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**FACTORS RELATED TO HEALTH CENTER
SERVICE UTILIZATION
OF RURAL PEOPLE IN NAKORN RATCHASIMA
PROVINCE**

KHUON ENG MONY

A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF
THE REQUIREMENT FOR THE DEGREE OF MASTER OF PRIMARY HEALTH
CARE MANAGEMENT

**With compliments
of**

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THESIS
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FACTORS RELATED TO HEALTH CENTER SERVICE UTILIZATION OF
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IN NAKORN RATCHASIMA PROVINCE

.....
Khuon Eng Mony
Candidate

Nawarat Suwannapong
.....
Nawarat Suwannapong
B.Sc. , M.S.W. , Ph.D
Major Advisor

Somjai Pramontol
.....
Somjai Pramontol
M.A.
Co-advisor

Chanchai Phangarm
.....
Chanchai Phangarm
M.P.H.M.
Co-advisor


Adulya Viriyavejakul
.....
Adulya Viriyavejakul
M.D. , LL.B., F.R.C.P.
Dean
Faculty of Graduate
Studies

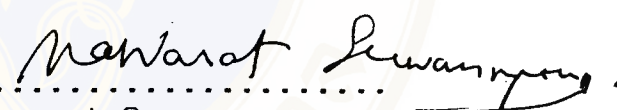
Som-Arch Wongkhomthong
.....
Som-Arch Wongkhomthong
M.D., M.PH., D.H.Sc.
Chairman
Master of Primary Health Care
Management
Asean Institute for Health
Development


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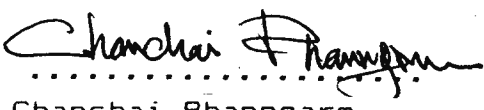
was submitted to the Faculty of Graduate Studies
Mahidol University
for the degree of Master of Primary Health Care Management
on


May 10 , 1996



.....
Khuon Eng Mony
Candidate


.....
Nawarat Suwannapong
B.Sc. , M.S.W. , Ph.D
Chairman


.....
Somjai Pramompol
M.A.
Member


.....
Chanchai Phanngarm
M.P.H.M.
Member


.....
Adulya Viriyavejakul
M.D. , LL.B., F.R.C.P.
Dean
Faculty of Graduate
Studies


.....
Som-Arch Wongkhomthong
M.D., M.PH., D.H.Sc.
Director
Asean Institute for Health
Development

BIOGRAPHY

| | |
|----------------------|--|
| NAME | Khuon Eng Mony |
| DATE OF BIRTH | January 12th , 1954 |
| PLACE OF BIRTH | Phnom Penh , CAMBODIA |
| EDUCATION BACKGROUND | Faculty of Medicine Phnom Penh , CAMBODIA , Medical Doctor's 1985 Mahidol University Master degree of Primary Health Care Management , 1995-1996 |
| PRESENT POSITION | Chief of Outpatient Department, Preah Kossamak Hospital , Phnom Penh , CAMBODIA |

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Khuon Eng Mony

Thesis Title Factors Related to Health Center
Services Utilization in Nakorn
Ratchasima Province

Name Khuon Eng Mony

Degree Master of Primary Health Care
Management

Thesis Supervisory Committee

Nawarat Suwannapong
B.Sc. , M.S.W. , Ph.D

Somjai Pramopol
M.A.

Chanchai Phanngram
M.P.H.M.

Date of Graduation 10 May B.E. 2539 (1996)

ABSTRACT

A descriptive cross-sectional study about factors related to the utilization of health center service of rural people in Nakorn Ratchasima province were conducted in Wangnamkiew district within 5 villages of 5 tambons where health centers were considered as low utilized .

The objectives were to determine the socio-demographic characteristic , the knowledge of rural people

The objectives were to determine the socio-demographic characteristic , the knowledge of rural people on the health center service , the perception of them on place of health centers , health personnel , services to be utilized , quality of care , continuity care , cost of care and accessibility to services ;and their utilization of the services in focusing on their first choice in going to seek treatment when they get sick .

This study consisted of 236 villagers of household whose age from 15 to 60 years old . This sample size were selected by simple random sampling . The research instruments were constructed questionnaire for interview .

The results of the study showed that there were no significant association between socio-demographic characteristics and knowledge of the people and their utilization . For this reason the recommendation for further study is to study deeply on the understanding of the people toward health center service utilization .

Concerning the perception of people , the study found that villagers' perception toward health personnel , services to be utilized , quality of care , continuity care were statistically significant with the health services utilization (p -value = .000) . Regarding place of health center , cost of care and accessibility , there were no significant association between these factors and

utilization .

The result also found that 57.7% reuse health services and 42.3% did not reuse it .

According to all these results , three possible reasons could be explained , the utilization of health center services were related to the perception of the patients ,so to change their perception to give high value to the health center services it is recommended to improve the quality of care , improve the quality of medicine and equipment , provide in-service training to health personnel and if possible the health center should be responsible by a doctor as people suggested . In addition , giving education to people should be more encouraged .

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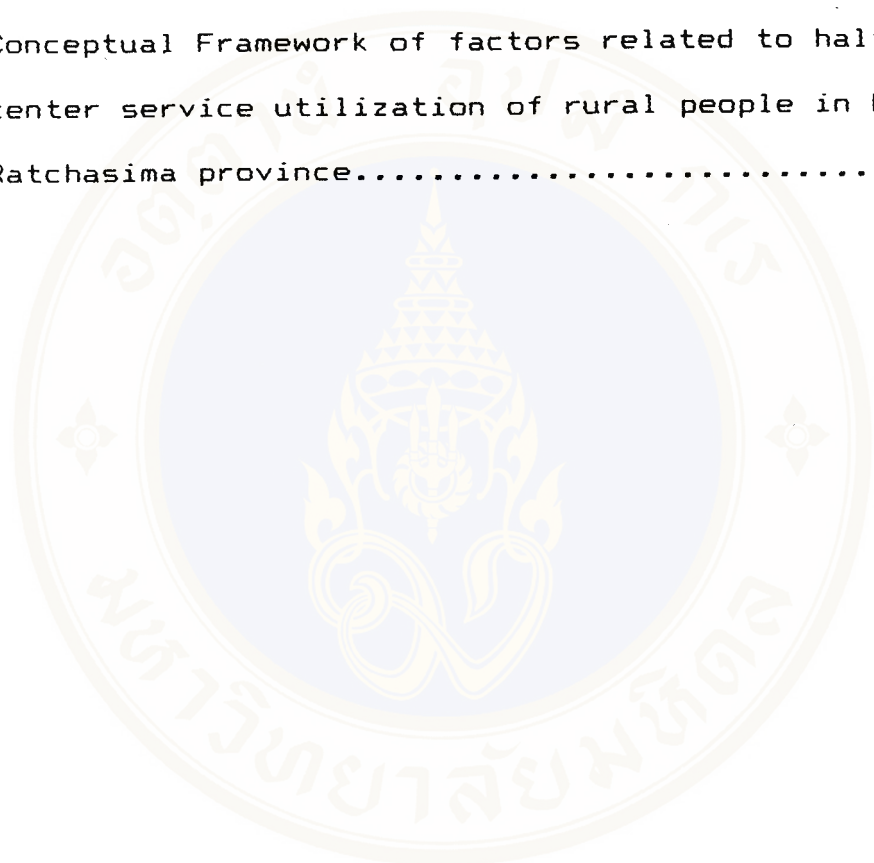
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CHAPTER I

INTRODUCTION

1.1 RATIONALE AND JUSTIFICATION

Thailand is one country in Asia where the Primary Health Care is conducted. In the Fifth, sixth and seventh National Five Year Plan that Ministry of Public Health has set up the policy of reaching the HFA/2000 for the people, especially rural people. The Ministry of Public Health continues to emphasize rural health in order to raise the quality of life of rural people.

Even though the Ministry of Public Health has developed new strategies to improve the quality of health service such as Health Center, some rural areas of North and Northeastern regions still have health problems. These include a high rate of infant mortality, a high rate of maternal mortality and a high proportion of children with malnutrition and infectious diseases. (Health in Thailand 1994).

Furthermore, the health status indicators of Ministry of Public Health (infant mortality rate, child mortality rate, maternal mortality rate....etc) still

show high level of health problems in rural area and the low quality of care provided by Health Center and Community Hospital .

Three surveys on health service utilization patterns of the population in 1970,1979, 1985 , showed a decreasing trend of self-medication and an increasing utilization of health service in Health Centers (table 1), Public Hospitals and Private Sector Outlets . But those studies also showed that people tended to bypass lower levels of health services to higher level and more sophisticated health facilities . However there are very few studies aiming at a better understanding of the choices people make.

**Table 1 : Utilization of Health Services , comparison
between the three survey 1970 , 1979 and 1985**

| Types of Health Services | 1970* | 1979* | 1985** |
|---------------------------------|-------|-------|--------|
| Self Treatment | 51.4 | 42.3 | 28.6 |
| Health Centers | 4.4 | 16.8 | 14.7 |
| Government hospitals | 11.1 | 10.0 | 32.5 |
| Private hospitals and clinic | 22.7 | 20.4 | 21.8 |
| Traditional Healers | 7.7 | 6.3 | 2.4 |
| No treatment | 2.7 | 4.2 | - |

Source : * MOPH and IPSR ,Community Health Survey
MOPH and Institute for Population and Social
Research ,Mahidol University .

** IPSR , The Morbidity and Mortality Differential
Asean Population Program ,Mahidol University ,
phase III , May 1987.

One study conducted in 1993 by Dirgha Raj Shrestha on the
Utilization of Health Center of rural people at Chonburi

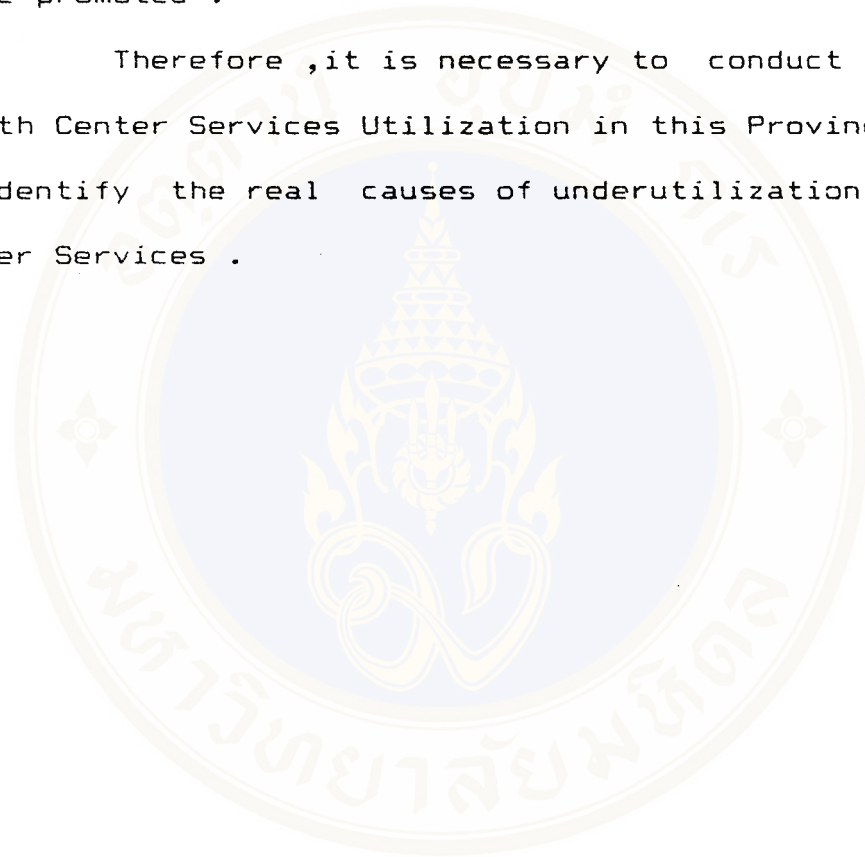
Chonburi Province showed some factors that affected health center utilization .However , much more needs to be studied in order to get a clearer picture of health center utilization , which may differ from one area to another .

Nakorn Ratchasima is a province in the Northeastern Region with an area of 2,054,816 squarekilometer It has 24 districts , 289 tambons , 3,202 villages and 476,828 households (June 1995) . The population is about 2,437,731 (June 1995) .It has 311 health centers .

Some data on the utilization of some health centers in Nakorn Ratchasima Province show that there are different rates of the utilization from one health center to another . Some health centers are still under utilized (see table 2) Table 2 showed the different rates of the health center Utilization of the people in different districts even though the number of the population is quite equal. On the other hand,in different areas in the same district such as industrial area where the rate of the utilization of health center services is higher than those in normal area . This different might be caused by either the people in normal area are healthy or they do not use the health center service. In Wangnamkiew district , there are 9 health centers in the table of data considering for " chief of health center level 6 provincial health official promotion , Nakorn Ratchasima province , only one health center Klong durian were selected

center Klong durian were selected to be promoted . It could probably other health center still not have enough criteria to be promoted .

Therefore ,it is necessary to conduct research on Health Center Services Utilization in this Province in order to identify the real causes of underutilization of Health Center Services .



**Table 2 : Some Data on Health Center Services Utilization
in Nakorn Ratchasima Province**

| no | Health Center | District | Area | Popula tion | Pat* | Pat | Rate |
|----|----------------|-----------------|--------------|----------------|------|-----|------|
| 1 | Koke Khuan | Kamtala isaw | Nor area | 5337 | 5437 | 454 | 8.6 |
| 2 | Kulad | Boi Yai | Nor area | 5315 | 2127 | 178 | 3.4 |
| 3 | Jarn Tamra | Pimai | Nor area | 3450 | 2187 | 183 | 5.4 |
| 4 | Sat Rawing | Komburi | Bord area | 3481 | 5360 | 447 | 13 |
| 5 | Nong Kainum | Pak Chong | Remo area | 4306 | 3601 | 301 | 7 |
| 6 | Nong Pralan | Muang | Indu area | 4286 | 2211 | 185 | 4.4 |
| 7 | Bang Pra | Muang | Nor area | 7058 | 4909 | 410 | 6 |

Source : Data considering for " Chief of Health Center Level

6 " Promotion ,Nakorn Rachasima Province .

(* = patients)

1.2 OBJECTIVES

1.2.1 General objective

To study factors related to the utilization of health center service of rural people in Nakorn Ratchasima Province .

1.2.2 Specific objectives

1.2.2.1 To determine the socio-demographic characteristics of rural people in studied area .

1.2.2.2 To identify the knowledge of rural people on health center service.

1.2.2.3 To study the perception of rural people toward health center service.

1.2.2.4 To determine Health Center Service Utilization of rural people in the studied area .

1.2.2.5.To find relationship between socio-demographic characteristics of rural people and utilization of health center service .

1.2.2.6.To find relationship between knowledge of rural people and health center service utilization.

1.2.2.7.To find relationship between perception of rural people and health service utilization .

1.3 CONCEPTUAL FRAMEWORK

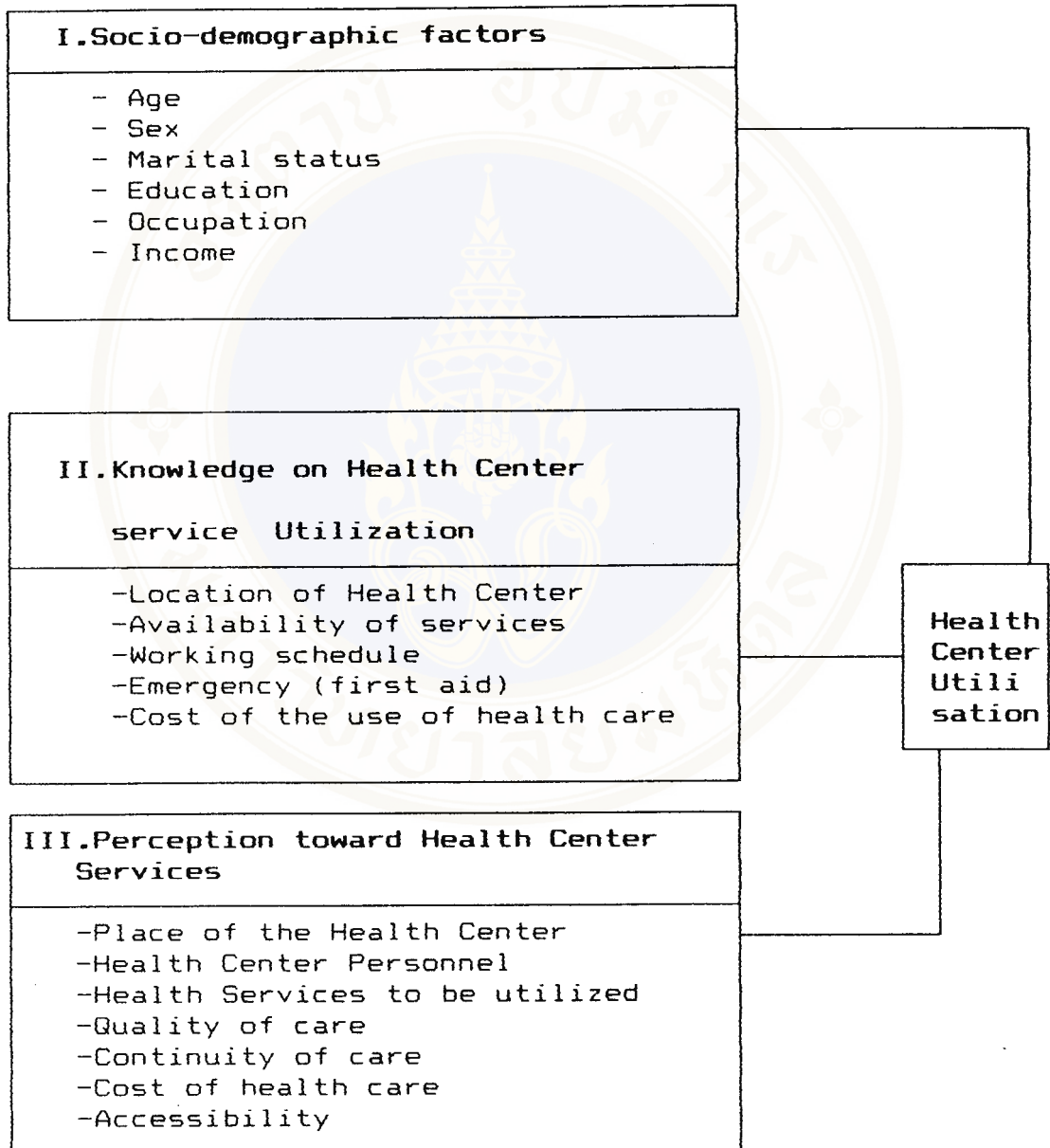


Figure 1 : Conceptual Framework of Factors Related to Health Center Services Utilization of Rural People in Nakorn Ratchasima Province .

Figure 1 showed the conceptual framework regarding the utilization of health center services as a dependent variable. The utilization refers to the use of the available services in the Health Center by the rural people in Nakorn Ratchasima Province. The independent variables are the factors related to their utilization. These factors are socio-demographic, knowledge of rural people on health center services, their perception toward health services, health personnel, cost of health care, quality of care, continuity care, drug providing by health center.

1.4 HYPOTHESES

1.4.1 There is a relationship between socio-demographic factors and health center service utilization.

1.4.2 There is a relationship between knowledge on health center and the health center service utilization of rural people.

1.4.3 There is a relationship between the perception of rural people on health center service and its utilization.

1.5 OPERATIONAL DEFINITIONS

1.5.1 **HEALTH CENTER** refers to the smallest outlet located in each tambon or subdistrict; the staff mostly consists of one junior sanitarian and one midwife or nurse.

1.5.2 **HEALTH CENTER PERSONNEL** is all of the government staff working at the health center.

1.5.3 **PATIENT** refers to a person who comes to the health center for some curative or preventive purposes.

1.5.4 **TARGET GROUP** refers to one of the member of the household whose is 15 to 60 years old .

1.5.5 **ACCESSIBILITY** refers to the possibility of people reaching the health services at the Health Center .
(distance , time utilized and cost)

1.5.6 **AVAILABILITY** refers to the possibility of people utilizing the health services at the Health Center

1.5.7 **EDUCATION** refers to the level of education of the respondents .

1.5.8 **WORKING SCHEDULE** refers to the time that the health center provides health services to the people .

1.5.9 **KNOWLEDGE OF RURAL PEOPLE** refers to the knowledge of the peopel about health center services such as location of the health center, availability of services ,working schedule. emergency (first aid) , cost of the use of health care . The knowledge have two level divided

according to their mean score . The score equal and higher than mean score were classified in good knowledge and the score less than mean score were classified in poor knowledge

1.5.10 PERCEPTION OF RURAL PEOPLE refers to the people's opinions on health center services such as health center personnel , health services to be utilized , quality of care , continuity of care , cost of care , accessibility to health center services and place of the health center . Perception is divided into good perception and poor perception according to the mean score .

Good perception if the score were equal and more than mean score .

Poor perception if the score were less than mean score

1.5.11 HEALTH CENTER SERVICES UTILIZATION refers to how the people utilize health center services available in their Health Center including transportation , times utilized , quality of care , cost of treatment , health personnel and equipment . The utilization is divided into two levels according to the mean score :

High utilization if score were equal and more than mean score .

Low utilization if score less than mean score

1.5.12 QUALITY OF CARE refers to the quality of the health personnel in doing diagnosis , treatment and all their activities to provide health care services to the

people .

1.5.14 **RURAL PEOPLE** refers to the villagers living in the catchment area of the health center studied .

1.5.13 **CONTINUITY OF CARE** refers to the follow up of the patients by health center personnel .

1.6.SCOPE AND LIMITATION OF THE STUDY

The scope of this study focuses only on the factors related to the utilization of the services .

Due to limited time, budget and language barrier, this study will conduct only in 1 district and the interviews will be done by trained interviewers.

1.7 USEFULNESS OF THE STUDY

The aim of this study is to find the relationship between health center services utilization and the related factors . The results will be useful to public health personnel to reorganize and improve the quality of the Health Center Services to meet the need of the rural people and to improve their health and quality of life .

CHAPTER II

LITERATURE REVIEW

I. HEALTH SERVICES IN THAILAND

The first incentive for public health work in Thailand was the desire to combat epidemic diseases such as cholera, smallpox and malaria which for centuries had taken a heavy toll of lives.

In the economy today both private and public sectors, the ratio average per capita expenditure being about 2:1 private over public. The private sector is predominantly in curative medicine and concentrated in Bangkok metropolis and the 134 small municipalities of the country.

Health services of the public sector are concentrated in the provincial areas. However since the Fourth Five Year Plan there has been a rapid growth in the number of community hospitals and health centers.

Bangkok metropolis has a heavy concentration of both governmental and private health facilities and personnel. There is also a great disparity in favor of Bangkok with regard to the scope and quality of medical services

available .

Extending over the entire country and underlying both public and private health care system ,there remains a variegated network of traditional medical practionners that are integrated into traditional Thai cultural patterns and which serve directly or indirectly the population for its symptomatic problems . Though primary Health Care approach , Thailand has achieved an almost full coverage of trained health volunteers and health communicators at the village level .

The concept of village-based self-managed Primary Health Care activities are being extensively promoted over the country. (Health in Thailand , 1994)

II. HEALTH CARE SERVICES AT PROVINCIAL LEVEL IN THAILAND

The system of health care in Thailand at the provincial level is as follow :

1. General hospitals or provincial hospitals have from 150 up to 500 beds and regional hospitals have from 500 to 1,000 beds. Provincial hospitals are responsible for curative ,certain extent of promotive , preventive and rehabilitative services. General hospitals are predominantly utilized by people in the immediate areas of the provincial

capital.

Regional hospital serves as catchment areas for the health center population in their respective regions.

2. Community hospitals (district hospitals) cover almost 90% of the country. These hospitals normally have 10-60 beds and 2 to 6 physicians according to the number of the beds. Each community hospital provides curative, preventive, promotive and rehabilitative health services and has official responsibility for the overall supervision and technical support of health centers activities and public health programs in the district where the hospital is located. It also serves as a referral center at the secondary level of health care service infrastructure.

3. Health centers are the lowest level of health facility covered about 3,000-5,000 people and provide all curative, preventive and promotive services. The facility usually has 1 midwife or nurse and 1 junior sanitarian and is responsible for providing prenatal, delivery, post natal service; immunization; nutrition; family planning and water supply. As a curative service, a health center provides limited treatment for emergencies or minor illnesses beyond which they provide referral services to district or provincial hospitals. Likewise, it provides support to the village for the development and strengthening of the Primary Health Care program. It supports and supervises village

health volunteers in the self-management of the essential elements of the Primary Health Care program, in community based health programs and in community development.

4. Community Primary Health Care Center (CPHCC) are the smallest health facilities and are located in villages in remote areas with scattered population and/ or in the areas of minority groups, such as border villages, hill-tribe villages.

II IMPORTANCE OF HEALTH CENTER ACTIVITIES TO FULFIL HFA/2000

To clear the concept " Health is basic human rights and a worldwide social goal reaching global strategies for Health for All by the year 2000 " Ministry of Health together with Ministry of work out and continually update National Master plans of requirement for Health Centwers; Dispensaries and referral hospitals . Accessibility to those services will be the foundation of the master plans. Ministry of Health will review the functions, staffing, planning, design, equipment, organization, and management of health centers and referral hospital in order to prepare therefore their wider function in supporting Primary Health Care. Before investing those services the cost of running them will be considered . So most of countries have

established health centers in community level as a lower level health institution of government health services and people. But their name is different from country to country such as health center , health post , dispensary, etc.

Before 1978 in most countries, health center was used as a treatment center for some illness and injuries. But after 1978 it has been used as a comprehensive health institution or base for the health delivery system .

World Health Organization has considered the concept of health center as one of facilities of health systems which delivered to a defined community or areas and carries out promotive , preventive , protective , curative and rehabilitative activities for ambulant people (WHO ,1985).

For government the cost of services to manage such kind of primary health center is very low in comparison to building the more sophisticated hospitals at district level, training higher degree qualified doctors, facilitate modern equipment and manage many patients coming at the late stage of illness and reading hospital care (WHO , 1991) .

It is found that among the total patients visiting the health institution only 10% of them need to see specialist, 25% need to see physicians or clinical nurses. But 65% of them can be treated by health personnel at the health center level and VHVs. This data also show us the need to strengthen the services of health centers in rural

areas (WUTTIPONGSE , 1989) .

III SITUATION OF HEALTH CENTER IN THAILAND

Almost 99.5% of all tambons have at least one health center. Each health center cover 2,000-5,000 population, the responsibility is to provide integrated basic health services and basic medical care, mother and child health, family planning, water supply, sanitation and environmental health, nutrition, immunization, school health services, communicable disease control, mental health and dental health. The health center serve as a referral unit at the primary level of the health care delivery system and also provides support to the villages for the development and strengthening of the Primary Health Care Program (MOPH ,1993) .

Ministry of Health in Thailand try new strategies to solve the problems of improving the quality of health services of Health Center in order to extend outpatient services by sending physician to Health Center which usually manned auxilliary health worker . This could be done by mobilizing physicians who are working at the Provincial or District hospitals to work at the Health Center on a rotation basis . In addition , the technical training is also provided as on the job training for the auxilliary

health workers who are responsible for the Health Center .
(MOPH , 1992 , p. 54-55) .

In the seventh Five Years of Health Development Plan, Ministry of Public Health also attempts to increase the quality of Health Centers by setting up a policy named " Decade of Health Center Development " to increase the service effectiveness of Health Center by improving infrastructure , role and function manpower in order to support resources as well as establishing and improving their managerial services for rural people . The " Decade of Health Center Development " policy established the modern Health Centers to provide the health services for rural people to access basic health care (MOPH , 1993) .

IV PROBLEMS ABOUT HEALTH CENTER SERVICES UTILIZATION

The myth of the medical care system which was said to serve the majority is very clear in the finding of WHO report. The report quotes that "80% of the people living in the rural areas contribute 75% of the national production and able to receive only 25% of the health services and 80% of our doctors. 9% of our hospitals beds serve only 20% of the population. (PHC and People's Movement 1988 a case in India)

Only providing health services institution near to the people does not fulfil the objective of government and it cannot improve the health status of people. The other important thing is that health services provided by government be utilized by the people. This is one of the big problems in third world countries. Governments establish health centers in rural areas but people are not willing to accept the services. They continue to use their own traditional ways of health services, local drug stores, injectionist, or directly go to upper level health services. This practices can have many consequences, such as waste of money, manpower, equipment, health hazard due to use of untrained health personnel, and the workload in the upper level health institutions.

In Thailand the elimination of barriers to the use of modern health services has been the goal of the government for many decades. At the the beginning of the 1980s, definite plans were implemented to increase accessibility in three aspects, namely eliminating geographical distance, reducing the monetary cost of services and bridging the social gap between modern health practices and patients (SERMSRI, 1985).

In 1985 a survey on health services utilization in Thailand shows that there still are very few percent of community people that utilize the government health services

especially in rural areas. The health center services utilization rate is very low as was expected. The statistics show that only 14.7% of people who are sick utilize the health center services and 26.6% use self treatment by buying drug from drugstores.

Change in health status of the people show that the intensity of health problems in the rural areas are still high. Although infant mortality rates have already declined in Bangkok. In Central regions and Southern region still have higher maternal mortality rates. Northern and Northeastern still have higher rates of infant mortality (MOPH, 1994).

A study about factors affecting community hospital utilization in Nakorn Patom province in April 1989 showed that within the previous 6 months about 45% of surveyed people were ill but they did not use the community hospital services. Most of them used the services of the local drug seller (HUSSAN ALTIBI, 1993).

V FACTORS AFFECTING HEALTH SERVICES UTILIZATION

Some researches study and sociologists have been trying to determine the behavior and attitude of utilization of different types of health services. But the factors are not similar in each community and it is different in

different communities. These factors can be divided into main parts :

-Factors related to consumer or people who are expected to utilize the health services such as socio demographic factors , knowledge on health center services utilization , perception on health center , health center personnel , quality of care ...etc .

-Factors related with health institution or health personnel .

Little research have been done about these factors and their relationship with services utilization. Here are some results from different research the factors influencing the utilization rate of rural health services facilities are the side, the repartition of the health services unit, competing sources of services and the enthusiasm of health personnel . The effects of population size on utilization pattern was also discussed (MOPH , 1976) .

1.Socio-economic and demographic factors

Thailand has experienced a period of rapid economic growth during the past two decades however the income distribution between the rich and the poor, the urban and the rural has widened. This effects the standard of living

of the underprivileged population in urban and rural areas.

Economic accessibility is the ability of the individual or the community to cover the cost of care, if a service is available but either the individual or the community cannot afford it, then it is not accessible.

2. Educational factors

Education is an important influence on the knowledge of both when to use health services and how to use them effectively. As a variable where its effects are strongly like to those of income and socio-economic status. Education also influence types of services used, for example, in the developing countries participating in the world fertility survey women with more years of schooling had a greater likelihood of using a modern family planning method and were likely to have a smaller family size. Improved education of women in a study (the Philippines) was also found to be associated with increased use of modern prenatal care and health care in the third world.

It is often necessary to bring about change in people's attitude and behavior in order to improve their health. To success in this, people must have an understanding of prevailing health problems and of appropriate methods of preventing and controlling them (WHO, 1981, p.28).

4. Distance

Road and communication is one of the factors that influence health. In general distances is a critical reasons for health services utilization in most developing countries. But for Thailand the study by DAY and LEOPRAPAI has shown that distance is a minor importance in influencing the use of health stations within a sizeable intermediate range one hour of travel time. They argue that it seem to be the lack of attractive services which influenced much more their present under used.

5. Knowledge toward health services

Knowledge of the local health services and delivery system have a positive relationship with curative services utilization. To success to improve people's health they must have an understanding of prevailing health problems and of appropriate methods of preventing and controlling them. It is health literacy. If they have high degree of understanding of health problems and way of solving them the behavior and attitude would be changed. So health services utilization obviously cannot occur if one doesn't know about the availability of the services. (WHO 1981, p.28)

6 . Perception on health services

In one study on orientation to health services , in chapter the clients states that patient's perception of hospital care and their hospital experiences bear little relationship to the technical , quality of care they receive They expect high quality care . Their judgment are formed from human interaction they have had with the gamut of hospital personnel (Ruth M. Lee , 1982 ,p.81).

CHAPTER III

RESEARCH METHODOLOGY

3.1 RESEARCH DESIGN

A cross-sectional descriptive study design in five villages of five tambons where utilization of Health Center was considered as low was done. The five tambons were selected from Wangnamkiew district in Nakorn Ratchasima Province. The aim of this study were to find factors related to health center services utilization of rural people in this province.

Data were collected by interviewing from household using a constructed questionnaire.

3.2 POPULATION AND SAMPLE

The area of the study were purposively selected Wangnamkiew district of Nakorn Ratchasima Province located in the Northeastern Region. Low utilized Health Center catchment areas were selected.

The target population of this study were one of any member of a household aged from 15 to 60 in the catchment

area of the Health Center selected .

the population were selected by simple random sampling technique .The total required sample size were calculated according to the formula :

$$n = \frac{Z^2 \times P \times Q}{d^2}$$

Where

n=sample size

Z=standard normal variation (for 95% confidence interval,Z=1.96)

P=estimated proportion of health center services utilization

d=absolute precision

So the required sample size were

$$n = \frac{(1.96)^2 \times (.19)(.81)}{(0.05)^2} = 236$$

This sample size was based on the result of a previous study , Factors affecting health center service utilization in rural area of Chonburi Province in 1993 where the estimated proportion is 16% , so the estimated

proportion for the study in Nakorn Ratchasima is calculated by assuming the $p=0.19$,3% greater than 1993 . Then the total number of 236 households will be selected within 6 villages of three tambons .

3.3 RESEARCH INSTRUMENT

A constructed questionnaire designed by the researcher were the measurement tool . The questionnaire were close-ended questionnaire divided into four parts .

* Part I consists of socio-demographic factors of the respondents such as age ,sex , marital status , education main occupation and income per month in cash .

* Part II consists of knowledge of rural people on health center services such as location of the health center , availability of services , working schedule , first aid , cost of the use of health care . All these variables were measured by giving the score : 3 for yes ; 2 for not sure ; 1 for no .

* Part III consists of perception of rural people on health center services .The answers of the question were scored by giving 4 for the very positive answer , 3 for the positive answer ,2 for the between positive and negative answer and 1 for the negative answer .

* Part IV consists of the questionnaire on the dependent variable about health center services utilization of rural people .

The answers were scored by giving 4 for the very positive answer , 3 for the positive answer , 2 for not sure and 1 for the negative answer .

Independent variables

1. socio-demographic of respondents

- * Age in which divided into agegroup .
- * Sex
- * Marital status
- * Education
- * Occupation
- * Income

2 . Knowledge of respondents on HC. services utilization

- * Knowledge on location of HC.
- * Knowledge on availability of services
- * Knowledge on working schedule
- * Knowledge on emergency cases
- * Knowledge on cost of health care

3 . Perception of respondents on health personnel and health services

- * Perception on place of health center
- * Perception on health center personnel
- * Perception on services to be utilized
- * Perception on quality of care
- * Perception on continuity care
- * Perception on cost of health care
- * Perception on accessibility of HC.
services

Dependent variable

Health center services utilization focus on the use of this service as the first choice when people get sick

3.4 DATA COLLECTION

Before starting data collection, the Provincial Health Office were contacted and the background information were collected. The tambons with 3 low utilized Health Centers were selected and then 236 households will be chosen .

Pre-test were done with 20 questionnaires to revise the questionnaire .

Data collection were done in April 1996 in one month. The interviewers were trained for 3 days before collecting data. The whole questionnaire were translated into Thai.

3.5 DATA ANALYSIS

After examining the completed questionnaires, they were coded and scored. The data were entered into the SPSS program to find the relationship between dependent variable and independent variables. The descriptive statistics for the studied variables were calculated in finding Frequency distribution, cross-tabulation and Chi-square. Chi-square test were used at 95 percent confidence interval.

CHAPTER IV

RESULT

After the interviewers were trained by the PCMO official and the researcher, the questionnaire were distributed to interview in 5 villages within 5 tambons of Wangnamkiew district. As mentioned in the research methodology, the respondents were villagers whose age from 15 to 60 years old. The sample size were selected by sample random sampling within 5 tambons where health center were considered as low utilized.

Two hundred and thirty six people from households were interviewed within five tambons and five villages in Wangnamkiew district of Nakorn Ratchasima province.

4 1. Distribution of respondents within five tambons studied areas

Five tambons, Udomsab, Wangmee, Thaisamkee, Wangnamkiew and Rareun, were selected to be the study area for this study.



Table 3 : Distribution of respondents within five tambons studied areas

| Name of tambon | Male n(%) | Female n(%) | Total |
|----------------|--------------|----------------|-------------|
| UDOMSAB | 10 (28.6) | 25 (71.4) | 35 |
| THAISAMKEE | 16 (32.0) | 34 (68.0) | 50 |
| WANGMEE | 14 (28.0) | 36 (72.0) | 50 |
| WANGNAMKIEW | 17 (34.7) | 32 (65.3) | 49 |
| RAREUN | 28 (53.8) | 24 (46.2) | 52 |
| Total | 85 (36) | 151 (64) | 236 (100.0) |

Table 3 shows the distribution of the respondents within 5 studied tambons in Wangnamkiew district. The sample size selected were 236 people from household. There were 35 respondents in Udomsab tambon in which 10 were male and 25 were female, there were 50 respondents in Thaisamkee, 16 male and 34 female, 50 respondents in Wangmee with 14 male and 32 female, in Wangnamkiew there were 49 respondents with 17 male and 32 female, 52 respondents were in Rareun tambon with 28 male and 24 female.

It was noted that the sex were lead in 4 tambons,

only Rareun where male were a little bit greater than female

4 2. Distribution of socio-demogra characteristics of respondents

Table 4 Distribution socio-demographic characteristics of respondents

| Variables | Frequency (percent) n= 236 | |
|-----------------------|-------------------------------|------|
| Age | | |
| 15-25 | 28 | 11.9 |
| 26-35 | 88 | 37.3 |
| 36-45 | 74 | 31.4 |
| 46-60 | 46 | 19.5 |
| Sex | | |
| Male | 85 | 36.0 |
| Female | 151 | 64.0 |
| Marital status | | |
| Single | 15 | 6.4 |
| Married | 201 | 85.2 |
| Widow | 17 | 7.2 |
| Divorce/separated | 3 | 1.3 |
| Education | | |
| No education | 39 | 16.5 |
| Primary school | 164 | 69.5 |
| Secondary school | 23 | 9.7 |
| higher education | 10 | 4.3 |
| Occupation | | |
| Farmer | 158 | 66.9 |
| housewives | 27 | 11.4 |
| Government employee | 12 | 5.1 |
| Private employee | 05 | 2.1 |
| Others | 34 | 14.4 |
| Monthly income | | |
| Less than 2000 baht | 97 | 41.1 |
| 2000-5000 baht | 124 | 52.5 |
| 5001-8000 baht | 7 | 3.1 |
| More than 8000 baht | 8 | 3.4 |

Table 4 showed the distribution of socio-demographic of respondents , variables that were investigated included age which range from 15 to 60 years old , sex , marital status , education , occupation and monthly income . The results found that the age range were 15 to 25 years were 11.9% , 26 to 35 were 37.3% , 36 to 45 were 31.4% and 46 to 60 years were 19.5% .

Sex of respondents were led by female 64.0% and male were 36.0% .

Regarding respondents' marital status , 85.2% were married , 6.4% were single , 7.2% were widow and 1.3% were divorces and separated .

Concerning educational status of respondents , it was found that for no education level was 16.5% , primary school level were 69.5% , 9.7% and 4.3% were respectively in secondary school and higher .

Most of respondents were farmers (66.9%) , housewives were 11.4% , government employees 5.1% , private employees were 2.1% and other occupations were 14.4% .

Economic status of respondents in this study was divided in 4 groups , the respondents who had monthly income less than 2000 baht were 41.1% , from 2000 to 5000 baht were 52.5% , more than 5000 to 8000 baht were 3.0% and more than 8000 baht were 3.4% .

These variables were recoded and regrouped into only two groups according to the mean score. The age were regrouped into 15 to 45 years and 46 to 60 years (mean age = 2.585) For the marital status , because of most of the respondents were married (85.2%) , this variable also regrouped into two groups , married (85.2%) and other (14.8%) .

Concerning occupation , it was found that the main occupation were farmers , so occupation was also regrouped into farmers 66.9% and other occupation 31.1% .

The monthly income were also regrouped into two categories according to the mean score (3913.136) into less than 5000 baht (93.6%) and equal and more than 5000 bath 6.4% .

4 3. Distribution of knowledge of respondents on health center service utilization

Table 5 Distribution of questions on knowledge of respondents

| Knowledge | Frequency (percent) n=236 | |
|--|------------------------------|------|
| Place of health center | | |
| - know | 234 | 99.2 |
| - not sure | 1 | .4 |
| - not know | 1 | .4 |
| Distance from home to health center | | |
| - know | 224 | 94.9 |
| - not know | 11 | 4.7 |
| - no comment | 1 | .4 |

Table 5 continued

| Knowledge | Frequency (percent) | |
|--|---------------------|------|
| Services available at health center | | |
| - not know | - | - |
| - know 2 services | 11 | 4.7 |
| - know 3 services | 19 | 8.1 |
| - know 4 services | 26 | 11.0 |
| - know 5 services | 31 | 13.1 |
| - know 6 services | 32 | 13.6 |
| - know 7 services | 31 | 13.0 |
| - know 8 services | 16.5 | 6.8 |
| - know 9 services | 68 | 28.8 |
| - know 10 services | - | - |
| Opening day | | |
| - know | 179 | 75.8 |
| - not sure | 34 | 14.4 |
| - not know | 23 | 9.7 |
| Working schedule | | |
| - know | 211 | 89.4 |
| - not know | 25 | 9.7 |
| Working time | | |
| - know | 184 | 78.0 |
| - not sure | 36 | 15.3 |
| - not know | 16 | 6.8 |
| Kind of illness | | |
| - know all | 95 | 40.3 |
| - know 2 kinds | 100 | 42.4 |
| - not know | 41 | 17.4 |
| Emergency cases | | |
| - know | 161 | 68.1 |
| - not sure | 53 | 22.5 |
| - not know | 22 | 9.3 |
| Cost of care | | |
| - know | 122 | 51.7 |
| - not sure | 40 | 16.9 |
| - not know | 74 | 31.4 |

The knowledge of respondents were measured by asking the questions as showing in table 5 above . These other questions were for information for health card holder only . The study found that the respondents knew the place of

health center were 99.2% but knowledge on the distance from home to health center were 94.9% . There were very few who did not know . The score were given 3 for know and 2 for not sure and 1 for not know .

For services available , it was found that 28.8% knew 9 services that available at health center , 13.6% knew 6 services and .8% did not know . The score was given 1 up to 10 for knowing 1 service to 10 services .

For working schedule , opening day , work time , the percentage of knowledge were respectively 89.4% , 78.0% , and 75.8% .

For kind of illness , emergency cases available at health center and cost of the use of health care , the percentage of knowledge were respectively 40.3% , 42.4% , 68.1% , 51.7% . 31.4% did not know about the cost of health care and 16.9% were not sure .

The score were given 3 for know , 2 for not sure and 1 for not know .

According to the mean score , these variables of knowledge were regrouped and divided into two levels poor knowledge and good knowledge . From low through the mean score were classified in poor knowledge and from mean score to higher were classified in good knowledge .

Table 6 Distribution of Knowledge on health center services utilization of respondents after grouping

| Knowledge | Frequency (percent) | |
|-------------------------|----------------------------|------|
| | n = 236 | |
| Location of HC. | | |
| poor knowledge | 13 | 5.5 |
| good knowledge | 223 | 94.5 |
| Availability | | |
| poor knowledge | 58 | 24.6 |
| good knowledge | 178 | 75.4 |
| Working schedule | | |
| poor knowledge | 73 | 30.9 |
| good knowledge | 163 | 69.1 |
| Emergency | | |
| poor knowledge | 94 | 39.8 |
| good knowledge | 142 | 60.2 |
| Cost of care | | |
| poor knowledge | 114 | 48.3 |
| good knowledge | 122 | 51.7 |

4 4. Distribution of perception of respondents on
health center service

Table 7 Distribution of questions on perception of
respondents

| Perception | frequency n = 236 | (percent) |
|--|----------------------|-----------|
| Cleanliness of health center | | |
| - very clean | 34 | 14.4 |
| - clean | 198 | 83.9 |
| - less clean | 4 | 1.7 |
| - dirty | - | - |
| Comfort of health center | | |
| - very comfortable | 30 | 17.7 |
| - comfortable | 188 | 79.7 |
| - less comfortable | 16 | 6.9 |
| - uncomfortable | - | - |
| Friendliness of health personnel | | |
| - very friendly | 37 | 15.7 |
| - friendly | 143 | 60.6 |
| - less friendly | 55 | 23.3 |
| - unfriendly | 1 | .4 |
| Willingness of health personnel | | |
| - high willingness | 29 | 12.3 |
| - good willingness | 164 | 69.5 |
| - less willingness | 43 | 18.2 |
| - no willingness | - | - |
| Health personnel are skilled personnel or not | | |
| - sure | 36 | 16.1 |
| - yes | 132 | 55.9 |
| - not sure | 65 | 27.5 |
| - no | 1 | .4 |
| Efficacy of treatment given by health personnel | | |
| - very efficace | 16 | 6.8 |
| - efficace | 144 | 61.0 |
| - less efficace | 75 | 31.8 |
| - inefficace | 1 | .4 |
| Self treatment first is better than go to health center | | |
| - sure | 44 | 18.6 |
| - yes | 37 | 15.7 |
| - not sure | 54 | 22.9 |
| - no | 101 | 42.8 |

Table 7 continued

| Perception | Frequency | Percent |
|---|-----------|---------|
| Services provided by health center | | |
| - very adequate | 15 | 6.4 |
| - adequate | 117 | 49.6 |
| - less adequate | 82 | 34.7 |
| - inadequate | 22 | 9.3 |
| Delivery services | | |
| - very adequate | 20 | 8.5 |
| - adequate | 168 | 71.2 |
| - less adequate | 47 | 19.9 |
| - inadequate | 1 | .4 |
| Quality of diagnosis given by health personnel | | |
| - exact | 10 | 4.7 |
| - correct | 103 | 43.6 |
| - probably correct | 122 | 51.7 |
| - misdiagnosis | 1 | .4 |
| Quality of medicine at health center | | |
| - best quality | 13 | 5.5 |
| - good quality | 110 | 46.6 |
| - fair | 112 | 47.5 |
| - not good | 1 | .4 |
| Equipment available at health center | | |
| - very adequate | 42 | 17.8 |
| - adequate | 151 | 64.0 |
| - less adequate | 39 | 16.5 |
| - inadequate | 4 | 1.7 |
| Quality of follow up | | |
| - very good | 26 | 11.0 |
| - good | 91 | 38.6 |
| - just all right | 101 | 42.8 |
| - not so good | 18 | 7.6 |
| Cost of health care | | |
| - cheapest (very cheap) | 51 | 21.6 |
| - cheap | 181 | 76.7 |
| - as expensive as | 3 | 1.3 |
| - more expensive | 1 | .4 |
| How far from home | | |
| - don't care about the distance | 25 | 10.6 |
| - not far | 174 | 73.7 |
| - far | 34 | 14.4 |
| - very far | 3 | 1.3 |

The perception of respondents were asking by questions on the place of health center (cleanliness and comfort) . These questions were scored 4 for very clean and comfortable 3 for clean and comfortable , 2 for less and 1 for dirty and uncomfortable . The study showed very clean and very comfortable respectively 14.4% and 12.7% , clean and comfortable 83.9% and 79.7% , less clean and less comfortable 1.7% and 6.8% , uncomfortable were .8% .

In order to understanding how people give value to the health personnel , questions asking about friendliness , willingness to do services and their skill were asked . some other questions were only for information . The questions required villagers gave their perception toward health personnel . The results as shown on table 8 showed that 15.7% , 12.3% and 10.1% of respondents gave high value to the health personnel ; 60.6% , 69.5% , 55.9% gave also a good value to the health personnel . 23.0% , 18.2% , 27.5% just accepted that it were all right and a few did not satisfied with the health personnel .

Concerning the villagers' perception on efficacy of the treatment of health personnel , 6.8% gave a very high value , 61.0% gave a good one and 31.8% think that just all right . Only .4 did not think that the treatment given by health personnel were good .

The perception toward having self treatment first is

better than go to the health center first showed that 18.6% and 15.7% think that having self treatment first is good but 42.8% did not agree with this idea , 22.9% were not sure . For this question the score were given 4 for going to health center first , 3 for not sure , 2 and 1 for good perception on self treatment first .

In this study 6.4% think that the services provided by health center were very good , 49.6% also have a positive perception toward services provided . 34.7% were not sure and 9.3% did not think it were good .

For delivery services majority of respondents had good perception on this services (8.5% sure and 71.2% said yes) . The score were given respectively 4 , 3 , 2, 1 , from sure to no .

Regarding the quality of diagnosis given by health personnel , quality of medicine and availability of equipment , the results found that :

- 4.2% and 43.6% of respondents think that the diagnosis were correct but 51.7% think just probably correct and .4% said that it was misdiagnosis .

- The equipment available at health center were perceived by villagers be adequate at 17.8% (sure) , 64.0% (yes) , 16.5% were not sure and 1.7% think that the equipment is inadequate .

According to the results showing on table 8 , the

quality of follow up at health center , 38.6% think it were good and 42.6% think it was just alright .

Most of the respondents think that the cost of health care were very cheap compared to the other health facilities . For the distance from home to health center 73.7% think that it was not far ,10.6% did not care about the distance .

These variables were scored and regrouped into place of health center (cleanliness and comfort), health personnel (friendliness , willingness , skill) , quality of care (efficacy of treatment, self treatment) , services to be utilized (services provided by health center , delivery service) , quality of care (diagnosis given by health personnel , quality of medicine , equipment available at health center), continuity care (quality of follow up), cost of health care , accessibility and regrouped variables were divided into two levels of perception according to the mean score . Less than mean score were classified in poor perception and equal and more than mean score were classified in good perception .

Table 8 Distribution of Perception of respondents on health center services utilization

| Perception | Frequency (percent) | |
|--------------------------------|---------------------|------|
| | n = 236 | |
| place of HC. | | |
| Poor perception | 19 | 8.1 |
| Good perception | 217 | 91.9 |
| Health personnel | | |
| Poor perception | 84 | 35.6 |
| Good perception | 152 | 64.4 |
| Services to be utilized | | |
| Poor perception | 89 | 37.7 |
| Good perception | 147 | 62.3 |
| Quality of care | | |
| Poor perception | 125 | 53.0 |
| Good perception | 111 | 47.0 |
| Continuity care | | |
| Poor perception | 65 | 27.5 |
| Good perception | 171 | 72.5 |
| Cost of care | | |
| Poor perception | 24 | 10.2 |
| Good perception | 212 | 89.8 |
| Accessibility | | |
| Poor perception | 37 | 15.7 |
| Good perception | 199 | 84.3 |

This study revealed that 91.9% of respondents had a good perception on the place of health center such as its cleanliness and its comfort .

Respondents' perception on health personnel were

64.4% for good perception and 35.6% for poor perception .
62.3% of respondents had good perception on services to be
utilized and 37.7% had poor perception on this .

It was noted that , 53% had poor perception on the
quality of care and 47% had good perception on this .

Regarding continuity care 72.5% had good perception
and 27.5% had poor perception .

Concerning cost of care 89.8% had good perception
and only 10.2% had poor perception on the cost of health
care at health center .

For accessibility , poor perception was only 15.7%
and most of respondents (84.3%) had good perception on the
accessibility of services .

4 5. Distribution of respondents ' utilization

The dependent variable was health center services
utilization that was measured by asking six questions on
where people went to seek treatment first when they got sick
, why did they go to the health center first when they got
sick , did they feel better after they got the health care
from health center , did health center provided them free
health care services , did health personnel paid attention
to them when they went to health center , when they get sick
again whether they go or not to health center and would

health center be their first choice when they get sick . These other questions were asked to make sure that people really practiced the health center services during last 3 months . These measuring utilization questions were scored 4 , 3 ,2 ,1 respectively for the answer sure , yes , not sure and no . The level of the utilization were based on mean score to divided into two level , low utilization and high utilization . Score lower than mean score was classified in low utilization and score equal and higher than mean score was classified in high utilization

In Udomsab there were low utilization of health services 14.8% and high utilization were 14.8% .

In Thaisamkee there were 22.7% low utilization and 19.4% high utilization .

In Wangmee 19.5% were low utilized and 23.1% high utilized .

In Wangnamkiew 22.7% low utilized and 18.5% high utilized .

In Rareun there were 20.3% low utilization and there were 24.1% high utilization .

Table 9 Distribution of level of utilization within tambons studied

| Name of tambon | Frequency n=236 | (percent) |
|--------------------|--------------------|----------------|
| Udomsab | | |
| low utilization | 19 | 14.8 |
| high utilization | 16 | 14.8 |
| Thaisamkee | | |
| low utilization | 29 | 22.7 |
| high utilization | 21 | 19.9 |
| Wangmee | | |
| low utilization | 25 | 19.5 |
| high utilization | 25 | 23.1 |
| Wangnamkiew | | |
| low utilization | 29 | 22.7 |
| high utilization | 20 | 18.5 |
| Rareun | | |
| low utilization | 26 | 20.3 |
| high utilization | 26 | 24.1 |
| Total | 236 | (100.0) |

The study revealed during last three months , most of respondents went to health center for 1-2 times 66.5% , 22.9% went 3-4 times and 3.8% used the health services more than 6 times .

Furthermore , answering to the question " when you get sick , where did you go to seek treatment first ?" , 46.6% went to health center , 5.9% went to community health center , 1.5% went to district hospital , 41.5% did self treatment and others services were 4.7% .

Table 10 Distribution of the questions measuring respondents' utilization

| Variables | Frequency n= 236 | (percent) |
|---|---------------------|-------------|
| When you get sick where did you go to seek treatment first ? | | |
| - health center | 110 | 46.6 |
| - district hospital | 3 | 1.3 |
| - community PHCC | 14 | 5.9 |
| - buy drug from drugstore | 11 | 4.7 |
| - self treatment | 98 | 41.5 |
| Why did you go to health center first ? | | |
| - no comment | 109 | 46.2 |
| - other | 80 | 33.9 |
| - transportation inconvenient | 23 | 9.7 |
| - far from home | 10 | 4.2 |
| - don't have confidence on health personnel | 14 | 5.9 |
| Did you feel better after getting treatment from health center ? | | |
| - sure | 63 | 26.2 |
| - yes | 75 | 39.8 |
| - not sure | 18 | 7.6 |
| - no | 72 | 30.5 |
| Did health center provided free services ? | | |
| - sure | 79 | 33.5 |
| - yes | 75 | 31.8 |
| - not sure | 18 | 7.6 |
| - no | 64 | 27.1 |
| Did health personnel always paid attention to patients ? | | |
| - sure | 64 | 25.8 |
| - yes | 78 | 33.1 |
| - not sure | 25 | 10.6 |
| - no | 72 | 30.5 |
| When you get sick again whether you go to health center or not ? | | |
| - sure | 58 | 24.6 |
| - yes | 78 | 33.1 |
| - not sure | 96 | 40.7 |
| - no | 4 | 1.7 |
| Would health center be your first choice ? | | |
| - sure | 76 | 32.2 |
| - yes | 66 | 28.0 |
| - not sure | 15 | 6.4 |
| - no | 79 | 33.5 |

4 6 Association between socio-demographic characteristics of respondents and HC. services utilization

Table 11 Association between socio-demographic characteristic and HC. services utilization of respondents

| Variables | HC. services utilization (n=236) | | Chi-square | P.value |
|-----------------------------|----------------------------------|--------------------------|------------|---------|
| | Low utilization n(%) | High utilization n(%) | | |
| Age | | | .09759 | .88223 |
| 15-35 | 104(81.3) | 86(79.6) | | |
| 36 and higher | 24(18.8) | 22(20.4) | | |
| Sex | | | .70968 | .39882 |
| Male | 43(33.6) | 42(38.9) | | |
| Female | 85(66.4) | 66(61.1) | | |
| Marital | | | 2.13514 | .20037 |
| Married | 113(88.3) | 88(81.5) | | |
| Others | 15(11.7) | 20(18.5) | | |
| Education | | | 1.18723 | .36624 |
| Primary school and lower | 113(83.3) | 90(83.3) | | |
| Secondary school and higher | 15(11.7) | 18(16.7) | | |
| Occupation | | | 1.42387 | .29055 |
| Farmer | 90(70.3) | 68(63.0) | | |
| Others | 38(29.7) | 40(37.0) | | |
| Monthly income | | | 4.88484 | .05152 |
| less than 5000 | 124(96.9) | 97(89.8) | | |
| equal and more than 5000 | 4(3.1) | 11(10.2) | | |

On table 13 , it was noted that the age that ranged 15 to 45 years old 81.2% and the range of 46 to 60 years

18.8% were in the low utilization group . In the high utilization group the range of age 15 to 45 was 79.6% and the range of 46 to 60 years was 20.4% . There were no significant association between age and health services utilization (p-value=.88223) .

The sex of respondents was led by female in almost every studied tambons . Among the low utilization group 33.6% were male and 66.4% were female . Among the high utilization group male were 38.9% and female were 61.6% . The significant test did not show significant association between sex and utilization (p-value=.39882) .

Most of respondents were married (88.3%) and 11.7% were single , widow , divorced and separated , in the low utilization group . Among the high utilization respondents 81.5% were married and 18.5% were in the others groups . There were no significant association between marital status of respondents and the utilization (p-value=.20037) .

For education , most of respondents were in the primary school level and lower . Among the low utilization group 88.3% were in primary level and 11.7% were in the secondary level and higher . In the high utilization group 83.3% were in the primary level and lower and 16.7% were in the secondary and higher . There were no significant association between education and utilization (p-value = .36624) .

Concerning occupation , data found that most of respondents are farmers . 73.3% of farmers and 29.3% of others occupation were in the low utilization of health services group . Among the high utilization 63% were farmers and 37% were in others occupation group . There were no significant association between occupation and health services utilization (p-value = .29055) .

Regarding economic status , according to their monthly income , were divided into two levels , low income and high income status . The families who had the monthly income less than 5000 baht were classified in the low income group and those who had more than 5000 baht were classified in the high income status group . Among the high utilization group low income were 89.8% and high income were 10.2% . Among the high utilization group low income were 96.9% and high income were 3.1% only . There were no significant association between economic status and health center services utilization (p-value = .05152) .

4 7. Association between knowledge of respondents
on health center services and their utilization

Table 12 Association between Knowledge and HC. Services Utilization of respondents

| Variables | HC. Services Utilization (n=236) | | chi-square | P.value |
|---------------------------|----------------------------------|--------------------------|------------|---------|
| | Low utilization n(%) | High utilization n(%) | | |
| Knowledge | | | | |
| Location of HC. | | | 3.03984 | .14405 |
| poor knowledge | 4(3.1) | 9(8.3) | | |
| good knowledge | 124(96.9) | 99(91.7) | | |
| Services available | | | 1.15080 | .35585 |
| poor knowledge | 35(27.3) | 93(21.3) | | |
| good knowledge | 93(72.7) | 85(78.7) | | |
| Working schedule | | | .02800 | .97898 |
| poor knowledge | 39(53.4) | 34(46.6) | | |
| good knowledge | 89(54.6) | 74(45.4) | | |
| Emergency | | | .07336 | .89026 |
| poor knowledge | 52(55.3) | 42(44.7) | | |
| good knowledge | 76(53.5) | 66(46.5) | | |
| Cost of care | | | 2.59115 | .13824 |
| poor knowledge | 68(53.1) | 46(42.6) | | |
| good knowledge | 60(46.9) | 62(57.4) | | |

Analyzed data showed that the percentage of good knowledge is high in average . Among low utilization group 3.1% of respondents had poor knowledge and 96.9% had good knowledge on location of health center . Among the high

utilization 8.3% had poor knowledge and 91.7% had good knowledge on location of health center . There were no significant association between knowledge on location of health center and utilization (p-value = .14405) .

Among the respondents who low utilized HC. services , 27.3% had poor knowledge and 72.7% had good knowledge on services available at HC. . Among the respondents who high utilized health center services , 21.35% had poor knowledge and 78.7% had good knowledge on services available . There were no significant association between knowledge on services available and health services utilization (p-value = .35585) .

Among the respondents who had good knowledge on working schedule , 53.4% low utilized health services and 46.6% high utilized it . Among those who had good knowledge 54.6% were in the low utilization group and 45.4% were in the high utilization group . There were no significant association between knowledge on working schedule and health services utilization (p-value = .97898) .

Analyzed data found that among respondents who had poor knowledge on emergency cases , 53.3% were in the low utilization group and 44.7% were in the high utilization . Among the good knowledge 53.5% low utilized health center services and 46.5% high utilized it . There were no significant association between knowledge on emergency and

utilization (p-value = .89026) .

Among respondents who low utilized health services 53.1% had poor knowledge and 46.9% had good knowledge on cost of health care . Among those who high utilized , 42.6% had poor knowledge and 57.4% had good knowledge on cost of health care . The significant test did not show significant association between knowledge on cost of health care and health services utilization (p-value = .13824) .

4 8. Association between perception of respondents and health services utilization

Table 13 Association between Perception and HC. Services Utilization of respondents

| Variables | HC. Services Utilization (n=236) | | chi-square | P.value |
|-------------------------------------|----------------------------------|--------------------------|------------|------------|
| | Low Utilization n(%) | High Utilization n(%) | | |
| Perception of respondents on | | | | |
| Place of HC. | | | .39113 | .69904 |
| Poor | 9(47.4) | 10(52.6) | | |
| Good | 119(54.8) | 98(45.2) | | |
| Health personnel | | | 55.83737 | .00000 *** |
| Poor | 73(86.9) | 11(13.1) | | |
| Good | 55(36.2) | 98(63.8) | | |

Table 13 continued

| Variables | HC. services utilization | | chi-square | P.value |
|--------------------------------|--------------------------|--------------------------|------------|---------------|
| | low utilization n(%) | high utilization n(%) | | |
| Services to be utilized | | | 25.3846 | *** .00000 |
| Poor | 67(75.3) | 22(24.7) | | |
| Good | 61(41.5) | 86(58.5) | | |
| Quality of care | | | 20.1954 | *** .00000 |
| Poor | 85(68.0) | 40(32.0) | | |
| Good | 43(38.7) | 68(61.3) | | |
| Continuity care | | | 21.11913 | *** .00001 |
| Poor | 51(78.5) | 14(21.5) | | |
| Good | 77(45.0) | 94(55.0) | | |
| Cost of care | | | .17983 | .83459 |
| Poor | 14(10.9) | 10(9.3) | | |
| Good | 114(89.1) | 98(97.7) | | |
| Accessibility | | | .11174 | .87657 |
| Poor | 21(16.4) | 16(14.8) | | |
| good | 107(83.6) | 92(85.2) | | |

Among the respondents who had poor perception on place of health center such as its cleanliness and its comfort , 47.4% low utilized health center services and 52.6% high utilized it . Among those who had good perception , 54.8% low utilized health services and 45.2% high utilized it . There were no significant association between perception on place of health center and health services utilization (p-value = .69904) .

Among respondents who had poor perception on health personnel , 86.9% were in the low utilization group and 13.1% were in the high utilization group . Among those who had good perception 36.2% were in the low utilization group and 63.8% were in the high utilization group . There were statistically significant association between perception on health personnel and the health services utilization (p-value = .00000) .

Regarding the perception on services to be utilized , among respondents who had poor perception on services to be utilized , 75.3% were in the low utilization group and 24.7% were in the high utilization . Among those who had good perception , 41.5% low utilized health center services and 58.5% high utilized it . There were statistically significant association between perception on services to be utilized and health services utilization (p-value=.00000) .

Concerning the perception on continuity care , among the respondents who had poor perception on the quality of care , 68% low utilized health center services and 21.5% high utilized it . Among those who had good perception , 45% low utilized health services and 55% high utilized it . The significant test showed a statistically significant association between perception on continuity care and health center services utilization (p-value= .00001) .

Among the respondents who low utilized health services 10.9% had poor perception and 89.1 had good perception on cost of care . Among those who high utilized , 9.3% had poor perception and 90.7% had good perception . There were no significant association between perception on cost of care and services utilization (p-value = .83459) .

Among the respondents who low utilized health center services , 16.4% had poor perception on the accessibility of services and 83.6% had good perception . Among who high utilized health services , 14.8% had poor perception and 85.2% had good perception . The chi-square test did not show significant association between perception on accessibility of services and health center services utilization (p-value = .87657) .

CHAPTER V

DISCUSSION CONCLUSION AND RECOMMENDATION

The study of factors related to health services utilization in Wangnamkiew district has the main objective to determine the factors which related to the utilization of health center services in this area . There were various possible factors which could relate to the use of health center services , but for this study , some factors were found not to be related to the utilization , only the perception of respondents on health personnel , on quality of care , on services to be utilized , on continuity care , which were found its relation to the health center services utilization .

The study areas , study population and sample size were selected based on the research objectives . Five villages under the catchment areas of five health center were selected and 236 households were drawn to be the sample of the study .

Data was collected by the use of constructed questionnaire which were pretested and checked before collecting data in Wangnamkiew district of Nakorn Ratchasima province . The respondents were villagers whose age from 15 years to 60 years old .

5 1. DISCUSSION

The results of chi-square test among various factors showed that there were statistically significant association between perception on health personnel , services to be utilized , quality of care , continuity care and the utilization of services . For these other factors such as knowledge and socio-demographic , the chi-square test did not show significant association between these factors and utilization .

The main results were as follow :

5 1 1. Socio-demographic characteristics of respondents

The age were ranged from 15-45 (80.5%) . Most of the respondents had primary education level and lower (86%). The majority of villagers were farmers (66.9%) and most of the monthly income were less than 5000 baht (93.6%) .

Analysis showed there were no relationship between socio-demographic characteristic and health services utilization . This might because of socio-demographic characteristic of respondents were almost the same in this study so that there was no difference between these socio-demographic variables and health services utilization .

5 1 2. Knowledge of respondents on health center service utilization

In general , data revealed that the percentage of respondents who had good knowledge were higher (94.5%) than those who had poor knowledge (5.5%) . But there were no significant association between knowledge and health center services utilization . The possible explanation for this reason could be by visiting health centers services , the user place high value on health as well as learning how to practice preventive health care . On the other hand , the villagers with more serious or chronic ill-health may refer to higher level health facilities even though they went to the health center first , so they just decided on going directly to the higher health facilities without consulting health center services .

Furthermore , as stated in Health in Thailand , 1994 , (MOPH 1994 ,p. 72) ; Thai people unequally benefit from modern medical services system due to unequitable distribution of income , health resources , economical and education barrier , still believe in the old transitional medical remedy such as herb massage and superstition activities . The national statistic showed 24.6% of thai people still depend on the good old traditional medicine .

(MOPH , 1994 , p.72) .

5 1 3. Perception of respondents on health center service utilization

The study showed that the perception on health personnel , quality of care , services to be utilized , continuity care , had high relationship with the health services utilization .

In relation to the perception on health personnel were 86.9% low utilized health services and 13.1% high utilized it . For those who had good perception on health personnel were 36.2% low utilized and 63.8% high utilized the service . This can be concluded that the more they have good perception the more they use health services . The lack of courtesy , less adequate in providing health information to patients , less friendliness for the patients were very important factors that can cause underutilization of health services .

Services to be utilized were statistically significant related perception of the respondents on services they used to their utilization . Among the poor perception 75.3% low utilized health services and 24.7 high utilized . Among good perception 41.5% low utilized and 58.5% high utilized . It means the greater the variety of services , the higher the utilization .

Regarding the quality of care , most of respondents

who had poor perception , 68% low utilized health center services and 32% high utilized it . Among those who had good perception , 38.7% low utilized and 61.3% high utilized it . It can concluded that the quality of care given to patients such as diagnosis , treatment , were also important factors related to their use : the more patients give high value to the quality of care the they use health center services .

The same with continuity care that were found related to the use of health services by the patients who had good perception on it . In fact , good quality of following up patients , appropriate nursing care , referring the patients to higher facilities on time , are the need of patients when they go to health center .

As stated by Ruth M. Lee in 1982 that patients perception on hospital care and their hospital experient bear little relationship to the technical quality of the care they receive . They expect high quality care .

Their judgments are found from human interaction they have had with the gamut of hospital personnel ; the perception on quality of care were very important in making people use the health services . The training in order to upgrade knowledge and understanding of health personnel on quality of care especially nursing care should manage to change the perception of patients giving high value to health center

services .

Concerning place of health center , cost of care and accessibility , the study did not find there were a relation between these factors and health services utilization . This could be because of patients were satisfied with the place of health center , they did not care about the cost and distance , waiting time , their perception were emphasized only on the attitude of health personnel and their capacity of providing health services . Thus , providing continued training to health personnel is very important to be encouraged .

5 1 4. Reasons for not visiting health center services

Answering to the question " when you get sick again whether you go to the health center or not ?" , analysis revealed that 57.7% reuse health center services and 42.3% did not reuse it . With the results obtained from the answer of question " did you feel better after receiving treatment from health personnel " , it can conclude that there were three possible reasons to explain why they did not reuse health center services . Firstly could be the dissatisfaction with the quality of care after receiving health care from health center , with less adequacy of

medicine and medical equipment at health center . Secondly should be the lack of courtesy , lack of friendliness and lack of capacity of health personnel . The last could be after having the correct diagnosis from health personnel , the patients can do self treatment or in the other hand it is the good health status of these people .

5 2. CONCLUSION

According to the results it is concluded that the great majority of the villagers had good knowledge on health center services but their understanding might be still lower compared to their knowledge .

The main finding of the study was that there were statistically significant between perception of villagers toward health personnel , services to be utilized , quality of care and continuity care (the p-value = .000) . It is noted that people who had poor perception on health personnel , services to be utilized and the quality of care at health center low utilized this service . It means the higher the perception the greater the utilization .

The importance factors which make people low utilized health center service could be the lack of courtesy less adequate of equipment ,medicine , less willingness toward patients and lack of high quality of care .

Therefore , it is possible that even though people had good knowledge , did not care about the distance and the cost of health care , satisfied with the place , but they did not reuse health center service due to the attitude and capacity of providers at the health center . Also , as stated in one study of Oratai (1983) , behind low utilization of rural health services is people'perception and satisfaction of health providers'courtesy , friendliness and quality of care .

5 3. RECOMMENDATION

From the results of this study , there are some recommendation for implementation for the success of the utilization of health center services of rural people and also for further study .

5 3 1. Theoretical implication

Perception of people on health personnel , quality of care , services to be utilized and continuity care is very important . As stated in one study of World Health Organization in 1981 page 28 , even though people have high knowledge on health services but to success to improve people's health , they must have an understanding of preventing and controlling them . If they have high degree of understanding of health problems and the way to solving them , the behavior and perception would be changed . So , more than have high knowledge , people have to have also more understanding on the utilization of health center services .

5 3 2. Policy implication

This study found ,by asking people give suggestions to improving health center service , most of people want to have a doctor responsible at health center , some of them want health personnel would be upgraded by training more on nursing care , a few want medical equipment and medicine would be adequate both quantity and quality .

According to Health Policy of Seventh five Year National Health Development (1992-1996) which want to meet the need of people especially rural people by changing in health status of the people , strengthening of the interface between community and health services system in which a great need to further improve and strengthen the capacity and the performance of health center personnel .

1. It is expected that a training program given to health personnel in order to upgrade the knowledge and quality should be encouraged .

2 . The services to be utilized at health center are expected to be improved by providing enough medicine and equipment as people need .

3 . The lack of courtesy , lack of temperament and attention of health personnel would expected to be supervised .

4 . In order to improve the villagers health status

effective health education program should be provided in creating higher health value by teaching them not only knowledge but make them have good understanding on health services utilization .

5 . Also , knowledge and understanding on simple self treatment for villagers are expected to be encouraged . As some people still believe on traditional medicine and according to National Health Policy Plan tend to improving the traditional medicine , education for villagers about advantage and disadvantage of the use of traditional treatment are expected to be encouraged .

5 3 3. Recommendation for further study

For further study , the study should be specified not only knowledge but also the understanding of people on the use of health services . People 's behavior and attitude toward health services and health personnel should be studied in detail . It is also recommended to have sample size with different socio-demographic characteristic

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Appendix A

INTERVIEWED QUESTIONNAIRE
FACTORS RELATED TO HEALTH CENTER SERVICES UTILIZATION
OF RURAL PEOPLE IN NAKORN RATCHASIMA PROVINCE

This questionnaire is prepared for thesis writing purpose of MPH courses ,Asean Institute for Health Development , Mahidol University.

Your responses will be kept secret and will not be exposed for any other purposes . We expect your honest answers .

- 1.Serial number.....
- 2.Date of interview(day/month/year)
- 3.Name of tambon
- 4.Name of village
- 5.Name of respondent
- 6.Name of interviewer

PART I**SOCIO DEMOGRAPHIC FACTORS**

1.Age of the respondents

.....years

2.Sex

(). Male

(). Female

3.Marital status

() single

() Married

() Widow

() Divorce/Separated

4.Education

()1. No education

()2.Primary level

()3.Secondary level

()4.Higher

()5.Other (specify)

5. What is your main occupation ?

()1.Farmer

()2.Housewife

()3.Government employee

()4.Private employee

5. Other (specify)

6. What is your income/month in (in cash)

1. <2,000

2. 2,000-5,000

3. 5,001-8,000

4. >8,000

PART II

KNOWLEDGE OF RURAL PEOPLE ON HEALTH CENTER SERVICES UTILIZATION

2 1. Location of health center

7. Do you know where Tambon health center is ?

1. Yes (specify.....)

2. Are not sure

3. Do not know

8. How far is it from your home to Health Center ?

(Approximately).....Km

2 2. Services available

9. What kind of services that are available to the villagers in your Health Center? (You can choose more than one answer)

1. Simple treatment

2. First aid

3. Immunization

4. Family planning

- Oval pills

- I.U.D

- Condom

5. Antenatal services

6. Delivery

7. Postnatal care

8. Water supply and sanitation

9. Health education

10. Other (specify)

11. Do not know

2 3. Working schedule

10. Do you know which day the health center open for services every week ?

1. Know exactly (specify)

2. Are not sure

3. Do not know

11. Do you know working schedule of health personnel, especially on special clinic ? (Please specify)

Monday

Tuesday

Wednesday

Thursday

Friday

12. Do you know what time that the health center begin the

services and what time it close ?

()1.Know exactly (specify)

()2.Are not sure

()3.Do not know

2 4. Kind of illness and emergency

13.Do you know what kind of illness people should go to the health center to get health care services ?(You can choose more than one answer)

()1.When he/she has simple/mild illness (common cold,diarrhea,fever)

()2.In case of emergency for first aid before referring to the hospital.

()3.Any kind of illness can be treated at Health Center.

14.Do you know that emergency care is available in your health center?

()1.Yes (specify.....)

()2.Are not sure

()3.Do not know

2 5.Cost of health care

15.Do you know how much is the cost of the health care at your health center ?

()1.Yes (approximately how much)

()2.Are not sure

()3.Do not know

16.If you have health card ,do you need to pay additional

fee ?

- () 1. Yes (approximately how much)
- () 2. Not sure
- () 3. No

17. Do you have any kind of health card ?

- () 1. Yes (specif).....
- () 2. Do not have but want to have it
- () 3. Do not have and don't want to have

18. Do you know that having health card is convenient to utilize health center services ?

- () 1. Yes
- () 2. Not sure
- () 3. No

PART III

PERCEPTION OF RURAL PEOPLE TOWARD HEALTH CENTER SERVICES

3 1. Place of health center

19. When you go to the Health center what do you think about its cleanliness ?

- () 1. Very clean
- () 2. Clean
- () 3. Not clean
- () 4. Dirty

20. Are the waiting room ,delivery room ,consultation room in your Health Center ,comfortable ?

() 1. Very comfortable .

() 2. Comfortable .

() 3. Less comfortable .

() 4. Uncomfortable .

3 2. Health personnel

21. Are the health personnel in your Health Center friendly to you when you go to have health services there ?

() 1. Very friendly .

() 2. Friendly .

() 3. Less friendly .

() 4. Unfriendly .

22. Are the Health Personnel in your Health Center willing to provide health services to you ?

() 1. High willing to do it .

() 2. Are willing to do it .

() 3. Less willing to do it .

() 4. No willing to do it .

23. Do you think health personnel at the Health Center are skilled personnel ?

() 1. Sure

() 2. Yes

() 3. Not sure

() 4. No

3 3. Quality of care

24. Do you think the treatment given by the health personnel is effective ?

- () 1. Very effective
- () 2. Effective
- () 3. Less effective
- () 4. Ineffective

25. Do you think that it is better having self-treatment when you get sick instead of going to Health Center ?

- () 1. Sure (why.....).
- () 2. Yes (Why.....)
- () 3. not sure
- () 4. No (why

26 .What do you think about the diagnosis given by the health personnel?

- () 1. Exactly correct
- () 2. Correct
- () 3. Probably correct
- () 4. Misdiagnosis

3 4. Services to be utilized

27. What do you think about the health services providing by your health center ?

- () 1. More adequate
- () 2. Adequate
- () 3. Less adequate

4. Inadequate

28. Do you think that the delivery services in your Health Center are effective ?

1. Very effective

2. Effective

3. Less effective

4. Ineffective

29. What do you think about the quality of medicine given by the Health Center ?

1. Best quality

2. Good quality

3. Fair

4. Bad quality

30. Do you think that to buy the medicine from the drugstore is better than what you get from the Health Center ?

1. Sure

2. Yes

3. Are not sure

4. No

31. Do you think the medical equipment in the Health Center is available for taking care of the patient ?

1. Sure

2. Yes

3. Not sure

4. Inadequate

28. Do you think that the delivery services in your Health Center are effective ?

1. Very effective

2. Effective

3. Less effective

4. Ineffective

29. What do you think about the quality of medicine given by the Health Center ?

1. Best quality

2. Good quality

3. Fair

4. Bad quality

30. Do you think that to buy the medicine from the drugstore is better than what you get from the Health Center ?

1. Sure

2. Yes

3. Not sure

4. No

31. Do you think the medical equipment in the Health Center is available for taking care of the patient ?

1. Sure

2. Yes

3. Not sure

- ()1.More expensive
- ()2.As expensive as
- ()3.Cheaper
- ()4.Cheapest

36.Do you think that the villagers can afford the fee of health care at the Health Center ?

- ()1.Sure
- ()2.Yes
- ()3.Not sure
- ()4.No

3 7. Accessibility

37.What do you think about the distance of the Health Center from your home ?

- ()1.Very far .
- ()2.Far .
- ()3.Not far .
- ()4.Don't care about the distance .

PART IV

HEALTH CENTER SERVICES UTILIZATION OF RURAL PEOPLE

38. When you get sick,where did you go or seek for treatment ? Please rank

- ()1.Self treatment
- ()2.Community P.H.C center

- ()3.Drugstore
- ()4.Health Center
- ()5.District Hospital
- ()6.Other health facilities (specify)

If Health Center was not a first choice , ask question no 39 .

39.Why did not you go to the Health Center first ?

- ()1.Don't have confidence on health center personnel.
- ()2.Health center is far from my house .
- ()3.The transportation is not convenient.
- ()4.Other (specify)

40. In the past,how did people go to the Health Center ?

- ()2.Public transportation
- ()3.Walk
- ()4.Other (specify)

41.How did it take from your house to the Health Center ?

- ()1.Very longtime(hours)
- ()2.Longtime(hours)
- ()3.Not so long

42. When you went to the health center, how long did it take for the waiting time for the service ?

- ()1.Very longtime(hours)
- ()2.Long time.....(hours)

()3. Not so long.....(mn)

()4. A few minutes

43. How often did you go to the Health Center for services ,
treatment during last 3 months ?

()1. 1-2 times

()2. 3-4 times

()3. 5-6 times

()>6 times

44. After you got the health care treatment from health
center , did you feel better ?

()1. Sure

()2. Yes

()3. Not sure

()4. No

45. Did the Health Center provide free health care services ?

()1. Sure

()2. Yes

()3. Not sure

()4. No (If no go to question 45)

46. How much is the fee that the health personnel charge you
at the last visit ?

.....

47. Was it reasonable ?

()1. Sure

()2. Yes

3. Not sure

4. No

48. Did the health personnel give good health services to the patients ?

1. Sure

2. Yes

3. Not sure

4. No

49. Did health personnel always pay attention to the patients when they went to them ?

1. Sure

2. Yes

3. Not sure

4. No

50. From your experiences ,are the health personnel always willing to give services to the patients ?

1. Sure

2. Yes

3. Not sure

4. No

51. Did the Health Center have good medical equipment for health care ?

1. Sure

2. Yes

3. Not sure



() 4.No

52. Suppose you get sick again, whether you will go to the Health Center or not ?

() 1.Exactly go

() 2.Go

() 3.Probably go

() 4.Not go

53. Would Health Center be your first choice ?

() 1.Sure

() 2.Yes

() 3.Not sure

() 4.No

54. According to your experiences in utilizing the Health Center services , what are the suggestions that you want to give to improve the quality of the Health Center ? Please feel free to answer .

() 1.Upgrade the knowledge of health personnel (specify)

() 2.Improve the quality of care (specify.....)

() 3.Increase medical equipment (specify.....)

() 4.Increase the quality of medicine (specify.....)

() 5.Should have a doctor responsible at the Health Center ?(specify.....)

() 6.Other (specify

Thank you for your cooperation

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