

**UTILIZATION OF COMMUNITY HEALTH CENTER  
(PUSKESMAS) AMONG THE PEOPLE IN LANGOWAN  
SUBDISTRICT OF MINAHASA DISTRICT, NORTH SULAWESI  
PROVINCE, INDONESIA**



**A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF  
THE REQUIREMENT FOR THE DEGREE OF  
MASTER OF PRIMARY HEALTH CARE MANAGEMENT  
FACULTY OF GRADUATE STUDIES  
MAHIDOL UNIVERSITY**

**2008**

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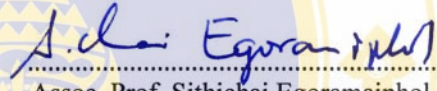
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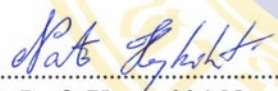
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ABSTRACT

A cross sectional study was conducted to determine the factors related to the utilization of the Community Health Center (Puskesmas) in the Langowan subdistrict. The sample population of 256 consists of ages ranging of 20 to 60 years old from the residents of Langowan subdistrict. Data were collected from 7<sup>th</sup> to 21<sup>st</sup> of January, 2008 by using self-administered questionnaires from visitors of the health center during 2007. For data analysis, descriptive statistical analysis techniques were used to describe the frequencies and percentages of variables. The Chi-Square test was used for testing relationships between independent and dependent variables.

The results revealed that the majority (28.52 percent) of the respondents were 20 – 29 years of age, and that most respondents (51.17 percent) were male. Most of them (51.17 percent) had a senior high school level of education. Most of the respondents (58.98 percent) were farmers or house wives. Most of the respondents (55.47 percent) lived within a radius of 1.1 Km to 3 Km from the health center. The majority (68.75 percent) of the respondents stated that doctors pay attention when they visit the health center. In total 43.75 percent of the respondents visited the health center to seek treatment for a fever, cough and flu and majority (81.25 percent) had moderate types of illnesses.

There was a significant association between the utilization of the community health center and each of the following variables: age, distance of the house to health center, types of transportation, convenience of transportation, health insurance, purpose of visit, attention of doctor, comfortable waiting room with seats, type of disease and severity of illness ( $p$  value  $< 0.05$ ).

The findings of this study demonstrate that there is a need for proper information to be relayed to the community about the services available. Also, the services provided by the community health center need to be improved. The community health center is required to inform the government concerning the improvement of the communication network.

KEY WORDS: UTILIZATION OF COMMUNITY HEALTH CENTER

70 pp.

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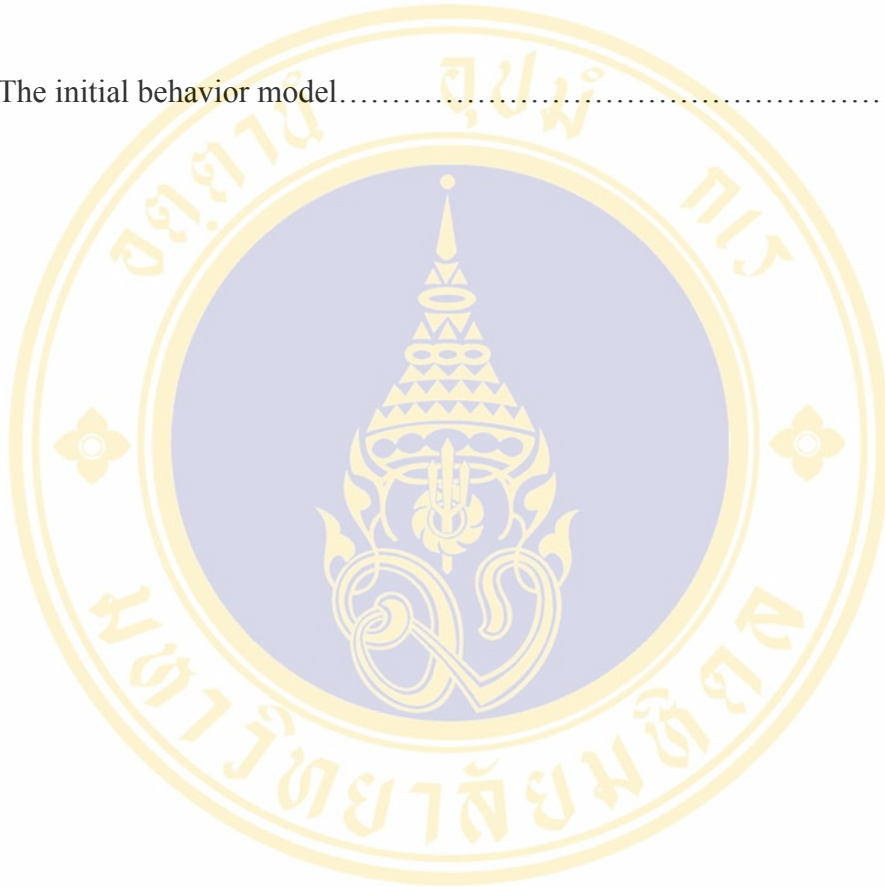
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# CHAPTER 1

## INTRODUCTION

### 1.1 Rationale and Justification

Since 1978, when Alma-Ata was introduced, the networks of health service have greatly changed in health care conception. The rapid development of service leads to new challenges to health care system over the world. At the same time, the government both low and high income countries has found so many solutions to reform their health system in order to meet the goal of better health for all, increase efficiency, reduce health inequalities, protect individuals, families, communities from financial loss and enhance fairness in the financing and delivery of health care to be consistent to the rapid changes in the society (1).

Health is fundamental right of every human being without distinction of race, religion, political beliefs, economics or social condition. As consequence, health or long life expectancy is worldwide ideal which every society should devote all effort to eradicate disease and illness through creating equity of access to health and medical services. One of the major problems in the developing world is the lack of adequate and appropriate health care infrastructure. About 80% of illnesses are preventable and their occurrences reflect poverty and inadequate health prevention and promotion measure.

The World Health Assembly laid down the main social goal of Health for All by the year 2000 (HFA) in May 1977. To achieve HFA goal, the principle and strategy of Primary Health Care (PHC) approach was guided. Every developing country is striving to achieve HFA goal through the primary health care approach according to their respective national health plan aims to fulfill basic health needs of their people (2).

Health for All does not mean that in the year 2000, doctors and nurses will provide medical care for everybody in the world for all their existing ailments and that nobody will be sick or disabled. It does mean that health beings and is postured at home, in schools, and in the factories, where people live and work. People will use better approaches than they do now for preventing disease and alleviating unavoidable illness and disability, and have better way of growing up, old and dying in dignity (3).

The health status of Indonesian community is lower than the health status in ASEAN countries, for examples Thailand, Malaysia, and Philippine. Beside that, the health and nutrient indicator which have been achieved is still far from the target which has been targeted in Millennium Development Goal (MDGs). MDG is a global Convention, as benchmarks to measure the development of the achievement of Millennium Declaration 2000. Some of the MDG targets related with the Indonesian Health Development are going to be achieved at the last of 2015, i.e. : (1) reducing community who are suffering of hunger, (2) reducing two third of infant mortality, (3) reducing three fourth of maternal mortality , (4) pressing the expansion of Malaria and TBC, (6) developing the access of essential medicine, and (7) reducing the proportion of community who do not have any access of health water supplying (4).

**Table 1** Comparative of health indicator between Thailand and Indonesia

Indicator	Thailand		Indonesia	
	Male	Female	Male	Female
Life expectancy in years	67.9	75	61.5	68.2
Maternal Mortality Rate (MMR ) per live births	24.92 /100,000		307/100,000	
Infant Mortality Rate (IMR) live births	16.3/1000		32/1000	
Under 5yrs Mortality Rate Per live births	11.7/1000		46/1000	

Source: Thailand: Health policy in Thailand 2007 & Indonesia: Country health system profile Indonesia, 2002-03.

Though the health status of the Indonesian people is in improving trend, however, it is far from reaching to the satisfaction level comparing with the ASEAN country especially fast developing country like Thailand. As shown in Table 1 the gap between Indonesia and Thailand is vast difference in regards to MMR, IMR and deaths under 5 years of age. Some of the health problems that are currently facing in the health development are; pattern of health disease are more complex and utilization of government health services inclined to decrease. Decrease in inequity of health sector funding (budget for health sector is 2.6% from total national budget). Decentralization will be a new challenge for health sector in Indonesia and inequity of the health system for certain socio-economic group (5, 6).

Nowadays, the health development is focusing and supporting for improvement health degree of community by enhancing the accessibility of community to health service, especially poor people. Another focus is to make better quality of the health services and to make it equally. Due to those goals, it is needed to improve the quality and accessibility of public health services in order to increase health status in Indonesia.

One of the government efforts to increase the health status in Indonesia is to utilize the community health center (Puskesmas). Especially community in the village because 56,88% of the populations live in the rural area. This health center (Puskesmas) is at the forefront of the government's effort for community to have easy access to health service (7,8).

This study was carried out to know about utilization of health service of Community Health Center (PUSKESMAS) at Langowan Sub district. Based on the national standard the number of the visitor to community health center (Puskesmas), is lower. The National standard is 93 visitors per working day per Community Health Center (9) of Langowan Puskesmas have 42 visitors per working day. There is a plan from the government to expand this sub district to municipality because this area is strategic economic hub, is a transit point for other district and it is an ideal location for the establishment of health facility for better coverage of health services.

This sub district is about 60 km drive from Manado or 1.5 hour by car. It has an area of 6,768 km<sup>2</sup>. There are 15 villages, the total population is 22,764 with 11,622 male and 11,142 female. Average income 6,000,000 Rp/person/year (about 20,000 baht/person/year). Main occupation is agriculture and main religion is Christian. Common health problems are upper respiratory tract Disease 1780 cases, malaria 884 cases, hypertension 556 cases, dental carries 340 cases, Tonsillitis 334 cases. This center has 38 health personals, 2 doctors, 7 midwives, one sanitation inspector, one Ass. Pharmacist, one nutritionist, one public health, 20 nurse and 4 general staff.

It is found necessary to study the utilization of community health center (puskesmas) and its related factors to improve the community understanding and healthy behavior, to support the improvement of quality and accessibility health service and to develop policy about public health service.

## **1.2 Research Question**

1. What are the patterns of utilization of Community Health Center (Puskesmas) among people in Langowan subdistrict, North Sulawesi.
2. What are the factors related to the utilization of Community Health Center (Puskesmas).

## **1.3 Research Objectives**

### **1.3.1 General objective**

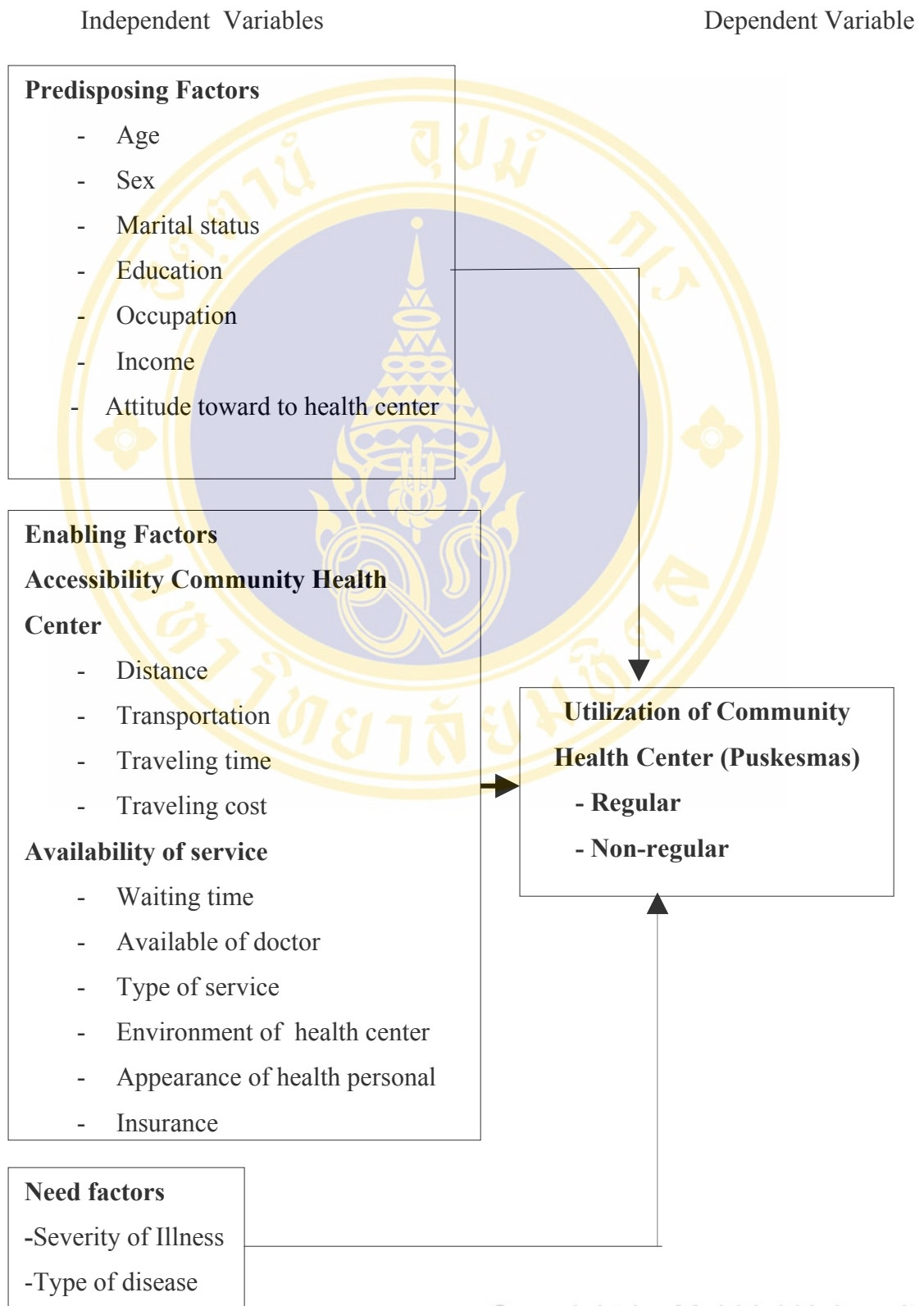
To investigate the pattern of the utilization of Community Health Center (Puskesmas) in Langowan subdistrict.

### **1.3.2 Specific objectives**

1. To describe the pattern of utilization of community health center among the people in Langowan sub district.
2. To describe the relationship between utilization of Community Health

Center and socio-demographic factors, attitude toward health center, need of the health center, accessibility and availability of health center.

### 1.4 Conceptual framework



## 1.5 Operational Definition

### 1.5.1 Utilization of Community Health Center (Puskesmas)

The Community health Center (Puskesmas) is the forefront of the government's effort in ensuring access to health service. It is the health service that is provided by government in the subdistrict level for the community in that working area. In this study utilization refers to respondents residing in Langowan sub district and those who use any kind of the services in Puskesmas in last one year. The utilization is therefore divided into regular and non regular users. Regular utilization refers to patient who comes with 2 times and more to use the services in the Puskesmas for non regular utilization refers to patient who came for the first time to use the service in the Puskesmas

### 1.5.2 Predisposing Factor

Predisposing factors are those antecedents to behavior that provide the rational or motivation for the behavior. They include the cognitive and affective dimension of knowing, feeling, believing, valuing and having self confidence or sense of efficacy.

The predisposing factor also includes:

**Age** refers to real age of person at time of interview.

**Sex** refers to male and female.

**Education** refers to the highest level of educational which include no education, primary school, junior high school, senior high school, university, religious school.

**Occupation** refers to present occupation or the job of respondent including agriculture, laborer, housewife, private employee, government employee and other occupations.

**Family income** refers to total income per month of all family numbers.

**Attitude** towards health center refers to the respondents beliefs about the service of the health center. This is including the importance of health center, health personal and quality of drug.

### 1.5.3 Enabling factor

Enabling factors are antecedents to behavior that facilitate a motivation to be realized. They include accessibility and availability.

**Accessibility of health center** refers to the distance from the people's house in community to the health center in kilometer, availability of transportation facilities from residential area to the health center, the cost of transportation that people have to pay each time they visit health center, how much time respondents spend traveling from their house to the health center.

**Availability of community health center** refers to the available services provided by the community health center including the waiting time, available of doctor, types of service, environment of health center, appearance of health personnel and health insurance.

**Waiting time** refers to the time that was needed by the patient for administration procedure until the patient meet with the doctor.

**Availability of doctor** refers to the presence of doctor in the health center to give diagnosis and treatment when the patient comes to the health center.

**Type of the services** refers to services that are provided by health center (i.e. immunization, family planning, ANC, emergency case and treatment).

**Environment of the health center** refers to the condition of health center, about cleanliness of the toilet, condition of the waiting room with seat for the patient.

**Appearance of the health personal** refers to the human relationship between health personal and patient. It means attention given by the health personnel, respect to the patient and have good communications with the patient.

**Insurance** refers to the patient who had health insurance.

#### 1.5.4 Need Factors

Severity of illness was defined as the level of the patient illness and categorized into:

**Consultation** refers to the patient who came for consultation with doctor in the health center including the pregnant women.

**Simple illness refers** to the patient who came because of sign or symptom but not diagnosed as having diseases by the doctor.

**Moderate illness** refers to the patients who came with sign and symptoms and diagnosed as having disease.

**Severe illness** refers to patient who came with sign or symptom and diagnosed as having disease and advised by doctor for hospitalization.

**Type of disease:** refers to the diagnosis made by the doctor after physical examination of the respondent (consultation, disease, no disease, disease and hospitalization required).

#### 1.6 Limitation of Study

Although there were many factors that influence community health center utilization, this study is only focused on predisposing factors, enabling factors, need for the

health center and respondents wise chosen to interview at time of presenting their health condition in health service center. So it may not representative of the all population of the country.



## CHAPTER 2

### LITERATURE REVIEW

#### 2.1 General Condition

Health is an investment for supporting the economic development and having an important role to cope the poverty. Health development must be considered as an investment to increase the quality of Human Resources. In measuring the IPM (Index Pembangunan Manusia= Index of human Development), health is one of the important component beside education and income of community. In Undang-undang (constitution of Indonesia) Act No.23 of 1992, it is stated that “health is a good condition of the body, soul and social which make people productive socially and economically”. From the health and nutritional status, the prevalence of malnutrition is reduced. In fact, in Indonesia the number of infant mortality and maternal mortality is reduced. The life expectancy of the people will also increase. The number of infant mortality is decreased from 46 (1997) to 35 per 1000 the life birth (2002-2003) and the maternal mortality is decreased from 334 (1997) to 307 per 100,000 the life birth (2002-2003). The long life expectancy is increase from 65.8 (1999) to 66.2 (2003).

Underweight prevalence of children under five years old has decreased from 34.4 percent (1999) to 27.5 percent (2004). If we see the problems of nutrition among the provinces, underweight prevalence can be seen in Gorontalo, Nusa Tenggara Barat, Nusa Tenggara Timur and Papua provinces. On the other hand new health problem of overweight especially in town area is increasing because of the change of society life style.

The high number of illness had occurred to the children and the adults. As per the morbidity pattern, comparing the sex, woman gets more episodes of illness. Among the top 10 disease, the highest prevalence is dental disease, refraction

disturbance, respiratory disease, blood disease, hypertension, digestive disease, conjunctivitis, skin disease, osteoarthritis and Cardio Obstruction Pulmonary diseases. Beside that, Indonesia must also face the emerging disease, i.e. DBD, HIV/AIDS, SARS, and “reemerging diseases” are TBC and Malaria (4).

## **2.2 Effect of economic crisis to community Health**

The effect of economic crisis to community health results in decrease of nutritional status of the community. It also affects the utilization health facilities; decreases the concern to environment, decreases community participation in health activity and ignoring the health attitude.

Decline of the nutritional status as because of economic crisis, causes an increase in the cost of goods and services. Decrease in purchasing capacity makes the consumption of food less and the nutrition status is decreased. It is then hypothesized that decrease in utilization of the health facility because of the income. The family has to buy foods, so the financial budget to meet the expenditure for health in the family is reduced. It is also influenced by the increase of the service cost especially the cost of private health services, thus making the utilization of health service low.

Environment is a one of the factor that influences the health status. Due the economic crisis, the concerns of the community are diverted towards income generating and forgetting the sanitation and clean water which the life of human depends on this basic amenity.

## **2.3 Effect of economic crisis to Public Health Service**

Especially for Community Health Center (Puskesmas), the effect of the economic crisis is the decrease in providing the essential drugs by the health center. It is caused by the high cost of equipment, other materials and drugs. These also results in decrease the supply of instrument and reagents because of increase the cost.

Similarly the health programs and the work productivity from the health workers will be drastically affected.

On the other hand, the workload of the Community Health Center will be increased because of the increases number of program goal (the number of the poor people, i.e. babies, children under five years old, women who are pregnant, and the elderly people increase).

Beside that, the development of the health service program to tackle the health problems in the Community Health Center working area will also increase. The increase in workload of the Community Health Center will definitely compromise the quality Community Health center (10).

#### **2.4 Community Health Center (Puskesmas) in Indonesia**

Health services in Indonesia are organized at five levels: central, provincial, district, subdistrict, village. Various facilities are used in each level and the primary health care concept is applied with the community health center as the main operational unit. Head is responsible to the Department of Health in the national level. The implementation of the health program at the community level is carried out by the Community Health Center or Puskesmas (11).

The Puskesmas is the center of the community health development program which promotes and builds community participation as well as gives complete and comprehensive services to the people in the area. The area of the Puskesmas is a subdistrict or a part of the subdistrict. The density of population, the broadness of area, geographical and infrastructure condition determine the area of work. Typically a Puskesmas serves 30,000 people. For big city like City of Surabaya where the inhabitants are more than one million, the area of work of Puskesmas is the "Kelurahan." A Puskesmas that is located in the capital of the subdistrict that has inhabitants more or equal to 150,000 is called Builder Puskesmas (Puskesmas), which coordinates Kelurahan Puskesmas and is the center of referral services (11).

In implementing the health program, the Puskesmas is supported by a network including an Assistant Puskesmas / Helper Puskesmas (Pustu), Mobile Puskesmas (Pusling), and Village Midwives Clinic (Polindes). A simple health service unit under Pembina the Puskesmas that covers two to three villages is called a Pustu. This unit serves about 2500 inhabitant in Java and Bali islands or 10,000 inhabitants in urban areas like the City of Surabaya. This unit is an integral part of the Puskesmas. The Pusling (mobile health services) unit is equipped with a car or speedboat, health and communication instruments, and a team of health personnel. In remote areas that can not be reached by the formal health services, a Pusling replaces the function of Puskesmas. The government places a Polindes in a village that does not have other health services. The Polindes is provided with a building as a village birth attendance cottage (Polindes) where she lives and works. She is also equipped with obstetric kit. She serves 3000 inhabitants (11).

In Indonesia, Community health center (Puskesmas) is the forefront of the government's effort in ensuring universal access to health service. The Community Health center is a first line for the people in the village to get the health service (6). On the other word, Community Health Center is a technical organizer unit of the District Health Official which is responsible to develop health in its working area. Nationally, the working area of Community Health Center is in a sub district. As a technical organizer unit, it must have a role to do some of the operational technical duties of the district official and as a forefront of the health development in Indonesia it must effort good health by developing the awareness, the will and the ability to live healthily for everyone so there will be an optimal community health.

Vision of the health development of the Community Health Center (Puskesmas) is to achieve healthy sub district for Indonesian Healthy. Healthy sub district is classified that have better health sanitation, healthy behavior, quality health services and optimal health degree.

To achieve this vision, first of all, the community health center must do the obligatory health effort (an effort which is settled by the national commitment,

regional and global to develop the level of society), including effort for health promotion, effort for health environment, effort for health the child and mother, family planning, effort for the development of community nutrient, effort for preventive and curative of communicable disease and the treatment effort.

Secondly the community health center must have an expanding effort. It means that effort is based on the health problems which are found in the community and is suited with the ability of community health center. Those efforts are school health effort, exercise health effort, community health nursery effort, work health effort, dental health effort, mental health effort, eye health effort, elderly health effort, traditional medical education effort. There are 4 principles where the community health center has to put most of the effort, these are: the area responsibility principle, the principle for activating community, comprehensive principle and referral principle.

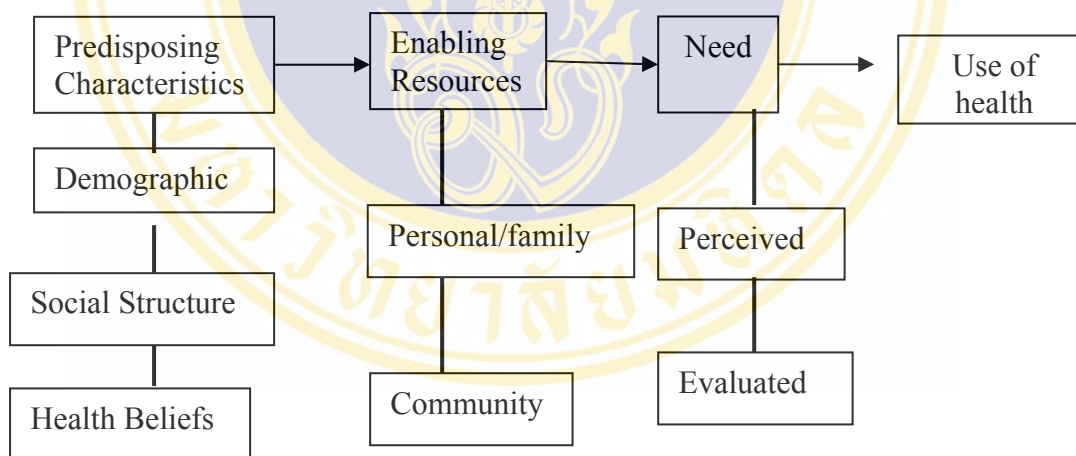
In its development the community health center continues to develop all efforts so that the health services can be relevant and affordable to the people of the community and even can be in need of the community in the isolated areas.

In 1996, the number of community health center in Indonesia is 7.177. There is great development in 1993 (16.37%). Meanwhile, in the year 1994, the facility is developed up to 0.43%. In the 1995, it developed until 1.7% and in 1996 it developed until 1.01% (8). By 2007, the number of community health centers in Indonesia is 7.550 unit, 22,002 the assistance unit of community health centers and 6,132 mobile community health service (4). The number of community health center in North Sulawesi was 140 till 1998 (9). The average visitor during working days of community health center is 94. The average frequency of community visits to the community health center at the national level is 2.27 times per year,

## 2.5 Concepts and theories which implemented in this study

### 2.5.1 The Health Behavior Model

This model was initially developed in 1960, to assist the understanding why families or individuals use particular health service. Model suggested people's use of a health service is a function of their predisposition to use services, factors which enable or impede use, and their need for care. Among the predisposing factors apart from age and gender, health beliefs, attitude and knowledge about health, disease and health service play an important role. Enabling factors, such as accessibility to health care, including travel time and convenience, knowledge about the health care facility as well as education of care provider can explain and predict use of health service. The need factor can be expressed as both perceived and real need. The outcome of health behavior model is health service use by families.



Source: Anderson R.M, Journal of Health and Social Behavior, 36 (1), 1995,2.

**Figure 1** The initial behavior model

Both community and personal enabling resources must be present for use to take place. First, health personnel and facilities must be available where people live and work. Then, people must have the means and know how to get to those services and make use of them. Income, health insurance, regular source of care, travel and waiting times are some of the measures that can be important here.

Any comprehensive effort to model health service use must consider how people view their own general health and functional state, as well as how they experience symptoms of illness, pain, and worries about their problems to be of sufficient importance and magnitude to seek professional help (12).

### **2.5.2 Predisposing Factor**

Predisposing factor is defined as characteristic of the subject as age, sex, education, occupation, income, attitude. These are can motivate people to take appropriate health action.

The economic polarization within the society and lack of social security system make the poor more vulnerable in terms of affordability and choice of health service. In most of developing countries of South Asia region, it has been observed that magnitude of household out of pocket expenditure on health is at time as high as 80 per cent of the total amount spent on health care per annum (13).

Cultural belief and practice often lead to self care, home remedies, and consultation with traditional healers in rural community. Advice of the elder women in the house is also very instrumental and can not be ignored. These factors result in delay in treatment seeking and are more common among women, not only their own but especially for children's illness. In general, person who delay are older, low education, low income, and male (13).

### **2.5.3 Enabling Factors**

Enabling factors is defined as characteristic of the service as skills and Accessibility of resource that make it possible for motivate person take action. These is distance to health service, transportation, traveling time, traveling cost, availability of health service.

#### **Accessibility to health service**

The survey data in South Africa reveal that one-fifth of the poorest population have to travel most two hours on an average to obtain medical attention, while people

in the top quintile travel only 34 minutes. In Srilanka, people in the poorest quartile traveled 4.7 km on an average to obtain medical attention, while people in the richest quartile traveled 3.3 km on an average (14).

Pakistan as a developing country, the effect of distance on service use becomes stronger when combined with the dearth of transportation, poor roads, which contribute towards increase costs of visits. Availability of the transportation, time taken to reach the health service undoubtedly influences the health service utilization. The distance to nearest health facility has been remarked as an important barrier to use, particularly in rural areas (15).

From the study in Semarang municipality Indonesia, one of the significant variable that influenced utilization of Puskesmas in the community was the distance of Puskesmas from the nearest public transportation route. This situation related to the characteristic of the users in study area included in the low income groups who are very poor considering to the cost they pay to avail health service. It causes low utilization of Puskesmas (16).

#### **Availability of health service**

The performance of the government health care to provide services of high quality was in-obtainable. It has been often found that the weakness of government health service includes patient have difficult time to meet health personnel “doctor “(Moo) are always absent (17). There are no doctors found in many of primary health care facilities ( Ahmed SM; 2000). Government doctor’s utilization is even lower in rural areas as compared to urban (18).

The government health care in all three levels of the health care system, including primary, secondary and tertiary, is bound with red-tape, making a patient pass several steps before seeing doctor for 2 – 3 minutes. Doctors provide service on the assumption that they are giving good treatment and therefore would like to see patients accept what they offer. In contrast, patient comes to see doctors in order to

feel better. From these barrier patients come to see doctors when their illness is rather at severe stages (17).

The highest absenteeism rate was found among Puskesmas heads, who are mostly doctors. The absence of doctors in Puskesmas is particularly worrying as they are the core of health service in Puskesmas. The absenteeism rate of doctors in rural puskesmas is around 40 %. It is much higher than in urban areas (around 27% - 29%) (19).

Long waiting time and staff absenteeism were identified as factors which accounted for low utilization in El-Salvador .Patient often complaint to Puskesmas about waiting time (14, 20).

Satisfaction of compulsory Askes (health insurance) patients physical environment facilities was higher than voluntary Askes patients, it is 24.18 % versus 21.81 % with p-value = 0,000. Voluntary Askes patients were not satisfied by the Puskesmas because of the physical examination room, freshness, cleanliness and neatness of waiting room (21).

#### **2.5.4 Need Factor**

In cross sectional survey of the 748 dyspepsia cases, it was found that overall 56% ever consulted with medical practitioner. Of these 54% consulted within 6 months of first symptoms. Non- medical practitioners were consulted by 29% dyspeptics. Compare to dyspeptic in all subject who did not consult (37%) were characterized by fewer symptoms, better physical health, and younger age. Those who only consulted doctor (34%) were older and had better mental but poorer physical health. Those who consulted only non-medical practitioner (7%) were younger and had better physical, but poorer mental health. Those who consulted both medical and non medical practitioner (22%) were older; more dissatisfied with medical care but had more symptoms and poorer physical and mental health (22). Cornford Cs studied that illness behavior patients with cough consulted to general practitioners because they understood their cough became abnormally severe. Those who did not consult regard their cough as normal and mild (23).

### 2.5.5 Utilization of Health Service

Pappa and Niakas (2006) found that four hundred fifty seven individuals had utilized at least one of the four types of health services, implying that 42.4% of the sample was considered as "users" (at least once) of public or private health services. Specifically, 26.5% of them used services affiliated to health insurance funds and 67.6% were one-time users. Accordingly, 13.9% of the participants had visited a private doctor and 64.9% of them were one-time users. The mean annual admission rates to emergency departments and to hospitals were 12.4% and 12.2% respectively, with 9.7% and 10.3% admitted at least once.

Utilization of primary health services appears to depend on demographic variables (13.8%), minimally on need variables (1%) and not at all on socio-economic factors. Women, elderly and those with worse physical health were more likely to use primary health services.

For last-month use of insurance fund primary services, which explained 18.2% of the variance, demographic variables predicted 11.9% of the variation, socio-economic variables contributed with a further 2.3% to the explanation of health service utilization and health status, as measured by Physical component summary (PCS) and Metrical component summary (MCS) scores, predicted a further 4.4%. More specifically, it appears that women utilized significantly more primary services, provided by health funds, than men. The elderly were 26.6% more likely to use these services, whereas wealthier people reported lower use.

As for self-perceived health status, those with lower PCS scores were more likely to use health insurance services than individuals with higher PCS scores. Concerning visits to private physicians, within the context of primary health care is only 13% of the variation. This figure is broken down to 7.9%, 3.0% and 2.1% variation explained by health status, socio-economic and demographic factors respectively. Women were more likely to visit private physicians. People with higher education were about 42% more likely to use primary health services from the private

Sector. Individuals with higher PCS scores were less likely to have consulted a private doctor within the last month.

Those who had made one visit to public and private sector physicians constituted 67.6% and 64.9% of the sample respectively. An inverse relationship was evident between family income and more than one visit to public sector physicians working for health insurance funds. Less wealthy and people with poorer mental health were associated with a higher likelihood of having made more than one visit. The regression model for subsequent visits to providers of the private sector resulted in statistical insignificance (24). In Thailand, using of government /public health center in 1970 was only 4.4 percent against 7.7 percent for the use of traditional health care. This is because of cost of service, but in 1978 a year of primary health care implementation, government health care was revitalized, reducing both economic and social barrier, allowing the rural and poor majority access to government health treatments. The utilization of government health care has been then increasing, in 1979 was 16.8 percent became 41, 6 percent in 2005 (17).

## CHAPTER 3

### RESEARCH METHODOLOGY

#### 3.1 Study design

This study design was based on cross sectional study. It is aimed to describe the utilization of community health center and also identify the factors related to the utilization of community health center among people in Langowan sub district, Minahasa district North Sulawesi Indonesia.

#### 3.2 Study area and study population

The target populations in this study are villagers who live in Langowan sub district. It's located about 60 km from Manado city. The total population in 2006 was about 22.764. There are 15 villages in this sub district. Among these villages there are 3 villages far from the health center.

#### 3.3 Sample size

The area of study is in Langowan sub district, Minahasa district of North Sulawesi and this is based on calculation from the following formula:

$$N = \frac{Z^2 / 2^{PQ}}{d^2}$$

With:

n = number of sample size

Z = standard normal deviation (95% confidence interval, z=1,96)

$P = 0,4$  (average utilization of community health center in Langowan sub district 2006).

$$q = 1 - P = 1 - 0,4 = 0,6$$

$d =$  degree of accuracy set at 0,06

so the required sample size was :

$$\frac{1.96^2 \times 0,4 \times 0,6^2}{0,06^2}$$

$$n = 256$$

### 3.4 Sample selection

In this study sample is collected by systematic sampling technique among respondents who visited at Puskesmas. The criteria of the respondents are:

- Residents of Langowan subdistrict
- age group 20 - 60 years old, both male or female
- had illness in last 1 year
- Available to answer the question

The sampling interval “ k ” will be calculated by addressing the formula as below :

$$k = \frac{a}{n} \times d$$

where,

$k$  : the sampling interval

$a$  : the average number of patient per day

$n$  : the required sample size

$d$  : the number of day to collect the data

It is estimated that around 40 patients attending the puskesmas every working day, and planned day to collect data was 12 days, so the sampling interval “k” is equal to 2. Therefore, the 1<sup>st</sup> number sample represented by “j” will be selected 1 and k (equal to 2), and next number will be chosen by adding the sampling interval “K” for example  $j+k$ ;  $j+2k$ ...., and so on.

### **3.5 Research instrument**

Data was collected with constructed questionnaire. Most of the questions in the questionnaire consist of closed questions but some were open ended. English questionnaire was translated into Indonesia language. Structured questionnaire consisted of the following 4 parts utilized for data collection:

#### **Part 1: Socio-demographic characteristics**

The questions of this part were included socio-demographic characteristics of respondent, age, marital status, children number, education, main occupation, income and economic status.

#### **Part 2: Attitudes towards health center services**

The questions were concerned about the residents attitudes, feeling or thoughts towards the services of health center service. The question asked was the opinion of the respondents and measured by giving degree of agreement. It had 5 choices, that were strongly agree, agree, don't know or not sure, disagree and strongly disagree. The attitude of respondents towards health center services, we had 5 answers for each question in this part, we gave the score according to the degree of attitude (5=strongly agree, 4=agree, 3=don't know/not sure, 2=disagree, 1=strongly disagree). The overall attitude was classified into low attitude, moderate attitude and high attitude.

### **Part 3: Enabling Factors**

#### **Accessibility of Health Center**

The questions were asked about the distance from their houses to health center, cost of travel to health center, kind of transportation used, any problems about traveling or transportation.

#### **Availability of health center**

The questions were asked to the respondents about health services, any health problems including waiting time, available of doctor, types of service, environment of health center and appearance of health personal.

### **Part 4: Need factor for utilization of health center**

Structured interview were carried out using questionnaire covering information on any kinds of illness of respondents. Sign and symptoms and refer the register to know the diagnosis of the doctor after physical examination. The type of disease is categorized in three categories, they are; (1) no disease, (2) have disease and, (3) disease with hospitalization. The severity of illness was categorized as 1= consultation 2= simple illness 3= moderate illness 4= severe illness. The severity of sickness was categorized as 1= consultation 2= simple illness 3= moderate illness 4= severe illness. The questions regarding the utilization of health center were asked to respondents about the frequencies of visit. It was categorized as regular (visits two times or more) and non regular (one visit only) in last one year.

### **3.6 Data collection**

The data collection were carried out after imparting half day training to four health workers working in the community health center of Langowan subdistrict. They were trained how to explain the question to the respondents and to check after completion filling the questionnaire for accuracy. The interviewers were trained clearly and correctly to understand the questionnaire in order to complete all questions correctly. The data were collected among the residents of Langowan subdistrict who visited the community health center for availing health care services.

For this study the sample interval of two patients were not used due to time limit. Therefore, the samples were selected from any patient fulfilling the criteria who visited the community health center during the study period. The selected respondents were requested to fill the questionnaire while waiting for the doctor. After the respondent completes filling the questionnaire, the interviewer checked all the questionnaire items for complete filling. The interviewer also checks the register maintained by the doctors to know the diagnosis. Data was regularly checked.

### **3.7 Pre-test**

The questionnaire was pre tested for the reliability test of the attitude part for 30 cases. The pre test was conducted on January 2008 in Tompasso sub district, North Sulawesi, Indonesia by the trained interviewer. According to the reliability test of attitude, Cronbach's Alpha method was used. The result was Cronbach's Alpha 0.88.

### **3.8 Data analysis**

Data was coded analyzed by using a computer Minitab program. The data were analyzed according to each objective of research. To describe each variable included into the study by percentages, mean and standard deviation were applied based upon type of variables. The evaluation of the association between independent and dependent variable was significant or not was analyzed by Chi-square test.

## CHAPTER 4

### RESULTS

This chapter showed the findings of this research according to the objectives of the study presented in chapter 1. The data were derived from 256 patients attending to the Community Health Center (Puskesmas) at the Langowan subdistrict of Minahasa district, North Sulawesi, Indonesia. Patients who attended with the following criteria were recruited, residents of Langowan subdistrict, age group 20 – 60 years old, both male and female and had illness in last one year.

The presentation of the results consists of two parts, i.e. descriptive parts and analytic part. The descriptive part was presented into 3 sections. The first section showed predisposing factors (socio demographic characteristic, attitude toward Community Health Center). The second section discussed enabling factors (accessibility and availability to Community Health Center). The third section showed the need factors (severity of illness and types of diseases). The analytical part presented the relationship between independent variables regarding the predisposing factors, enabling factors, need factors and dependent variables regarding health service utilization among the residents of Langowan subdistrict.

#### **Part 1: Descriptive of all independent variables**

##### **4.1 Socio demographic characteristics of the respondents**

Table 2 shows the pattern of socio-demographic characteristics among the respondents. Large proportion of the respondents (28.52 percent) was in ages between 20 – 29 years and mean of the residents was 38 years. As expected, the average family size were in average of 3 – 4 persons (70.31 percent). The majority (51.17 percent) of the respondents is male and many respondents (75.78 percent) are married. A large number of

Respondents (51.17 percent) had senior high school. The main occupation of the respondents (58.98 percent) was farmer and house wife. Out of the total respondents (41.40 percent) were employed. The large proportion (49.22 percent) of the respondents family average income is Rp 700,001 – 1,500,000 and 45.58 percent of the respondents average income is Rp 600,001 – 1,200,000.

**Table 2** Number and percentage classified by socio demographic factors

<b>Socio-demographic factors</b>	<b>Numbers (= 256)</b>	<b>Percent</b>
<b>Village</b>		
Village A (0-3 Km)	199	77.73%
Village B (> 3 Km)	57	22.27%
<b>Age (age group)</b>		
20 – 29 years	73	28.52%
30 – 39 years	70	27.34%
40 – 49 years	55	21.48%
50 + years	58	22.66%
(mean = 38,738, median = 37.00, Min = 60, Max = 20) Q1 = 28.00, Q2 = 49,000)		
<b>Sex</b>		
Male	131	51.17%
Female	125	48.83%
<b>Education</b>		
No education + primary	43	16.80%
Junior High school	82	32.03%
Senior school + university	131	51.17%
<b>Marital status</b>		
Married	194	75.78%
Unmarried	62	24.22%
<b>Occupation</b>		
Farmer	151	58.98%
Government officials, private, retired & others	105	41.02%
<b>Family income</b>		
Rp300,000 – 700,000	68	34.38%
Rp700,001 – 1,500,000	126	49.22%
Rp1500,001 – 3,000,000	42	16.41%
(min = 300,000, max = 3,000,000, Q1 = 700,000, Q3 = 1500,000, mean = 1,096094)		

**Table2** Number and percentage classified by socio demographic factors (cont.).

Socio-demographic factors	Numbers (= 256)	Percent
<b>Respondents Income</b>		
Unemployed (housewife & students)	109	42.58%
Employed	147	57.42%
Rp200,000 – 600,000	50	34.01%
Rp600,001 – 1,200,000	67	45.58%
Rp1,200,001 – 3,000,000	30	20.41%
( mean = 620068, median = 7,500,000, SD = 488801,Min = 200,000, max = 3,000,000, Q1 = 600,000 Q3 = 1,200,000)		
<b>Family size</b>		
1 – 2 persons	26	10.16%
3 – 4 persons	180	70.31%
> 4 persons	50	19.53%
( mean = 3,718, SD = 1,0178, min = 1., max = 6, Q1 = 3, Q3 = 4)		
<b>Adult</b>		
1 – 2 persons	141	55.08%
3 – 4 persons	111	43.36%
> 4 persons	4	1.56%
( mean = 2.6641, SD = 0.8747, min = 1, max = 6, Q1 = 2, Q3 = 4 )		
<b>Childs</b>		
0 – 1 children	194	75.78%
2 – 3 children	62	24.22%
(mean = 1.0352, SD = 0.7584, min = 0, max = 3 Q1 = 1, Q3 = 1)		

#### 4.2 Attitude towards health centre

In this part there are 13 questions about the attitude towards health center. All 13 questions are positive. The answers for this question is strongly agree, agree/ not sure, disagree and strongly disagree. The score of the positive answer can be scored as 5 for strongly agree, 4 for agree, 3 for not sure, 2 for disagree and 1 for strongly disagree. Overall attitude score is 65. The average attitude score is 53.17 (SD = 6.8) minimum score is 31 and the maximum is 65. The level of attitude is divided into three groups low, moderate and high by using quintile as cut point. The score of the

respondents as shown in Table 3 shows low attitude is 24.22 percent (31 – 49 score), the moderate score of the respondents is 54.69 percent (50 – 58 score) and score of the high attitude is 21.09 percent (59 – 65 score).

**Table 3** Number and percentage of respondents classified by level of attitudes towards the community health center

Attitude level	Number (N=256)	Percent
High ( 59 – 65 score)	54	21.09%
Moderate (50 – 58 score)	140	54.69%
Low (31 – 49 score) ( mean 53.17, SD = 6,825, min = 31.00, Max = 65.00, Q1 = 50, Q3 = 58)	62	24.22%

As shown in table 4, a majority of the respondents (67.97 percent) strongly agrees with the statement that community health center is necessary for health development in the village. 63.28 percent of the respondents strongly agree that health personnel pay attention and listen to the respondents health problems. With 56.64 percent of respondents strongly agree that community health center can provide free services for community and 51.17 percent of the respondents strongly agree that community health center can solve their health problems.

On the other hand, less than half of the respondents 48.44 percent showed strongly agrees that they believe the diagnosis and treatment from health personal in community health center, 44.92 percent of the respondents recommends other community to use community health center, 35.16 percent agrees that waiting time in the community health center is shorter than private clinics. 30.86 percent of the respondents strongly agrees about the location of the community health center is accessible to the community. 30.66 percent strongly agrees with always presence of Health personnel at the time of visit to the community health center. 25.00 percents of the respondents strongly agrees that community health center have good equipment and drugs. 21.48 percent of the respondents strongly agree that community health

center can provide services for community and 20.31 percent of the respondents strongly agree of community health center having clean and good environment. The percentage of the attitude by item is shown in table 4.

**Table 4** Number and percent distribution of respondents classified by level of attitude towards community health center (Puskesmas)

No.	Statement	Scale of agreement (N = 256)					Mean (SD)
		Strongly Agree (%)	Agree (%)	Don't know/not sure (%)	Disagree (%)	Strongly disagree (%)	
1	You believe the diagnosis and treatment from health personal in Puskesmas	124 (48.44)	83 (32.42)	46 (17.97)	3 (1.17)	-	4.21 (0.79)
2	Puskesmas can solve my health problem	131 (51.17)	67 (26.17)	37 (14.45)	20 (7.81)	1 (0.39)	4.20 (0.98)
3	Puskesmas is necessary for health development in the village	174 (67.97)	61 (23.83)	19 (7.42)	2 (0.78)	-	4.59 (0.66)
4	Health personnel pay attention and listen about your health problems	162 (63.28)	67 (26.17)	22 (8.59)	5 (1.95)	-	4.51 (0.73)
5	Puskesmas can provide services for community	55 (21.48)	84 (32.81)	65 (25.39)	32 (12.50)	20 (7.81)	3.48 (1.18)
6	Puskesmas can treat simple illness and injury	140 (54.69)	68 (26.56)	18 (7.03)	27 (10.55)	3 (1.17)	4.23 (1.05)
7	Waiting time in the Puskesmas is shorter than private clinic	90 (35.16)	106 (41.41)	36 (14.06)	17 (6.64)	7 (2.73)	3.99 (1.00)
8	Puskesmas have good equipment and drugs	64 (25.00)	100 (39.06)	50 (19.53)	37 (14.45)	5 (1.95)	3.71 (1.06)
9	Puskesmas has clean and good environment	52 (20.31)	95 (37.11)	52 (20.31)	38 (14.84)	19 (7.42)	3.48 (1.18)
10	Health personnel are always present at the time of visit to Puskesmas	79 (30.66)	115 (44.92)	34 (13.28)	28 (10.94)	-	3.96 (0.93)
11	Location of the Puskesmas accessible to the community	79 (30.86)	109 (42.58)	34 (13.28)	29 (11.33)	5 (1.95)	3.89 (1.03)
12	Puskesmas can provide free services for community	145 (56.64)	97 (37.89)	12 (4.69)	2 (0.78)	-	4.50 (0.63)
13	I will recommend other community to use Puskesmas	115 (44.92)	116 (45.31)	24 (9.38)	1 (0.39)	-	4.35 (0.66)

### 4.3 Accessibility of community health center

Table 5 shows the average distance between health center and respondents living place. Most (55.47 percent) of the respondents lived within a distance of 1 – 3 Km. Majority (74.02 percent) of the respondents found that the travel cost is expensive. The majority (61.72 percent) of respondents felt not convenience to reach the health center. Majority (57.81 percent) of the respondents used the horse cart for transportation.

**Table 5** Number and percentage of respondents classified by accessibility of community health center

Accessibility	Numbers (= 256)	Percent
<b>Distance</b>		
≤ 1 Km	41	16.02%
1.1 Km - 3 Km	142	55.47%
> 3 Km	73	28.52%
<b>Transportation</b>		
Horse cart	148	57.81%
Car	61	23.83%
Motor cycle	47	18.37%
<b>Traveling time</b>		
< 30 minutes	195	76.17%
30 minutes – 1 hour	57	22.27%
> 1 hours	4	1.56%
<b>Traveling cost</b>		
≤ Rp 4000	198	77.34%
Rp 4001 - 8000	39	15.23%
> Rp 8000	19	7.42%
<b>Convenience</b>		
Convenience	98	38.28%
No convenience	158	61.72%
<b>Affordable of travel cost</b>		
Expensive	190	74.02%
Not expensive	66	25.78%

#### 4.4 Availability of community health center

Table 6 shows about the availability of services during visit to the community health center, majority of the respondents (63.28 percent) found that cleanliness of the toilet is sometimes cleaned. Majority (83.59 percent) of the respondents felt that the waiting room with seat is never comfortable. Most (77.34 percent) of the respondents expressed that there is always communication with the health personnel and (68.75 percent) respondents always had attention from the doctor while visiting the community health center. Majority (80.08 percent) of the respondents have health insurance coverage out of which 79.51 percent of the respondents are having Askeskin (poverty) types of health insurance which is from the government.

**Table 6** Number and percentage of respondents classified by availability of community health center.

Availability	Numbers (N= 256)	Percent
<b>Attention of doctor</b>		
Always	176	68.75%
Sometimes	80	31.25%
<b>Waiting time</b>		
≤ 30 minutes	173	67.58%
> 30 minutes	83	32.42%
<b>Presence of doctor</b>		
Always	140	54.69%
Sometimes	115	44.92%
Never	1	0.39%
<b>Service mostly used</b>		
Physical examination	171	66.80%
Laboratory services	26	10.16%
Family planning	25	9.77%
Immunization	21	8.20%
Emergency unit	13	5.08%
<b>Cleanliness of the toilet</b>		
Always	91	35.55%
Sometimes	162	63.28%
Never	3	1.17%
<b>Comfortable waiting room with seat</b>		
Always	7	2.73%
Sometimes	35	13.67%
Never	214	83.59%

**Table 6** Number and percentage of respondents classified by availability of community health center (cont.).

Availability	Numbers (N= 256)	Percent
<b>Communication with health personnel</b>		
Always	198	77.34%
Sometimes	58	22.66%
<b>Health Insurance</b>		
Have	205	80.08%
Do not have	51	19.92%
<b>Types of health insurance (205 respondents)</b>		
Askeskin (poverty)	163	79.51%
Askes (Govt.officials)	37	18.05%
Private insurance	5	2.44%

#### 4.5 Purpose of visit to the community health center

Table 7 shows about the purpose of visit to the community health center and majority of the respondents (43.75 percent) visits the community health center for seeking treatment for fever, cough and flu and 27.34 percent of the respondents visits to get treatment for headache, skin rash, toothache and joint pains. It is shown that very less number of respondents visit the community health center for general consultations.

**Table 7** Number and percentage of respondents classified by the Purpose of visit to community health center.

Purpose of visit	Number	Percent
<b>N = 256</b>		
Consultation	15	5.86%
General fatigue	27	10.55%
Fever, cough, flu	112	43.75%
Vomit, diarrhea, stomach pain,	32	12.50%
Headache, skin rash, toothache, joint pain	70	27.34%

#### 4.6 Diagnosis of the doctor in community health center

Table 8 show that majority of the respondents (81.25 percent) who visits the community health center are diagnosed of suffering from disease e.g. respiratory infection, malaria and hypertension etc. No disease is a result of the diagnosis of the doctor which includes respondents visiting for consultation and other services including pregnancy check ups and family planning. Disease with hospitalization refers to those who are diagnosed by doctor having disease and advised for hospitalization.

**Table 8** Number and percentage of respondents classified by the diagnosis of doctor in the community health center.

<b>Diagnosis of doctor</b>	<b>Number N = 256</b>	<b>Percent</b>
Disease	208	81.25%
No disease	31	12.11%
Disease with hospitalization	17	6.64%

#### 4.6 Severity of the illness

Table 9 shows that majority (81.25%) respondents have moderate types of illness who visits the community health center.

**Table 9** Number and percentage of respondents classified by the severity of illness in the community health center.

<b>Severity of illness</b>	<b>Number N = 256</b>	<b>Percent</b>
Consultation	26	10.16%
Moderate	208	81.25%
Severe	17	6.64%
Simple	5	1.95%

#### 4.8 Utilization of community health center

Table 10 show that majority (52.34 percent) of the respondents are visiting regularly the community health center.

**Table 10** Number and percentage of respondents classified by the regular and non regular utilization of the community health center

Utilization	Number N = 256	Percent
Non regular	122	47.66%
Regular	134	52.34%

#### Part II: Factors associating with utilization of Community Health Center

In this part, the aspects of socio-demographic factors, attitude, accessibility factors and need factor are now examined to relate with utilization of Community Health Center. Presented here is the association between utilization of Community Health Center and socio-demographic factors, attitude, accessibility factors and need factor will be a statistical method of Chi-square test.

#### 4.9 Association between utilization of Community Health Center and Socio-demographic factors

Table 11 shows that age factor that there is association between the age and utilization of Community Health Center (p-value=0.000). It shows the age factor with association of utilization of the community health center. It is found that the age of the respondent is significantly associated with the utilization of community health center as proved by p-value=0.000. In other words, patients who are younger age are more likely to use the health center than those with older age.

**Table 11** Association between utilization of Community Health Center and Socio- demographic factors.

Age	Utilizations of community health center (%)			p-value*
	Total Sample	Non regular	Regular	
				0.000*
20 – 29 years	73	63.01	36.99	
30 – 39 years	70	52.86	47.14	
40 – 49 years	55	52.73	47.27	
50 + years	58	17.24	82.76	

\* p-value by Chi-Square test.

#### 4.10 Association between attitude and utilization of community health center

Table 12 shows that there is no association between attitude and utilization of community health center with p-value 0.987.

**Table 12** Association between attitude and utilization of community health center

Attitude level	Utilizations of community health center (%)			p-value*
	Total Sample	Non regular	Regular	
				0.987
High (59 – 65 score)	54	48.15	51.85	
Moderate (50 – 58 score)	140	47.86	52.14	
Low (31 – 49 score)	62	46.77	53.23	

p-value by Chi-Square test.

#### 4.11 Association between accessibility and utilization of community health center

Table 13 shows the association between accessibility and utilization of community health center. It is found that distance factor, kind of transportation, convenience and affordable factors is significantly associated with utilization of community health center (p-value=0.05).

**Table 13** Association between accessibility and utilization of community health center.

Accessibility	Utilizations of community health center (%)			p-value*
	Total Sample	Non regular	Regular	
<b>Distance</b>				0.026
≤ 1 Km	41	34.15	65.85	
1.1 Km - 3 Km	142	54.93	45.07	
> 3 Km	73	41.10	58.90	
<b>Transportation</b>				0.015
Horse cart	148	45.27	54.73	
Car	61	39.34	60.66	
Motor cycle	47	65.96	34.04	
<b>Convenience</b>				0.004
Convenience	98	59.18	40.82	
Inconvenience	158	40.51	59.49	
<b>Affordable of travel cost</b>				0.016
Expensive	190	52.11	47.89	
Not expensive	66	34.85	65.15	

\* P-value by Chi-Square test.

#### 4.12 Association between availability and utilization of community health center

Table 14 shows the association between presence of doctor, service required, types of service, waiting room with seat, cleanliness of toilet and types of insurance of service and utilization of community health center. The result shows that majority of the respondents felt that available of doctor at the time of their visit in the community health center is sometimes (never and sometimes combined). It is also expressed that the attention towards patients by the doctor are sometimes, it is assumed that due to the large number of visitors the doctors attention is diverted to the mostly required patients. The result also shows that most of the patients attend the community health center for physical examination; however, majority of the respondents felt that they

receive the required service. The majority of respondents expressed that the waiting room with seats are never comfortable, it is assumed that this problem will be soon made available after the completion of new community health construction, however most of the respondents felt that the cleanliness of the toilet in the community health center is sometimes only.

**Table 14** Association between availability and utilization of community health center

Availability	Utilizations of community health center (%)			p-value*
	Total Sample	Non regular	Regular	
<b>Presence of doctor</b>				
Always	140	77.14	22.86	0.000
Sometimes**	116	12.17	87.83	
<b>Attention of the doctor</b>				
Always	176	63.07	36.93	0.000
Sometimes	80	13.75	86.25	
<b>Service required</b>				
Always	124	41.13	58.87	0.043
Sometimes**	132	53.79	46.21	
<b>Service mostly used</b>				
Physical examination	171	46.20	53.18	0.038
Laboratory services	26	53.85	46.15	
Emergency unit	13	84.62	15.38	
Family planning	25	32.00	68.00	
Immunization	21	47.62	52.38	
<b>Comfortable waiting room with seat</b>				
Sometimes***	42	61.90	38.10	0.043
Never	214	44.86	55.14	

**Table 14** Association between availability and utilization of community health center (cont.)

Availability	Utilizations of community health center (%)			p-value*
	Total Sample	Non regular	Regular	
<b>Cleanliness of the toilet</b>				
Always	91	56.04	43.96	0.046
Sometimes**	165	43.03	56.97	
<b>Type of health insurance (205 respondents)</b>				
Askeskin (poverty)	163	49.08	50.92	0.017
Askes + Private	42	28.57	71.43	

\*p-value by Chi-Square test.

\*\* Combine of sometimes and never,

\*\*\* Combine of always and sometimes,

#### 4.13 Association between need factor and utilization of community health center

Table 15 shows the association between the need factor and utilization of community health center. It is found that the purpose of visit is significantly associated with utilization of the community health center (p-value=0.006), Also there is significant association between severity of illness and utilization of community health center (p-value=0.000) and it is found that there significant association with diagnosis of the doctor (p-value=0.000)

**Table 15** Association between need factor and utilization of the community health center.

Need Factor	Utilizations of community health center (%)			p-value
	Total Sample	Non regular	Regular	
<b>Purpose of visit</b>				
				0.006*
Consultation	15	73.33	26.67	
General fatigue	27	22.22	77.78	
Fever, cough, flu	112	53.57	46.43	
Vomit, diarrhea, stomach pain,	32	53.12	46.88	
Headache, skin rash, toothache, joint pain	70	40.00	60.00	
<b>Diagnosis of the doctor</b>				
				0.000*
Disease	208	46.63	53.37	
No Disease	31	74.19	25.81	
Disease with hospitalization	17	11.76	88.24	
<b>Severity of the illness</b>				
				0.000*
Consultation/simple illness	31	74.19	25.81	
Moderate	208	46.63	53.37	
Severe	17	11.76	88.24	

\* P-value by Chi-Square test

## CHAPTER 5

### DISCUSSION

This study about the utilization of community health center (Puskesmas) among the residents of Langowan subdistrict of Minahasa district, North Sulawesi, Indonesia is collected and analyzed. The result shows that there are various possible factors could relate to the community health center (Puskesmas), but some factors could not relate to the utilization. According to the conceptual framework, there are 3 factors comprised of predisposing factors (socio-demographic characteristics, attitude towards community health center), enabling factors (accessibility and availability of community health center) and need factors (severity and types of disease). Community health center is one kind of basic health services which is provides the essential health services by the Government for the community in the rural areas. For 3 factors of independent variables that may be relevant to the utilization of community health center among the villagers in Langowan subdistrict of Minahasa district, North Sulawesi, Indonesia. The results from this study are discussed in following section.

The study area, population and sample size were selected based on the research objectives. The respondents were from 15 villages in the catchments area of community health center. The sample of this study is selected of those visiting the community health center for seeking service from the health center. The interviewer asked the respondents whose age is 20 to 60 years regardless to gender.

Before going to interview the respondents, all the interviewers were trained to clearly and correctly understand the questionnaire in order to complete all questions. The interviewers were trained to ask the questions and emphasized on the questions before going to interview the respondents. The collected data are entered and

analyzed in computer MINITAB programme. The results of the study are divided into 2 parts, 1) Descriptive part describes all the variables by describing frequency, percentage, mean, SD of the utilization factors. 2) Analytic part presented by Chi-square and p-value to show the relationship between socio-demographic characteristics, attitudes, accessibility and availability towards community health center.

### **5.1 Patterns of utilization of community health center**

Socio-demographic characteristics of respondents, the result showed that age groups, the distribution of respondents is different in each age group, 28.52 percent in age group of 20-29 years, and 27.34 percent in age group of 30-39 years, 21.48 percent in age group of 40-49 years and 22.66 percent in age group of more than 50 years. Although the number of the respondents utilization of community health center in each age group is similar but the younger age groups utilization of community health center services more. The large portions of the family size are with 3-4 persons is 53.33 percent in a family. Most of the respondents were male 51.17 percent uses the community health center more than female. Many are married 75.78 percent that married respondents are more likely to use the community health center than the single. The large proportion of respondents 75.78 percent have 0-1 child that means small family. The most 51.17 percent of the respondents education level was senior high school + university, it is likely that more respondents who have senior high and university education level uses the community health center. Mostly 58.98 percent of the respondents were farmer, 41.02 percent were government officials, private employee, retired personnel and those are income earners. However, the 49.22 percent of the respondents family earns Rp 700,001 – 1,500,000. In this part, age group were found relationship with utilization of community health center and sex, marital status, family size, children number and education have no relation with utilization of community health center.

The attitude of respondents towards community health center, there are 5 answers for each questions, the scores are given according to the degree of attitude (5 = strongly agree, 4 = agree, 3 = don't know/not sure, 2= disagree and 1 = strongly

disagree) for 13 positive questions, it is converted the score (5 = strongly agree, 4 = agree, 3 = don't know/not sure, 2= disagree and 1 = strongly disagree) Overall attitude score is 65. The average attitude score is 53.17 (SD = 6.8) minimum score is 31 and the maximum is 65. The level of attitude is divided into three groups low, moderate and high by using mean as cut point. The score of the respondents low attitude is 24.22 percent (31 – 49 score), the moderate score of the respondents is 54.69 percent (50 – 68 score) and score of the high attitude is 21.09 percent (59 – 65 score). The attitude in this study has no relationship with utilization of community health center. The chief function is to divide people roughly a number of grad groups, with regard to a particular attitude. Such scales can not be themselves been expected to provide with subtle insight in an individual case. They are technical in placing people in a continued relation to one another and absolutely impossible to say which method is best. Each has imported desirable features but each of them is also open to criticism. If we wish to say attitude patterning or explore theories of attitude then probably the likert procedure will be the most relevant.

Likert's primary concern was un-dimensionally making sure that all the items would measure the same thing. He also wanted to eliminate the need for judges by getting subjects in a trial sample to place themselves an attitude continuum for each statement running from "strongly agree, agree, uncertain, disagree and strongly disagree" These five positive were given simple weight of 5, 4, 3, 2, and 1 for scoring purposes after more complex methods had been showed to possess no advantages.

The result showed that the average of distance between community health center and respondents living place. 55.47 percent of the respondents live in a distance of 1 – 3 km from the community health center and majority of the respondents 57.81 percent travel by horse cart. The average travel time to the community health center is 30 minutes. The majority (77.34 percent) of respondents spends Rp 4000 or less for transportation to go to community health center and 75.00 percent of the respondents found that the travel cost is expensive. The majority of respondents 61.72 percent of them feel not convenience to reach the health center. The majority (74.02 percent) of the respondents felt that travel cost is expensive. The

67.58 percent of the respondents have to wait less than half hour and 54.69 percent express that doctor is always present in the health center. 51.56 percent felt that required service is sometimes available in the health center and 66.80 percent uses the health center mostly for physical examination. 63.28 percent of the respondents found that health center toilet is sometimes kept clean. The 83.59 percent of the respondents experienced the waiting room with seat is never comfortable. 77.34 percent of the respondents always felt good communication with health personnel. The majority (80.08 percent) of the respondents have health insurance out of which 79.51 percent have the Askeskin (poverty) insurance.

## **5.2 Factors related to utilization of community health center**

**5.2.1** There is average utilization of community health center by all the age groups but the majorities of respondents in age group of 20 – 29 years are 28.52 percent, out of which 36.99 percent visited the community health center regularly and 63.01 percent was non regular visitor. This may be due to the condition getting better after treatment. The relationship was confirmed by  $p\text{-value}=0.000$  in Table 11. In one of the study carried out for “Trends in health service utilization in eight provinces of China in 1993”, it is proved that the health services are mostly (95.5 percent) the age group of 20-45 years and 81.90 percent males using the community health center (25).

**5.2.2** In distance of the respondents residence to the community health center was divided into 3 groups. Most respondents 55.47 percent are residing at the proximity of 1 -3 km to the community health center. However, majority 54.93 percent of these respondents has visited non regular to the community health center. This is significantly associated with the utilization of community health center as detailed in Table 13 by  $p\text{-value} = 0.026$ .

**5.2.3** Corresponding to the occupation stated above, the majority 57.81 percent of the respondents use horse cart for transportation traveling to the community health center. Out of these respondents, majority 54.73 percent had regular visit to the community health center. The relationship was confirmed by  $p\text{-value}=0.015$  in Table 13.

**5.2.4** In connection with the convenience, the majority 61.72 percent of the respondents expressed no convenience to the transportation, but it clearly indicates that majority 59.49 percent had visited the community health center on regular basis. This is due to the low income and cheaply available of transportation, mostly using the horse cart for transportation to travel to the community health center. The significant relationship was confirmed by  $p\text{-value}=0.004$  in Table 13.

**5.2.5** Corresponding to the transportation of inconvenience felt by the respondents, due to the low income of most of the respondents, although the majority 74.02 percent of respondents travels by least expensive available transportation, it is expressed that travel cost is expensive for them. The majority 52.11 percent of these respondents visit to the community health center is non regular. This association is significantly confirmed in detail by  $p\text{-value}=0.016$  of Table 13.

**5.2.6** Regarding the presence of doctor, the majority 54.69 percent of the respondents expressed that doctor was always present in the community health center. However, out of these 77.14 percent respondents visit is non regular. But the regular visit made by those respondents who expressed that presence of doctor is sometimes (sometimes and never is combined as sometimes). This relationship was confirmed in detail by  $p\text{-value}=0.000$  of Table 14. The majority 68.75 percent of the respondents expressed that attention of doctor towards patients is always. The visit to the community health center is non regular by 63.07 percent of the respondents who felt that doctor pays attention to the patients. As expressed by the respondents the presence of doctor and attention given by doctor to the non regular might be doctor requires more information about the condition of the respondents. The relationship with utilization of community health center is confirmed by  $p\text{-value}=0.000$  as detailed in table 14.

**5.2.7** In response to the available of required service in the community health center, the majority 51.56 percent of the respondents expressed that service is sometimes (sometimes and never combined) available there for the community. The expectations of the required service from the community health center are numerous

and available services are provided, some of the respondents are referred to other facility where the required service is available. The majority of 53.79 percent of the respondents who expressed service is sometimes available visited community health center is non regular. This relationship is confirmed by the  $p\text{-value}=0.043$  in table 14 of the available service community health center, majority 66.80 percent of the respondents service mostly used is physical examination. 53.18 percent are those respondents visiting the community health center regularly. There is significantly relationship with dependent variable which is confirmed by  $p\text{-value}=0.038$  as shown in table 14.

**5.2.8** The majority 83.59 percent of the respondents visiting the community health center expressed that there was never comfortable waiting room with seats, out of which 55.14 percent were regular visitor to the community health center. This relationship with the dependent variables is confirmed by  $p\text{-value}=0.043$  as detailed in table 14.

**5.2.9** According to the majority 63.28 percent of the respondents felt that the cleanliness of toilet in the community health center was “sometimes (sometimes and never combined)”. 56.97 percent of the above respondents visited the community health center regularly. The relationship of this factor with the dependent variable has confirmed by  $p\text{-value}=0.046$  as detailed in table 13.

**5.2.10** The majority 80.08 percent of the respondents have the Askeskin (poverty) types of health insurance, out of which most 50.92 percent of the respondent visited the community health center on regular basis. There was significant relationship which has confirmed by  $p\text{-value}=0.017$  of table 13. In one of the study carried out for “Trends in health service utilization in eight provinces of China in 1993”, it was proved that majority (86.0 percent) of the patients are having health insurance coverage initiated by the government (25).

In the survey result of study carried out in Indonesia in 2001 about the utilization of health insurance, it is shown that the majority (33 percent) of insurance

card holder who resides outside of Java and Bali attends the public health center. However, 63 percent of the insurance health card holder does not utilize the card due to far distance. The distance between the health center and the house influence the utilization of this card. It indicates that the insurance holder avails the service from public health facility located nearby (26).

### **5.3 Need factors related to the utilization of community health center**

**5.3.1** The majority 43.75 percent of the respondents expressed that the purpose to visit the community health center was health problems as fever, cough and flu. Out of which 53.57 percent of the respondents visit to the community health center was non regular. Since these illnesses are mostly symptomatic, it get cures in certain period of time and not necessary for the respondents to visit the community health center for check up or treatment. The significant relationship of purpose of the visit and utilization of the community health center was confirmed by p-value=0.000 of table 14.

**5.3.2** As the statement of the respondents visiting the community health center, the majority 81.25 percent of the respondents were diagnosed by the doctor as having disease. However, 53.37 percent of the respondents visited the community health center on regular basis. The regular visit made by the respondents may be diagnosed as having disease and needs to review/monitor the treatment. This relationship between diagnosis of the doctor and utilization of the community health center was confirmed by p-value=0.000 of table 15.

**5.3.3** The severity of illness of respondents visiting the community health center was compared with the verbal expression of the respondents and register. It was found that majority 81.25 percent have moderate types of illness or had a sign and symptoms of having disease, out of which 53.37 percent of respondent were found visiting the community health center regularly. The relationship has confirmed by p-value=0.000 of table 16. In one of the study carried out for “Trends in health

service utilization in eight provinces of China in 1993”, it is proved that most (92.60 percent) of the patients visiting the health center are with severe illness (25).



## CHAPTER 6

### CONCLUSION AND RECOMMENDATION

#### 6.1 Conclusion

The study was carried out in Langowan community health center (Puskesmas) of Minahasa district, North Sulawesi of Indonesia. The aim of the study was to describe the pattern of utilization of community health center (Puskesmas) and describe the factors related to the utilization of community health center (Puskesmas). The questionnaire was structured based on the following enabling factors; socio-demographic factors, attitude factors, and need factors relating to utilization of community health center. The data collection was from total sample of 256 respondents visiting the community health center from 15 villages of Langowan subdistrict. The data were collected by the trained interviewers with structured questionnaire. The questionnaire mainly comprised of three parts: socio-demographic characteristics, enabling factors and need factors with relation to the utilization of community health center. This study does not represent the whole picture of of Langowan subdistrict area but it will provide the basic information about the utilization of community health center.

In this study, statistical test showed the relationship between socio-demographic characteristics, enabling factors and need factors with relation to the utilization of community health center. From the result it is found that most 55.47 percent of respondents live at the distance of 1 – 3 km from the community health center.

Majority 75.78 percent of the respondents are married, mostly 28.52 percent of the respondents age is 20- 29 years of age and 51.17 percent male. The mean age is found 38 years Majority 51.17 percent of the respondents is found to have

senior high school and university. The most 49.22 percent of family income is Rp 700,001 – 1,500,000 however, only 57.42 percent of the respondents are employed in the government, private and retired groups which are categorized as the income group including farmers who had income. The majority 57.81 percent used the horse cart for transportation to travel to the community health center and majority 76.17 percent of them takes 30 minutes or less. More than half 52.34 percent of the respondents visited the community health center on regular basis.

6.1.1 About 77.73 percent of the respondents reside within the radius of 3 km or less from the community health center and some of the villages of the respondents are located more than 3 km. This indicates that the visit to the community health center by respondents residing nearby finds easy accessible.

6.1.2 Most 28.52 percent of the respondents are in age group of 20-29 years of age who is mostly using the community health center; however the visit to the community health center by this age group is non regular and more than half 51.17 percent of the respondents are male. The majority 75.78 percent of the respondents are married. It is observed that these age groups of people are involved in many physical activities and exposed any types of common diseases in the community.

6.1.3 More than half 51.17 percent of the respondents received education with senior school and university. Majority 58.98 percent of the respondents are farmers which also includes housewife. The majority 59.60 percent of the respondents are employed including government organization, private organization and retired personnel who have monthly income is also reflected in this group. Since students do not have any income it is grouped with farmer of the income group. The most 49.22 percent of the respondents family income is Rp 700,001 – 1,500,000. It revealed from the data that low income groups mostly utilize the community health center.

6.1.4 The overall attitude level score of attitude towards the utilization of community health center was 65. The average attitude score is 53.17 (SD = 6.8) minimum score is 31 and the maximum is 65. The level of attitude is divided into

three groups low, moderate and high by using quintile as cut point. The score of the respondents low attitude is 24.22 percent (31 – 49 score), the moderate score of the respondents is 54.69 percent (50 – 68 score) and score of the high attitude is 21.09 percent (59 – 65 score). Therefore, the result shows that respondents do not have adequate information about community health center.

6.1.5 As stated above the distance of the most respondents to the community health center is 1-3km, although majority 61.72 percent expressed no convenience to travel to community health center but majority 57.81 percent of the respondents use horse cart which is cheaply available transportation, the majority 77.34 percent expressed that they have to pay the travel cost below Rp 4000 but majority 74.02 percent felt it is expensive. Since the condition of the road is not comfortable and mostly travel by horse cart it causes inconvenient to the community to travel due to mud when raining and dust in dry seasons. Since most of the respondents are unemployed group with no income, the result shows that transportation is expensive.

6.1.6 The result shows that 54.69 percent of the respondents expressed the presence of doctor in the community health center during the visit and mostly used service is physical examination. Some of the respondents felt that there is no required service in the community health center, e.g. non available of dentist in the community health center when the respondents go with the dental carries.

6.1.7 The result shows that the environment of the community health center is mostly clean but sometimes the toilet in the center is not kept cleaned. The majority of the respondents felt that there is always communication with health personnel. Also the respondents expressed that there is no available of proper and comfortable seat in the waiting room. However, the new community health center is coming up.

6.1.8 The result indicates that the majority 80.08 percent of the respondents have health insurance. Out of which 79.51 percent are having Askeskin (poverty) types of health insurance. In one of the study carried out for “Trends in health service

utilization in eight provinces of China” in 1993 it is indicated that 86.0 percent are holding government insurance (2).

6.1.9 From the result it is found that majority 43.75 percent of the respondents visited the community health center with fever, cough and flu, since these types of infections are seasonal, it is assumed that at the time of data collection it was the season for such diseases in the locality. However, out of total respondents majority 81.25 percent visited the community health center with diseases which means having sign or symptoms of the disease. The respondents visits the community health center for consultation, moderate illness, severe illness and simple illness, but the result shows that majority 81.25 percent of respondents visited the community health center with moderate types of illness.

## **6.2 Recommendations**

According to the result of this study, there are some recommendations for improvement of utilization of health service from the community health center,

### **6.2.1 Recommendation for implementation**

1. Most of the patients came to the health center lived near the community health center. However, 28.52 percent of the respondents who came as a patient lived more than 3 km from the community health center. As per the findings of the study, most visits to the community health center are made by the age group of 20-29 years of age and less visit by older age. The younger groups are the vulnerable groups as they are engaged in physical activity and exposed to various atmospheres. It is assumed that elderly people also get illness, but due to the non available of assistance while traveling, there is less number of visit to the community health center among older group. It is necessity to extend the health care service for those residing more than 3 km by means of visiting by the doctor and expanding the existing out reach clinic facility to reach the un reached population. Majority (61.72 percent) of the respondents expressed that there is inconvenience with existing transportation,

therefore, the local government needs to be notified about the problems faced by the residents of Langowan subdistrict.

2. The attitude towards the utilization of community health center was found moderate because inadequate information about the types of services that community health center provides. Since 39.94 percent of the respondents are not aware of the health center programmes, They needed for adequate and proper information about the various programmes carried out by the health center needs to be addressed to the community of Langowan subdistrict for promotion to further enhance the utilization of health center. As indicated in the result 52.73 percent of the respondents and their family wanted to consult the health related issues but due to inadequate information, most of them went to the private clinics.

3. Although the majority of the respondents have Askeskin or Poverty types of health insurance. This scheme has limited services and community health center needs to convince the local government to arrange for any other alternative solution for better health service coverage of the community.

4. The majority of the respondents visit the health center with moderate types of illness. Since most of them visits with the problem of moderate types of illness and only 6.64 percent of the respondents visited the community health center with severe illness. About 16.80 percent of the respondents felt that there should be an specialist like surgery, obstetrics, pediatrics, medical and dentist in the community health center. 27.73 percent of the respondents felt that the existing community health center need more improvement, provide with adequate drugs, non drugs including laboratory reagents and equipment required for providing basic services for those visiting the community center with such types of illness.

### 6.3 Recommendation for future study

1. The information collected from the given sample does not represent the whole age groups. The age range of the sample was from 20 to 60 years of age. In order to get the clear picture of health center utilization, age group of below 20 years and above 60 years needs to be included for the future study.

2. The research should not be specified only attitudes but also the knowledge on the utilization of the community health center should be included to identify the influencing factors for utilization of community health center.

3. There is need to find the relationship among the independent variables e.g. age and the severity of illness, and gender with the disease.

4. This study was carried out in the Langowan sub district, the pattern of utilization of community health center described in this study may be different characteristics with other parts of the country. Therefore, study should be carried out in other parts of the country in order to explore the proportion of utilization of community health center as well as its related enabling factors among different groups of people.

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## APPENDIX A

### INTERVIEW QUESTIONNAIRES

#### UTILIZATION OF COMMUNITY HEALTH CENTER (PUSKESMAS) AMONG THE PEOPLE IN LANGOWAN SUB DISTRICT OF MINAHASA DISTRICT NORTH SULAWESI PROVINCE, INDONESIA

NO.....

ID of the village :

Date of interview :

Name of the interviewer :

#### **PART I. SOCIO DEMOGRAPHIC CHARACTERISTIC**

Please put a tick (  ) in the appropriate box to mark your answer (choose the most appropriate answer)

1. How old are you? (.....years)

2. Gender (  ) Male

(  ) Female

3. Which education level did you complete?

1. No education

2. Primary school

3. Secondary school

4. High school

5. Institute, Academic, University

6. Religious school

4. Marital status

1. Married

2. Divorced

3. Widow

4. Unmarried

Others (specify).....

5. Occupation?

1. Housewife
2. farmer
3. Government official (PNS)
4. Private business
5. Retired
6. others.....

6. How much does your family get income in a month?

(Total income in your family including yourself)

( ..... Rupiah/Bhat)

7. How much is your monthly income?

.....Rupiah

8. How many persons in your family?

.....person

9. How many adults .....person

10. How many children aged less than 15 years?

.....

**PART II ATTITUDE TOWARD PUSKESMAS**Please put a tick (  ) in the answer which is appropriate in your opinion

Sl. no.	Question	Strongly agree	Agree	Don't know /Not sure	Disagree	strongly disagree
1.	You believe the diagnosis and treatment from health personal in Puskesmas					
2.	Puskesmas can solve my health problem					
3.	Puskesmas is necessary for health development in the village					
4.	Health personnel pay attention and listen about your health problems					
5.	Puskesmas can provide services for community					
6.	Puskesmas can treat simple illness and injury					
7.	Waiting time in the puskesmas is shorter than private clinic					
8.	Puskesmas has good equipment and drugs					
9.	Puskesmas has clean and good environment					
10.	Health personnel are always present at the time of visit to Puskesmas					
11.	Location of puskesmas accessible to the community					
12.	Puskesmas can provide free services for community					
13.	I will recommend other community to use Puskesmas					

**PART III ENABLING FACTORS****1. ACCESSIBILITY TO PUSKESMAS**

Please put a tick (  ) in the appropriate box to mark your answer (choose the most appropriate answer)

1. How far is your home from Puskesmas?

1.  $\leq 1$  km
2.  $>1$ km- 3 kms
3.  $>3$  kms

2. What kind of transportation you use to travel to Puskesmas?

1. Walking
2. Bendi (horse cart)
3. Car
4. Motorcycle
5. Others.....

3. How much time do you spend for traveling to Puskesmas ? (One way, hour /Minutes)

1.  $< 30$  minutes
2. 30 minutes ~ 1 hour
3.  $> 1$  hour

4. How much time do you spend waiting for transportation?

1.  $< 30$  minutes
2. 30 minutes ~ 1 hour
3.  $> 1$  hour

5. How much do you pay for the transportation to reach Puskesmas and back?

1.  $\leq$  Rp 4000
2. Rp 4001 - 8000
3.  $>$ Rp 8000

6. Can you say going to Puskesmas is convenient?

1. Yes
2. No

7. For expense, can you say it is affordable for you?

1. Yes
2. No

## 2) AVAILABILITY OF THE PUSKESMAS

Please put a tick ( ) in the answer which is appropriate in your opinion

1. How long you have to wait for the registration?
  1. < 15 minutes
  2. 15 – 30 minutes
  3. > 30 minutes
2. How long you have to wait after registration to meet with doctor?
  1. < 30 minutes
  2. 30 – 60 minutes
  3. > 1 hour
3. Is doctor always available in the Puskesmas every time you go?
  1. Always
  2. Sometimes
  3. Never
4. Doctor has a good skill to treat me.
  1. Always
  2. Sometimes
  3. Never
5. Does doctor give attention to your health problems?
  1. Always
  2. Sometimes
  3. Never
6. Puskesmas can provide the service that I need,
  1. Always
  2. Sometimes
  3. Never
7. What types of service in the Puskesmas that you and your family mostly use?
 

1. Physical examination	5. Family Planing
2. Laboratory service	6. Immunization
3. Dental service	7. ANC
4. Emmergency service	8. Others...

8. Puskesmas has a clean waiting room,

1. Always
2. Sometimes
3. Never

9. The waiting room and seat for patients are comfortable,

1. Always
2. Sometimes
3. Never

10. Puskesmas has a clean toilet,

1. Always
2. Sometimes
3. Never

11. Health personal and you have good communication,

1. Always
2. Sometimes
3. Never

12. Health personal gives attention for you,

1. Always
2. Sometimes
3. Never

13. Do you have health insurance card (Askeskin)?

- Yes  
No

14. If yes, specify what is the type of health insurances?

- Askeskin
- Askes
- Jamsostek
- Private insurance

### 3) NEED FACTORS

1. What is your purpose to come to Puskesmas now?

Select the most severe one if you have more than one symptom.

1. Consultation
2. General fatigue
3. Fever
4. Cough
5. Vomit
6. Flu
7. Diarrhea
8. Stomach pain
9. Headache
10. Skin rash
11. Tootache
12. Joint pain

2. If you or your family is sick and bedridden (can not walk), which methods of treatment do you choose?

1. Self treatment
2. Local traditional healer
3. Buy drug from drug store
4. Private practitioner
5. Go to Puskesmas
6. Go to hospital

3. If you or your family wants to consult about your health, which one does you choose ?

- Private clinic
- go to Puskesmas
- go to hospital
- go to the health worker, who stays in the village,

4. How many times have you visited the Puskesmas in the last one year?

(.....times)

5. Diagnosis of the doctor, (get the data from the register)

- 1.No disease
- 2.Respiratory infection
- 3.Malaria
- 4.Hypertension
- 5.Dental caries
- 6.Skin infection
- 7.Gastritis
- 8.Arthritis
- 9.Diabetic Melitus (DM)
- 10.DM + hospitalization
- 11.Hypertension + hospitalization
- 12.Malaria + hospitalization
- 13.Stroke + hospitalization
- 14.Arthritis + hospitalization
15. TB
16. Other....

6. Comments about this Puskesmas?.....

## APPENDIX B

**Table 18** Number and percentage of respondents for consultation about health and seek information

Statement	Number	Percentage
Go to private clinics	135	52.73
Go to Puskesmas	25	9.77
Go to hospital	26	10.16
Go to health worker in that village	70	27.34

**Table 19** Percentage of distribution of attitude to community health center

Sl.No.	Comments	Agree (%)	Don't know/ not sure (%)	Disagree (%)
1	You believe the diagnosis and treatment from health personal in Puskesmas	83 (32.42)	46 (17.97)	3 (1.17)
2	Puskesmas can solve my health problem	67 (26.17)	37 (14.45)	20 (7.81)
3	Puskesmas is necessary for health development in the village	61 (23.83)	19 (7.42)	2 (0.78)
4	Health personnel pay attention and listen about your health problems	67 (26.17)	22 (8.59)	5 (1.95)
5	Puskesmas can provide services for community	84 (32.81)	65 (25.39)	32 (12.50)
6	Puskesmas can treat simple illness and injury	68 (26.56)	18 (7.03)	27 (10.55)
7	Waiting time in the Puskesmas is shorter than private clinic	106 (41.41)	36 (14.06)	17 (6.64)
8	Puskesmas have good equipment and drugs	100 (39.06)	50 (19.53)	37 (14.45)
9	Puskesmas has clean and good environment	95 (37.11)	52 (20.31)	38 (14.84)
10	Health personnel are always present at the time of visit to Puskesmas	115 (44.92)	34 (13.28)	28 (10.94)
11	Location of the Puskesmas accessible to the Community	109 (42.58)	34 (13.28)	29 (11.33)
12	Puskesmas can provide free services for community	97 (37.89)	12 (4.69)	2 (0.78)
13	I will recommend other community to use Puskesmas	116 (45.31)	24 (9.38)	1 (0.39)

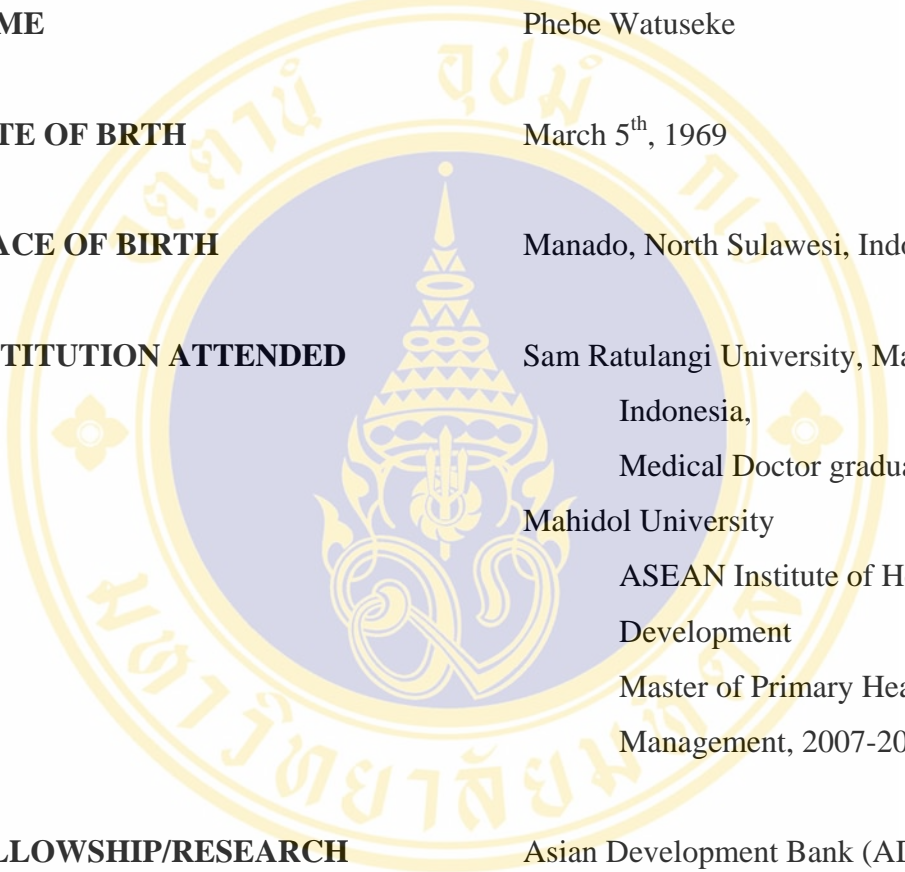
**Table 20** Number and percentage of respondents comments about the community health center

Comments	Number N = 256	Percent
1. Information about the health service activities in the Puskesmas	92	35.94
2. Improve the facilities of Puskesmas (building, equipment and drugs),	71	27.73
3. Visiting of doctor to the villages that is far from Puskesmas	50	19.53
4. Visiting of specialist (pediatric, Obstretic, surgery & dentis) to Puskesmas	43	16.80

**Table 21** Percentage of the respondent classified by diagnosis of doctor

<b>Diagnosis</b>	<b>Number (256)</b>	<b>Percentage</b>
<b>A. Have disease = (208)</b>		
1. Respiratory infection	80	31.25
2. Malaria	38	14.84
3. Hypertension	32	12.50
4. Arthritis	20	7.81
5. Gastritis	18	7.03
6. Dental carries	10	3.90
7. Skin infection	5	1.95
8. Diabetic Mellitus	5	1.95
<b>B. No have disease = (31)</b>		
1. Consultation	15	5.86
2. Pregnancy	11	4.30
3. Only signs and symptoms	5	1.95
<b>C. Disease and hospitalization</b>	17	6.64

## BIOGRAPHY



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