of CPHCC in your village
[ ] Yes (point at it)
[ ] No

13. Do you know the CPHCC activities?
[ ] Know (mention 3 i.e. specify) (weighing children, measuring blood pressure, urine sugar tests, family planning, buy drugs, meeting place and simple treatment)
[ ] Do not know

14. What are services equipment in CPHCC?
[ ] Know (specify mention two_____)
[ ] Do not know

Part 3 Availability and accessibility factors

15. How far is the CPHCC from your house?
_____km _____m

16. If you want to utilize the services at CPHCC, how do you go there?
[ ] Walk
[ ] Use transport

17. How long does it take you to travel to the CPHCC? _____ minutes

Part 4- Utilisation of the CPHCC by the villagers

18. How many times did you or someone in your family visit the CPHCC in the past 6 months? [Total _____times].

19. Are there other funds in the village apart from the health funds?
[ ] Yes
[ ] No

20. Which of these activities is/are done by the villagers at the CPHCC? (answer more than one- Please tick).
[ ] weighing of children
[ ] Nutritional Clinics
[ ] health meetings
[ ] participating in other funds
[ ] none of these

Part 5-Participation of Villagers towards CPHCC activities

21. What are the types of participation you or a member in your family do at the CPHCC? (Answer only one)
[ ] None
[ ] Money donation
[ ] Material donation
[ ] Health activities
[ ] Share ideas and suggestions
[ ] Member of fund
[ ] Other (specify----------)

22. Do you know who is/are the VHV in your village?
[ ] Know (names and number of the VHV's----------specify)
[ ] Do not know

23. What is the relationship of VHV's with the community?
[ ] High
[ ] Moderate
[ ] Low

24. Who collects data on births and deaths in your village?
[ ] Villagers
[ ] Village Health Volunteers (VHV's)
[ ] None
[ ] Other (specify_____)

25. Are you a member of any other "Fund Club" in the village?
[ ] Yes (specify_____)
[ ] No

26.Number of sessions of weighing children at CPHCC by villagers the past three months
[ ] None [ ] Yes _____times

27. Number of meetings held at the CPHCC in the past six months?
[ ] None [ ] Yes _____ times

28. Did you participate in those meetings?
[ ] Yes
[ ] No

Availability and Accessibility of the CPHCC by the villagers

No.	Item	Availability	
		yes	no
29	Location of the CPHCC in the village (centrally or not)		
30	Opening time of the CPHCC is it convenient?		
31	Essential drugs availability		
32	Availability of other health facilities or drug shops		
33	Availability of communication system (megaphones)		
34	Availability of referral system		

Part 6. Attitude towards roles and activities of the CPHCC

No.	Statement	Agree	Not sure	Dis-agree
35	Do you think that the CPHCC is necessary for the health development activities in the village?			
36	Do you think the quality of equipment at the CPHCC is good enough for the health services?			
37	Do you think the quantity of equipment at the CPHCC is good enough for health services?			
38	Do you think the service hours at the CPHCC are suitable for the villagers?			

Part7. Health seeking behaviour of villagers'.

39.. What do you do when you or member of the family is sick from common diseases?
[ ] Go to Thai Traditional medicine
[ ] Go to health centre
[ ] Go to hospital
[ ] buy drugs from nearest drug shop
[ ] Go to CPHCC
[ ] Other (_____specify)

40 What would you do if a member of the family becomes very sick from severe disease
[ ] Go to Health centre
[ ] Go to Hospital
[ ] Buy drugs from drug store
[ ] Go to CPHCC first
[ ] Go for Thai Traditional Medicine
[ ] Other (specify_____)

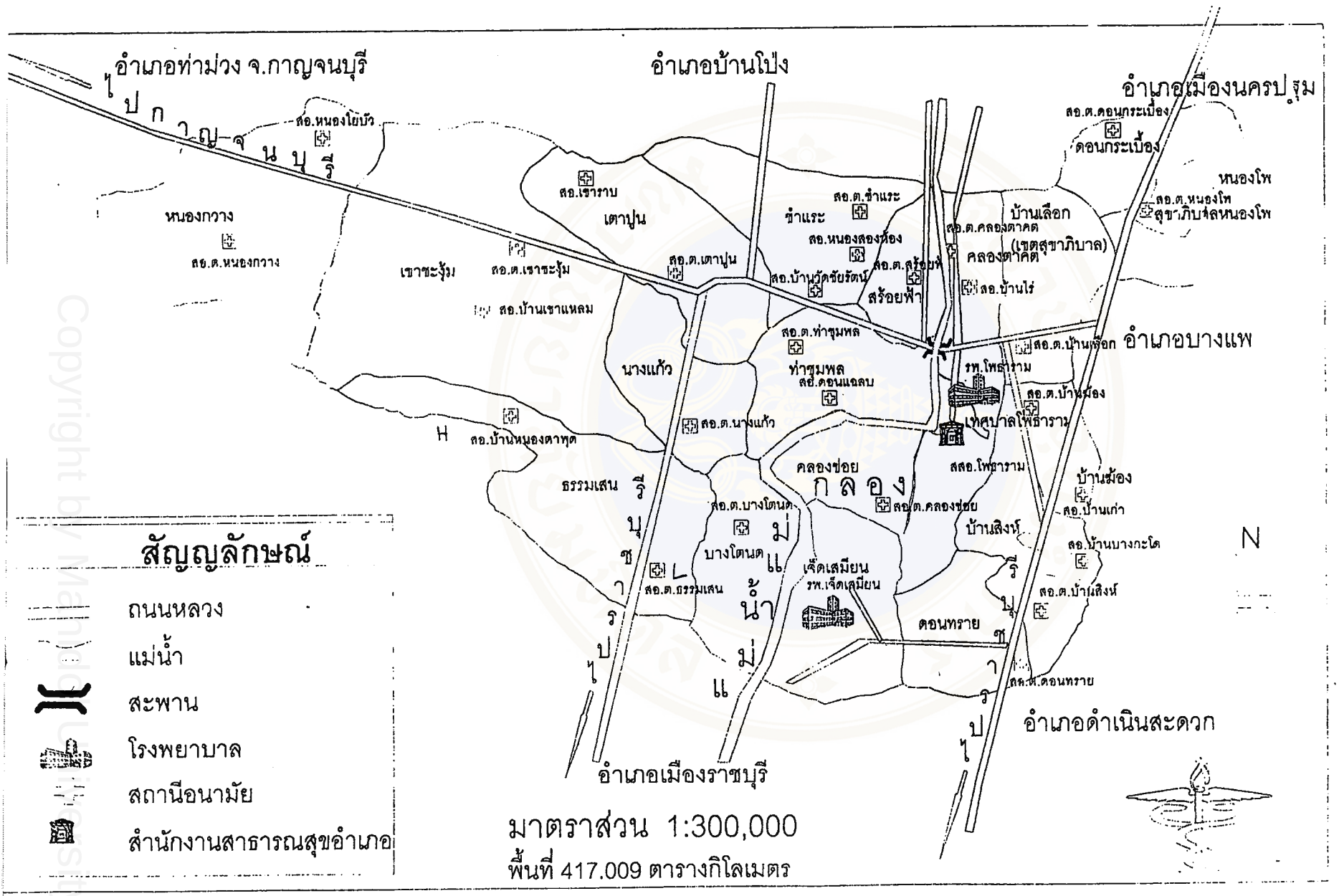
41. Where do you search the health information or health knowledge when you need it? (one answer)
[ ] Read from books
[ ] Search from CPHCC/Health volunteers
[ ] Discuss with neighbour
[ ] Discuss with health personnel
[ ] Other (specify _____-)

42. What is your main source of information on health?
[ ] Radio
[ ] TV
[ ] Health worker
[ ] Newspapers
[ ] Friends and colleagues
[ ] others

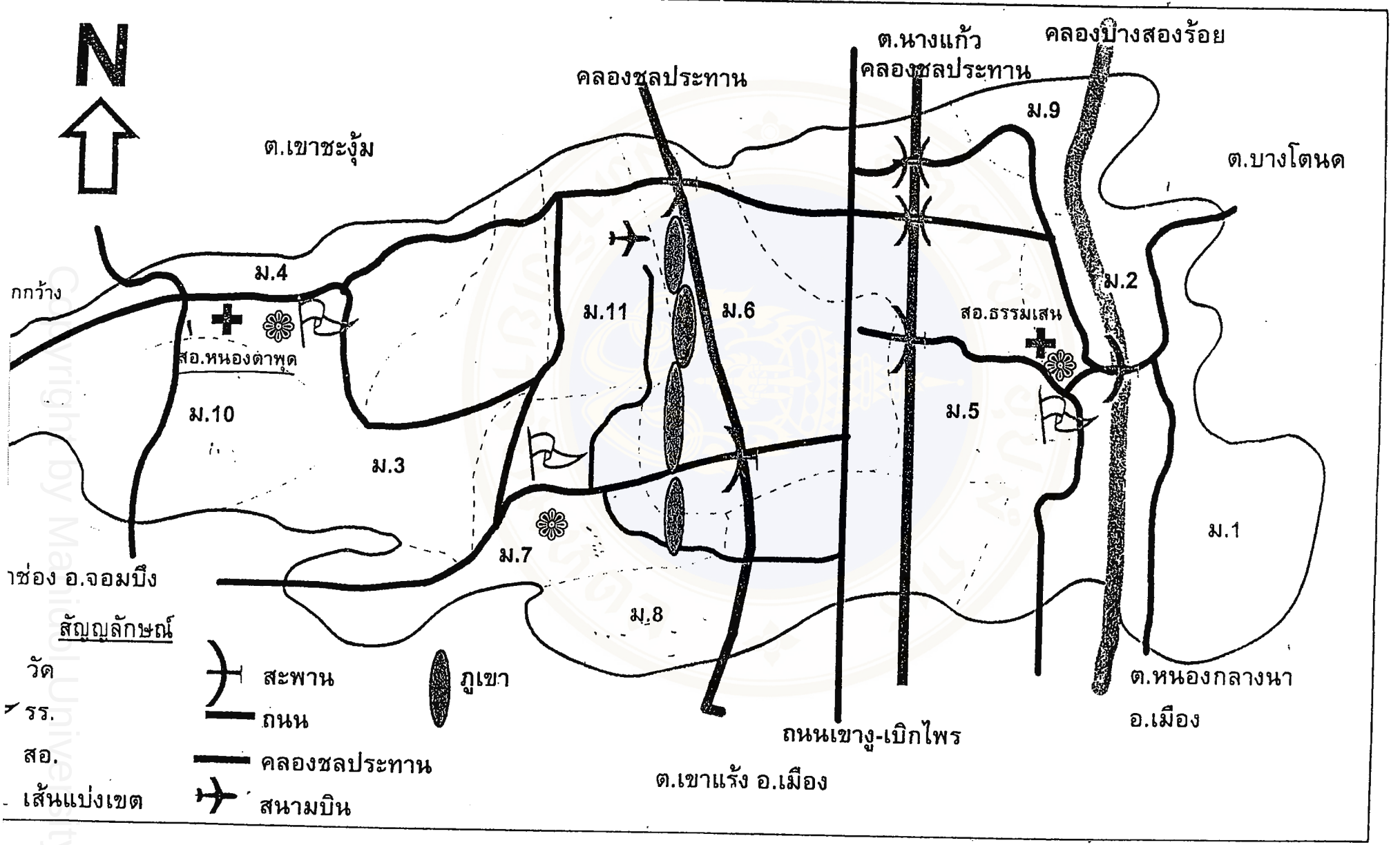
THANK YOU FOR TAKING YOU TIME IN ANSWERING THESE QUESTIONS. THE RESULTS OF THIS STUDY WILL BE COMMUNICATED TO YOU THROUGH HEALTH CENTRE STAFF.

APPENDIX B

แผนที่สังเขปอำเภอโพธาราม



แผนทสงเขบตาบลธรรมเสน



BIOGRAPHY

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