

# **Factors influencing utilization of institutional delivery among pregnant women in Myanmar**

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# **Factors influencing utilization of institutional delivery among pregnant women in Myanmar**

A thesis submitted in partial fulfillment of the requirement for the degree of  
Master of Public Health

by

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## **List of Abbreviations**

ADB	Asian Development Bank
ASEAN	Association of Southeast Asian Nations
FRHS	Fertility and Reproductive Health Survey
HA	Health Assistant
HMIS	Health Management Information System
ICHD	International Course in Health Development
IHLCA	Integrated Household Living Conditions Survey in Myanmar
JICA	Japan International Corporation Agency
LHV	Lady Health Visitor
MCH	Maternal and Child Health
MDG	Millennium Development Goal
MICS	Multiple Indicator Cluster Survey
MIMU	Myanmar Information Management Unit
MMR	Maternal Mortality Ratio
MNH	Maternal and Neonatal Health
MOH	Ministry of Health
NGO	Non-governmental Organization
NUFFIC	Netherlands Universities Foundation for International Cooperation
OOPE	Out-of-pocket Expenditure
RHC	Rural Health Center
SBA	Skilled Birth Attendant
TBA	Traditional Birth Attendant
UN	United Nations
UNDP	United Nations Development Program
UNFPA	United Nations Population Fund
WHO	World Health Organization

## Definition of Terms

**Access:** Access describes an individual's ability to utilize services, which incorporates economics, geographic location, an abundance of health services, and physical and social resources. If health services are not accessible, it is likely that there will be an unmet need for health care (WHO, 2013).

**Maternal mortality:** Maternal mortality is a death of a woman during her pregnant period or within 42 days after termination of pregnancy with any related or provoked cause from the pregnancy or its management but not from unforeseen and unintentional causes, regardless of the duration and site of the pregnancy (WHO, 2015).

**Maternal and neonatal health (MNH)** care involves actions performed with intentions to build up and maintain a good health of both mothers and their newborn during pregnancy, childbirth and the 7-day postnatal period (Ebener *et al.* 2015).

**Skilled Birth Attendant (SBA):** A skilled birth attendant is a person: a midwife, a nurse or a doctor. They are trained to be proficient so as to be able to provide delivery care during pregnancy, childbirth and the postnatal period, by managing the labor and making a timely referral if it is necessary (WHO, 2013).

**Skilled care:** A quality care provided to the pregnant women during her pregnancy, delivery and postpartum period and her newborn infant by a skilled provider at an enabling environment which has the necessary equipment, supplies and medicines and infrastructure and a functional referral system (WHO, 2012).

**Traditional Birth Attendant (TBA):** A person who assists pregnant women to deliver their child. They are not usually medically trained individuals and often acquired their skills by delivering babies themselves or doing as an assistance to other traditional birth attendants. The role of the TBA in the respective community varies with the local contexts (WHO, 1992).

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## Abstract

**Background:** In Myanmar, about a million women are pregnant every year. Health service utilization for delivery has increased among pregnant women. However, the majority still delivers their child at home.

**Objective:** This study explores the factors influencing the utilization of institutional delivery of pregnant women in Myanmar, related to individual factors, sociocultural and socioeconomic factors, accessibility and health system-related factors.

**Methodology:** The research entailed an exploratory literature review. The Three Delay model was applied to explore the factors influencing the maternal health service utilization for delivery among pregnant women.

**Findings:** The study found that all three delays contributed to underutilization of institutional delivery. Limited knowledge about the pregnancy and the advantage of institutional delivery in women, constraints regarding their empowerment, sociocultural factors such as beliefs and practices related to delivery, husband involvement, the community's influence, inaccessibility to health services and poor infrastructure of the health system contributed to low utilization of facility delivery.

### **Conclusions and Recommendations:**

The study highlights that many factors result in delays to utilize institutional delivery in Myanmar. Maternal health information should be provided, both for pregnant women and communities, to change attitudes and increase support for pregnant women to choose for facility delivery. Programs should be initiated and implemented to overcome the accessibility barriers such as out-of-pocket expenditures and travel costs. A comprehensive health system strengthening strategy for delivery services should be developed and implemented to reduce the third delay, and improve the quality of services provided for pregnant women.

**Keywords:** Institutional delivery, Facility delivery, Home delivery, Health service utilization, Health seeking behavior, The Three Delay model, Maternal Health.

Word count: 12,670

## **Introduction**

Globally, there was a dramatic decrease in maternal mortality between 1990 and 2015, having the figure dropped by about 44%, along with the lifetime risk of maternal death changing from 1 in 73 to 1 in 180. Maternal mortality is a death of a woman during her pregnant period or within 42 days after termination of pregnancy with any related or provoked cause from the pregnancy or its management but not from unforeseen and unintentional causes, regardless of the duration and site of the pregnancy (WHO, 2015). The aim of Millennium Development Goal (MDG) 5 to reduce three-fourth of maternal mortality ratio (MMR) by 2015 has not fulfilled, and the magnitude of reduction is different across the regions.

Maternal mortality remains a major challenge, accounting for nearly 830 women passing away every day. Of these deaths, 99% happen in low-income countries, particularly in Africa and Asia. The lifetime risk of maternal mortality in Southeast Asia (ASEAN) estimated at 1 in 210 (WHO, 2015). Differences in maternal mortality do not only occur between different countries but also happen to the same country, according to different income status and different geographical regions. Due to a lack of skilled care assisted for delivery, many lives of mothers and children are lost under conditions that can be preventable. 49% of pregnant women in developing countries delivered their child without skilled care provided (WHO, 2015).

Delays to receive timely appropriate care during delivery is a primary cause of maternal mortality in developing countries (Shah *et al.*, 2009). In Myanmar, about 1.3 million women gave birth in 2013. Among them, merely 36.2% delivered at a health facility (WHO, 2014). Maternal and neonatal health in the country are related to general poverty, women's background, cultural practices and socioeconomic status, accessibility to available health services and different community conditions. Besides, the number and the quality of available health services in the country deter women from seeking care during pregnancy and childbirth (WHO, 2015).

I have been interested in maternal and child health since I was a medical student. While working in both clinical and public health fields, I have met with pregnant women from different socioeconomic backgrounds in different situations. During that time, I have observed that many of them delivered their child at home for different reasons and some of them lose their lives during their childbirth. Having witnessed the fact that many pregnant women die of preventable and curable conditions without having necessary institutional delivery care, I have made up my mind to widen my scope of knowledge by doing research on maternal health service utilization. Therefore, the results of the study will help to develop recommendations for policy makers and practitioners on strategies to increase utilization of institutional delivery among pregnant women in Myanmar, which in turn can, improve well-being and reduce both morbidity and mortality of mothers and newborns in Myanmar.

## **Chapter 1: Background information of Myanmar**

This chapter describes the background information of Myanmar.

### **1.1 Geography**

The Republic of the Union of Myanmar (Burma) locates in Southeast Asia. It is the second largest country in the region, occupying a total land area of 676,578 km<sup>2</sup>. The country is bordered by India and Bangladesh on the West, China on the North and North-East, Laos and Thailand on the East and South-East, and the South part of the country is lined by the Andaman Sea and the Bay of Bengal. Nay Pyi Taw is the new capital city of the country since 2005 (MOFA, 2015).

### **1.2 Demography**

A total of 135 ethnic groups is living and making up the population of 51.48 million, with 93 males per 100 females. The life expectancy at birth is 65 for men and 68 for women. The longevity of men is lesser than women. According to 2014 Myanmar census, annual population growth rate is 0.89%, and total fertility rate is 2.29. Urban population is about 30% of total population, and the most densely populated area is Yangon - formerly Rangoon - a commercially important city of the country, amounting to approximately 5.2 million inhabitants. Total population can be classified into three groups as aged under 15 (28.6%), aged 15-64 years (65.6%) and 65 years and above (5.8%), respectively. The country's population density is 76 persons/km<sup>2</sup> (2014 Myanmar Census, 2015).

### **1.3 Socioeconomic and cultural situation**

There are 14 states and divisions in the country, along with 396 towns, 3045 wards, and approximately 67,000 villages and 13,000 village tracks in the country. The major economy is agriculture and farm-related activities, amounting to 36% of the gross domestic product (GDP) and 60%-70% of total employment. Myanmar is naturally prosperous with forests, land and water resources together with a unique biodiversity. Despite its abundance of natural resources, the per capita gross national income has been estimated to be USD 1,144 per year in 2011 (UNFPA, 2015). Myanmar ranked for the Human Development Index (HDI) at 150 out of 187 countries in the 2013 report of United Nations Development Program (UNDP). 25% of the total population are living below the poverty line along with significant rural (29%)-urban (15%) disparities. 10% of country's population fall under the food poverty line (UNDP,2011).

The Theravada Buddhism is the major religion of the country, accounting for 90% of the total worship. The national language is Burmese. According to Myanmar Census data (2014), the adult literacy rate is 89.5%, and over 3.55 million people (10.5% of total population) were illiterate. Among literate, male and female ratios are 97.1%:93.7% in urban and 90.7%:83.8% in rural areas, respectively.

## **1.4 Political situation**

After the country passed through long-term political conflicts and constraints with national and international relations, it is now transforming from a military-ruled to a new elected democracy government. The country is working on constructing a peaceful coexistence within states and divisions, including collaboration with ethnic/religious groups, civil societies, religious leaders and interfaith groups. During the transitions, the proliferation of civil societies and their roles are remarkable in the country (US Institute of Peace, 2015).

## **1.5 Healthcare system**

The Myanmar healthcare delivery and medical education persisted from the former British colonial administration. After independence in 1948, the health care system has changed as a result of both changing in political and administrative systems in the country. In recent years, the country has initiated and implemented political reforms and a reorientation of development policies towards health and social sector investments (WHO, 2014).

In Myanmar, the percentage of GDP allocated for health is only 2.2%, and national expenditure on reproductive health was merely 13.1% of total expenditure on health in 2006 (There is no currently available data). Out-of-pocket expenditures on health are considerably high in the country; 70% in 2013, including for obstetric and neonatal emergencies. Myanmar has one of the world's lowest expenditures on health, which has resulted in deteriorating infrastructures and poor health outcomes (UNFPA, 2010).

Though the health care system is consisting of public and private providers in both financing and provision, the Ministry of Health (MOH) remains the major provider of comprehensive health care in the country. To improve health service delivery, the MOH has formulated and implemented a health development strategy both at the national and regional levels. The strategy focuses on health service delivery through primary health care, through services for the target population group, promoting and protecting healthy communities, and prevention, control and management of communicable and non-communicable diseases (Health in Myanmar, 2014). The Department of Health, one of the seven departments under the MOH, plays a major role in providing comprehensive health care throughout the country, including in remote and hard-to-reach areas, to raise the health status of the population (MOH, 2014).

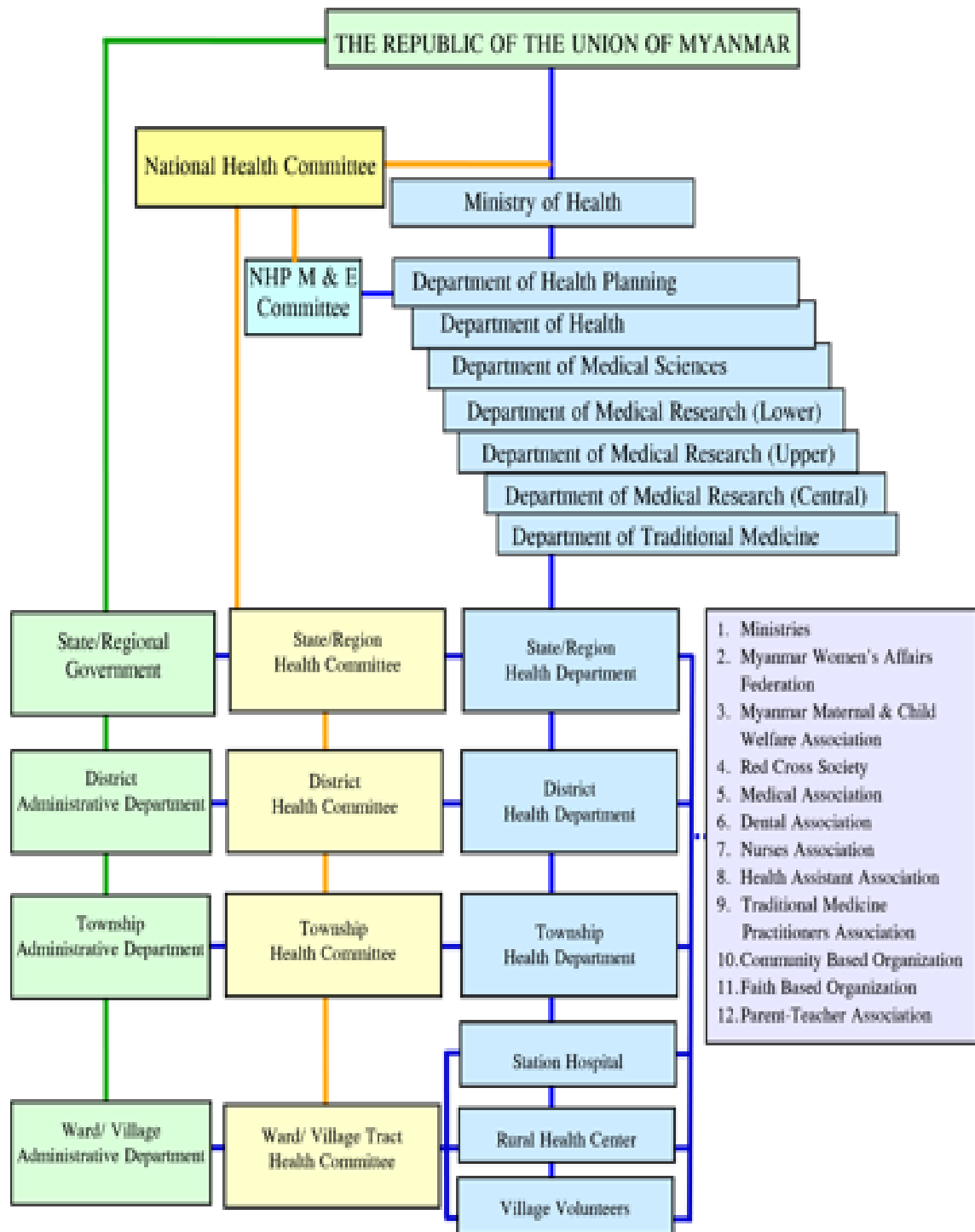
In line with the National Health Policy, UN agencies, non-governmental organizations (NGOs) such as Myanmar Red Cross Society and Maternal and Child Welfare Association, also collaborate in relevant sectors at all administrative levels down to the wards and village-tracts to mobilize the community effectively in health activities. The non-profit privates run by Community Based Organizations (CBOs) and Faith-based Organizations also provide health sectors in the major cities and some townships (UNFPA, 2010).

## **1.6 Maternal and child health services**

Approximately 60% of country's population composed of mothers and children. It estimated that every year, approximately one million women give childbirth. The government pays priority to improve maternal and child health services in National Health Plan. Under the National Health Committee, the Ministry of Health (MOH) has been developing and implementing the Five-year National Reproductive Health Strategic Plan (Health in Myanmar, 2014). The Department of Health takes the main responsibility to provide reproductive health care services including maternal and child health, as well as all HMIS activities.

Related to the issue of infrastructure in Myanmar, in rural areas, rural health centers (RHCs) are the centers which are taking health care of a population about 26,633 in 7-14 villages. There are 1,481 RHCs throughout the country (Health in Myanmar, 2011). In each RHC; there are usually five sub-RHCs, and each midwife is appointed to each sub-RHCs (which covers a population ranging from 2000-4000) and carried out the primary health care services including facility delivery. There are 58,244 sub-RHCs in Myanmar. A city which has a population over 100,000, maternal and child health (MCH) functions are taken over by the urban health center (UHC). There are 83 UHCs in 17 large cities in Myanmar. In small towns with a population of less than 10,000, MCH activities are carried out by the Lady Health Visitor (LHV) and 2-3 midwives (MWs) under the supervision of the Township Medical Officer. There were 348 MCH centers in the country (UNFPA, 2015).

Figure 1: Organization of Health service delivery (Health in Myanmar, 2014)



## **Chapter 2: Problem statement, Justification, Objectives and Methodology**

This chapter presents the problem statement, justification, general and specific objectives and methodology.

### **2.1 Problem Statement**

Globally, every year about 289,000 women die of the pregnancy-related causes, and about 68,000 maternal deaths were in Southeast Asia (ASEAN) countries (WHO, 2014). A large part of the under-5 mortality rate encompass neonatal deaths as the neonatal period is the most vulnerable time for every child. Due to preventable and treatable causes, every year, 3 million newborn die, amounting to 1 million of neonates on the first day and 2 million in the first week of life, with an additional 2.6 million stillbirths (Save the Children, 2015).

Despite the fact that some countries have better maternal and neonatal health indicators in ASEAN countries, Myanmar has low indicators. Over the past decades, there was a continuous downward trend in maternal mortality ratio (MMR) in Myanmar, estimating at 200 per 100,000 live births in 2012 and 178 in 2015. Despite its improvement, there was a gap to meet the MDG target of 150 by the end (SC, 2015). The MMR was 1.23 in an urban area and 1.57 in a rural area per 1000 live births (MOH, 2011).

The infant mortality rate (IMR) has also dropped to 49 in 2010. However, the country remained off-track to fulfill the MDG target of 26 per 1,000 live births by 2015. Stillbirth rate was 19.8 per 1,000 live births, and the first-day neonatal mortality rate was 9 per 1,000 live births in 2012 in the country (Save the Children, 2015). Women who come from poor socio-economic status and rural women living below the poverty line with limited geographical access to basic reproductive care are mostly being affected (MOH, 2011). Most maternal and neonatal deaths occur at the time of delivery or immediate after delivery during the postpartum period, which can be preventable up to 80% through available and accessible quality maternal and child health (MCH) services (WHO, 2012).

In Myanmar, every year, about one million women give birth a child and 76% of deliveries takes place at home. Nearly 90% of all maternal deaths happens at a home delivery (UNFPA, 2011). It estimated that 42% of maternal deaths occur during the intra-and-early postpartum period. According to the 2004–2005 Nationwide Cause-Specific Maternal Mortality Survey, the severe postpartum hemorrhage, an obstetric emergency, was the main direct obstetric cause of maternal mortality (30.98%) followed by indirect causes: pregnancy-related hypertension and sepsis. The survey reported significant variations in MMR based on age, type of delivery and urban-rural variations. Giving childbirth at homes without skilled care assistance and delays to reach to the health facilities are leading towards the vast majority of maternal deaths in the country, particularly in less accessible rural areas in the country (WHO, 2014).

Moreover, not only maternal and neonatal mortality but also maternal morbidities like vaginal prolapse or puerperal psychosis can cause unwanted physical, mental, social, and economic consequences for respective families (WHO, 2013). Besides, maternal morbidity or mortality can largely contribute to negative impacts on neonates, who are often dependent on their mothers.

## **2.2 Justification**

If pregnant mothers can deliver their babies in any facility which can assist with skilled care and necessary equipment under hygienic conditions, the risks of death or illness to both mother and babies can reduce to a certain extent (Campbell & Graham, 2006). It is, therefore, important for pregnant women to utilize the health services during labor, delivery and postpartum for the sake of both lives. Thus, the challenge is how to provide a comprehensive package of maternal delivery services that is affordable and accessible to the people most in need in the country (UNFPA, 2010).

Poor health seeking behaviors, a lack of access to a health facility services and poor-structured health systems, which are interrelated with cultural beliefs and practices, and societal factors, are not always clearly understandable (WHO, 2006). But, they are necessary and important factors to understand and address to promote pregnant women to utilize health services for institutional delivery for the sake of both mothers and babies' lives. Furthermore, the issues of health care coverage with limitations of health infrastructure at primary and secondary levels of health system should not turn a blind eye to meet the needs of reduction in both maternal and neonatal mortality and morbidity. It can also contribute to addressing the challenge of how to assure the utilization of health services among the pregnant women for their delivery both at the community and the health care facility level in the country (WHO, 2015).

Surplus, there is a limited number of studies related to the pregnant women's utilization of institutional delivery service in Myanmar. Therefore, it is necessarily important to understand what factors are influencing the pregnant women to choose to deliver at home or at a facility to be able to understand deeper, and to compare the drivers and deterrents for them to undergo for institutional delivery. The results of the study can also provide valuable information to the Ministry of Health and other authority concerned to make the necessary measures to support the efficient maternal delivery services for pregnant women, especially who do not deliver at a health facility. It can also contribute to a reduction in mortality and morbidity of both mothers and babies, which can further improve the welfare of the societies in Myanmar.

## **2.3 General Objective**

To explore the factors influencing the utilization of institutional delivery of pregnant women in Myanmar in order to make recommendations for policy makers and practitioners on strategies to increase utilization of institutional delivery and improve maternal and newborn well-being.



## **2.4 Specific Objectives**

1. To explore the pregnant women related factors influencing their utilization of institutional delivery.
2. To explore the cultural/socioeconomic factors influencing pregnant women's utilization of institutional delivery.
3. To explore the factors related to the accessibility to maternal health services of pregnant women influencing their utilization of institutional delivery.
4. To examine the health system factors related to the utilization of institutional delivery.
5. To make recommendations for policy makers and practitioners on strategies to increase utilization of institutional delivery and improve maternal and newborn well-being.

## **2.5 Methodology**

### **2.5.1 Search Strategy**

The study was an exploratory qualitative literature review, based on studies which included factors influencing utilization of health services of pregnant women in Myanmar for their delivery. The appropriate research and resources were gathered through an internet search and sending emails to some individuals in Myanmar who are working in the field of maternal and child health. Due to the limited amount of studies on this topic in Myanmar, the Myanmar data complemented with evidence from Southeast Asia countries which have similar contexts with Myanmar.

Relevant literature searched through PubMed, Google Scholar, JSTOR, Scopus, ScienceDirect and VU library. MOH Myanmar, the University of Public Health (UOP) in Myanmar, WHO, UN organizations in Myanmar, Save the Children Myanmar, and other government websites also used to search for published and unpublished articles, journals, reports, and reviews from Myanmar, ASEAN, and Asian countries. Myanmar Information Management Unit (MIMU) research sources also used to obtain data for the country. The literature which was either non-English or not relevant to the objectives of the study excluded. The following table shows the used keywords in the search strategy for this study.

**Table 1: Search strategy**

	Source	Keywords
Objective 1	PubMed, Google Scholar, JSTOR, Scopus, ScienceDirect and VU Library, Save the Children Myanmar, MOH Myanmar, UN Myanmar, UOP Myanmar.	Maternal health, MMR, maternal morbidity, home delivery, institutional delivery, childbirth, factors/ predictors/ determinants, TBA, SBA, health seeking, perception, pregnant women, Myanmar, developing, ASEAN, Asia.
Objective 2	PubMed, Google Scholar, JSTOR, Scopus, ScienceDirect, and VU library, UOP Myanmar.	Cultural beliefs, taboos, society in Myanmar, beliefs and delivery, education, knowledge, role of women, husband involvement, TBA, socioeconomic barriers, three delays, Myanmar, developing, ASEAN, Asia.
Objective 3	Google Scholar, JSTOR, Scopus, ScienceDirect, MOH Myanmar, MIMU, UNDP, UOP Myanmar, WHO Myanmar.	Factors/barriers, three delays, access, distance, cost, roads in Myanmar, affordability, accessibility, Myanmar, developing, ASEAN, Asia.
Objective 4	MOH Myanmar, MIMU, UNDP, UNFPA, UOP Myanmar, JSTOR, VU library, WHO Myanmar.	Health system, facility, quality of care, barriers/delays, men power, competency, drugs & supplies, referral, patient-provider relationship, Myanmar, developing, ASEAN, Asia.

### **2.5.2 Limitations of the study**

The following limitations have to be acknowledged for this study. Due to a little number of appropriate literature for maternal health service utilization in Myanmar, some literature from ASEAN countries has used for the study. There are no countrywide surveys or reports for maternal health service utilization for delivery at both national and subnational levels. The extent of the problem, therefore, could not be described. Some unpublished literature and reports of various organizations have also used. Field work for primary data collection could not conduct because of time constraints. Some resources in the study may not be complete, due to a lack of studies on some specific topics.

### **2.6 The Conceptual Framework: The Three Delay Model**

The Three Delay Model, developed by Thaddeus and Maine in 1994, was applied to assess the factors that influence the utilization of health services by the pregnant women for their delivery. Delaying to take timely and appropriate care can lead to poor outcomes of pregnancy, which contribute to high mortality and morbidity in both mothers and babies (WHO, 2014).

Three Delay Model provides a conceptual framework for the study to understand the factors influencing the decisions of pregnant women - whether unfavorable or favorable - by dividing three phases of delay. The model helps to consider the contribution of the enabling or delaying factors which could lead women to make the decision to seek care for delivery (delay 1), to reach to the health service (delay 2) or to receive adequate and appropriate treatment at the health facilities (delay 3). Furthermore, the model allows assessing the relative weight of different factors to understand the health behaviors of people from various backgrounds.

**Phase I delay:** delay to make the decision to seek health care and identify the place. The first delay is a delay in making the decision to go to the health facility for delivery. Pregnant women-related factors (such as an experience of pregnancy and childbirth, the number of pregnancies), sociocultural factors, socioeconomic factors (such as education, employment, the status of women, societal factors, financial implications) are factors in this phase influencing women's decision to seek medical care for delivery. Additionally, the factors directly affecting to the phase II and phase III delays (see below) are also affecting the decision making of the pregnant women (and her surroundings) as perceptions concerning these factors.

**Phase II delay:** delay in reaching the health facility. In this delay, physical accessibility like distance, cost, available transportation and travel expenses, opportunity cost, the available infrastructure and environmental or geographical conditions are playing an essential role as contributors in the second phase of delay.

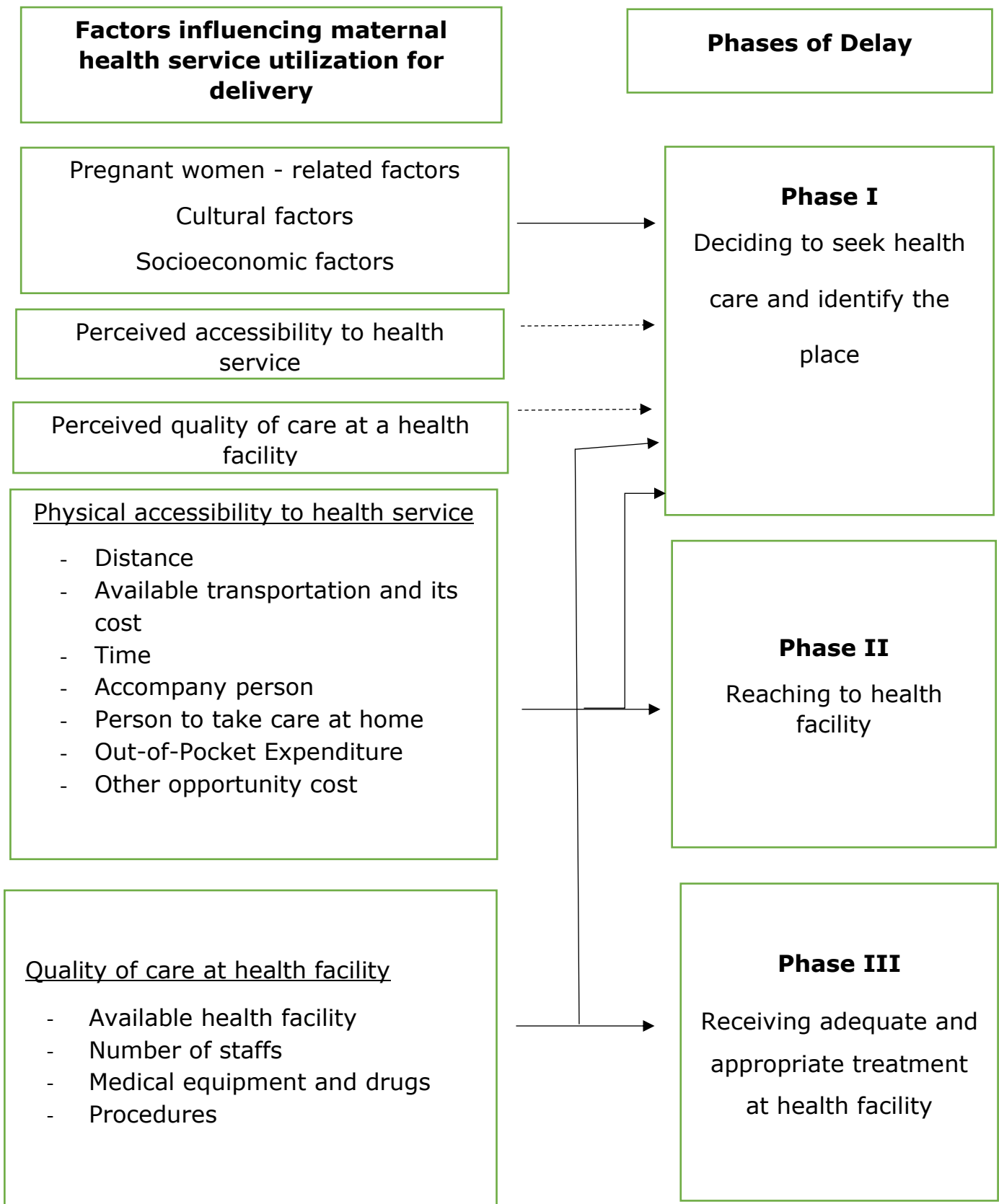
**Phase III delay:** delay in receiving adequate care at the facility. This delay is directly related to the quality of care at a health facility, including available sufficient trained providers and their competency, patient-provider relationships, availability of medical drugs, equipment, and the referral system.

Mostly the model has been used as a framework to analyze the factors influencing the utilization of health services by pregnant women while they have obstetric complications until the time when they receive necessary measures at a health facility for safe delivery (Jackson, 2008 and Kijugu, 2009). However, to fulfill the objectives of this study, I have used the model to assess the utilization of institutional delivery service by pregnant women from when they know that they are pregnant, making the decision for a delivery place, reaching to the health facility until after childbirth regardless of having complications or not. It can help to explore more on women's perceptions, barriers and determining factors related to their utilization of health services for delivery. As a strength, the model also assists in the estimation of perinatal outcomes by assessing the women's utilization of health services. Furthermore, the model allows evaluating the available maternal health services more in-depth, to gain insight into how to increase the service provision to the pregnant women in Myanmar.

According to the model, in all the phases of delay, there are the factors with sub-factors affecting the facility-based delivery service utilization of pregnant women. They are interplaying and affecting with each other, causing barriers for pregnant women. The model, however, does not take into consideration the actual and underlying health status of the woman, which can vary. The model also misses taking into consideration the role of the financing and policy of the broader health system.

Combining all the factors related to the phases of the delays makes whether women utilize the health service or not. By studying the factors affecting the delay in utilization of maternal health services in women, it can help to understand better. It, in turn, can contribute to improvements in the provision of maternal delivery services and other interventions so as to be able to increase service utilization, and enhance maternal and neonatal health.

Figure 2: The Conceptual Framework: Three Delay Model



## **Chapter 3: Factors influencing utilization of institutional delivery**

This chapter presents the factors contributing to delays in utilization of maternal delivery health service of pregnant women in Myanmar and other comparable settings.

### **3.1 Phase I delay: Delay in making decision to seek care**

In this phase, there are multiple factors influencing women to decide whether or not to seek delivery health care. Pregnant women related factors, sociocultural, and socioeconomic factors are playing an essential role in decision making. These factors are related to particular cultural beliefs, pregnancy-related knowledge, perceptions, and social aspects of the women, their families, and other members of the community.

#### **3.1.1 Pregnant woman related factors**

##### **3.1.1.1 Age**

Two studies conducted in Myanmar revealed that there was an association between age of women and their choice of delivery place. In one cross-sectional survey in central and lower Myanmar, it showed that women older than 40 years were 14 times more likely to deliver at health facilities than younger-aged women in the study (WHO project report, 2011). Likewise, another quantitative study done in upper Myanmar found that there was a significant association between 30-years-and-above aged pregnant women and institutional delivery practices (Chamroonsawasdi *et al.*, 2015). These findings are supported by nationwide surveys done in India (Thind *et al.*, 2008) which proved that a relationship between elderly pregnant women and delivery in a public facility. These findings contrast with another study in Myanmar (Sein, 2012) and in Vietnam (WHO Bulletin, 2013) which showed that maternal age and choice of delivery place was not associated.

##### **3.1.1.2 Number of children**

With regard to the relationship between the number of children and the delay in seeking delivery care of pregnant women in Myanmar, two studies found a positive and significant association between the number of children and under-utilization of health services in women especially when they had three or more children (Khin & Panza, 2012, WHO project report, 2011). Similar findings revealed in the study conducted in Nepal (Sharma *et al.*, 2007). The tendency to use delivery health services was less likely to happen in pregnant women who had at least two children.

##### **3.1.1.3 Previous delivery experience**

Previous delivery experience or witness of others' experience can influence women's decisions on where and how to deliver in their later pregnancies. This relationship can be more serious for the women who have a bad obstetric history (Madi, 2001). This particular experience can promote women to perceive delivery as a risk, which in turn, contributes women to determine to seek care in their later pregnancies (Cham *et al.*

2005). There are not many studies conducted in Myanmar which describe the association between good or bad experiences in earlier pregnancies and a delay or promotion to seek care for institutional delivery. One study done in rural areas of Myanmar, where the proportions of local women who delivered their child at the available health facilities were much lower than the national average level, observed that women who gave birth without complications perceived pregnancy not often as a risk for severe health consequences. Therefore, they perceived less necessity of care and preferred to deliver at home when they got a next pregnancy (WHO report, 2011).

#### **3.1.1.4 Knowledge about pregnancy and possible complications**

Related to the above, the factor that can influence the decision in seeking health care for delivery is a lack of knowledge in women to recognize the severity of problems and little awareness of complications which may arise at any phase of the pregnancy (Mpembeni *et al.*, 2007). Duong *et al.* found that lack of knowledge about maternal health was strongly associated with under-utilization of available maternal health services in rural Vietnamese women (Duong *et al.*, 2004). The same findings were found in the study of rural Bangladesh (Killewo *et al.*, 2006) which was conducted to assess the slow progress of the government's program for comprehensive emergency obstetric care in peripheral health facilities. In this study, a majority of women (69%) delayed in deciding to seek care when they faced emergency situations during delivery because both women and their family members had not enough knowledge to assess those conditions. In Myanmar, studies described that women who underwent institutional delivery were well knowledgeable about maternal health and the advantage of institutional delivery (Khin & Panza, 2012 & Chamroonsawasdi *et al.*, 2015).

One study in Myanmar stated that when women in the study had knowledge about danger signs or if they anticipated that there would be some problems during their pregnancy, these women decided to deliver at a health facility:

*"I like to deliver at hospital because I have ischemic heart disease"* (FGD respondent)

*"My baby was not in a good position. It was transversely lying. I went to hospital to deliver"* (FGD respondent)

When women did not have knowledge about any pregnancy-related problems, they tended to deliver at the home (WHO project report, 2011; Sein, 2012; Khin & Panza, 2012).

#### **3.1.2 Cultural factors**

The process of the delivery is all the same regarding physiology, but the state of pregnancy and childbirth is different in cultural meanings, shaped by the beliefs and practices of that culture in a holistic way (Jordan, 1993). The health seeking behavior for pregnancy and delivery of childbirth

in women shaped by the perception of those women and people around them (Thaddeus and Maine, 1994). In the Myanmar context, births, engagements, and marriages are assumed as graceful occasions or *thar ye*, whereas illness and death consider as *narye* or sad situations. Bearing pregnancy and giving birth is commonly accepted as something optimistic in Myanmar, considered as *yadanar coming* (literally meant *coming of jewelry*) (Chit Ko Ko, 2007).

A pregnant woman is the center of (positive) attention to her family and community, and she is given favor and care during pregnancy. However, a laboring mother is being perceived as in a contaminated stage in the society. Therefore, during labor, women should follow cultural practices which are derived from their mothers, grandmothers, and other elderly women from their community, like manipulation of abdomen immediately after delivery to run out the old "bad blood" which is collected during pregnancy, putting baked-hot bricks over their abdomen during the postpartum period in order to run out bad blood from the uterus and to relieve pain and numbness, applying turmeric paste on tears of delivering mother's private parts to heal naturally and the whole body to wash out the contaminated bad blood. These practices are usually done in many rural and even in some urban areas. Women and their families are not allowed to conduct this cultural practices and behaviors if they give birth at a health facility. Consequently, this factor might deter women from deciding to deliver at the facility (Sheehy, 2016).

Related to delivery practices and places, one study conducted in Myanmar discovered that rural women's choice for birth place and assistance for delivery relied on their social network which was not only mixed with their culture but also shaped by their mothers, mothers-in-law and other relatives who had experiences and superstitious beliefs (Chit Ko Ko, 2007). In the study, one respondent explained how she decided for her birth place and sought health care for her childbirth as follow:

*"I used to deliver at my mother's house as other people did in this village. She helped me a lot since I got pregnant. She always reminded me regarding food and behavioral precautions during my pregnancy and delivery time. And also, she brought me to worship "anaut mee taw" (a spiritual woman whom villagers believed as she took care the pregnant women) when I started labor pain. I relied on her totally."*

Furthermore, women in the study believed that they would only need to deliver in the hospital when they had difficulties to deliver. This finding is similar to the study in Bangladesh (Killewo *et al.*, 2006), in which women accepted that home delivery with traditional birth attendant (TBA) was a usual practice, whereas the community believed institutional delivery was only necessary for abnormal or complicated pregnancy.

Additionally, the preference of traditional practices and the assistance of a TBA during delivery observed in some qualitative findings of the



studies. It can help to explain the reasons why some women were less likely to use health services.

*"Delivering the first child is important not like later pregnancies. TBA made me get good sweating by hot bathing with herbal materials".* (One FGD respondent)

*"TBA gave a bath to the baby just after delivery not like at the hospital."* (One FGD respondent)

*"Here, delivery with TBA is our old tradition. The service was till to puerperium."*

### **3.1.3 Socioeconomic factors**

#### **3.1.3.1 Socioeconomic conditions of the family**

Poor financial conditions of families can considerably hamper maternal health service utilization of pregnant women. Myanmar listed as one of the least developed countries in a report of the United Nations Conference on Trade and Development (UNCTAD) since the late 1980s. The majority of the people are living in under-developed conditions especially in rural areas where 70% of the total population is living (UNFPA, 2010). According to the Multiple Indicator Cluster Survey (2009- 2010), 77.5% of the richest women used health services for delivery, while merely 12.4% of the poorest women delivered their baby at a health facility.

A study on maternal health service utilization in urban and peri-urban areas of Yangon, an ex-capital of Myanmar, highlighted that the main reason why women chose domestic delivery was their financial difficulties in 51.9% of families in the study (Sein, 2012). Another study done in peri-urban Yangon mentioned that financial hardship in women's families acts as a driver for women not to deliver at the health facility (Sheehy *et al.*, 2016).

As well as that, some gray literature highlighted the positive association between the poor socioeconomic status of households and under-utilization of health services. A cross-sectional analytic study conducted in 35 townships of 4 Divisions in Myanmar found that among the women in the study, 21% of the women delivered their child at homes with TBAs with the reasons of out-of-pocket expenditure for institutional delivery and transportation costs (Soe Tun *et al.*, 2010). Likewise, a study conducted in rural Kokant mothers, one of the tribes of the Myanmar residing in Northern Shan state, mentioned similar findings such as financial constraints for out-of-pocket expenditure to deliver at a health facility, fear of losing daily income and no helping hands at their homes, which caused the women to decide to deliver their baby at home rather than at a health facility with assisted skilled care (Thida *et al.*, 2010).

### **3.1.3.2 Social and gender-related factors contributing to delay in making decision**

In Myanmar, the ways people preserve their family, ethnicity, and society based on their communal value through their culture. This culture shaped as a patriarchy in which members of the society believe that “men are born with *phon* (which is similar to separate or combined meanings of power, glory, holiness (Sein, 1958), but women are not born with that” (Spiro, 1993). As a consequence, women in Myanmar society traditionally assumed as inferior to the men. This hierarchical *phon* belief contributes as a ground to oppress and subordinate women not only in their family but also in the community they belong to. The man, father, husband, son, and brother usually tend to hold the superior position, whereas the woman, mother, wife, daughter, and sister are subject to be lower in priority in both household and society (Khaing, 1984).

Consequently, this norms encourage and contribute to the customs that women are not necessary to discuss, participate and decide in social, political, religious, health and economic matters, they are just necessary to comply and scarify by paying respect to and obeying their spouses on one hand, and taking care her children on the other hand (Khaing, 1962). In other words, the status of women, their ability in decision making, and their access to resources stand behind the role of the men in the family: this is constraining women’s empowerment. To be able to foster women’s health care utilization, it is needed to explore what are the barriers to women empowerment such as illiteracy, unemployment, and lack of autonomy and decision-making power (Paruzzolo *et al.*, 2010).

#### **3.1.3.2.1 Women’s education**

Being educated or non-educated acts as a determinant in using a health facility for maternal health and childbirth in developing countries (Uranw *et al.*, 2006). Besides, the level of education attained by women plays a critical role in the efficient use of maternal health care services (Onah *et al.*, 2006; LeVine & Rowe, 2009). Several studies indicated that women with little or no education were as less as possible to make their decisions and delayed in making decisions to seek care when they faced emergency situations during delivery (Awoke & Seleshi, 2013; Jha, 2012). According to the study of National Family Health Survey (NFHS) data analysis in India, women with a higher level of education can effectively communicate with health providers; consequently, those women received more health information, which can lead them to decide to deliver at a health facility (Navaneetham, 2001).

There are studies in Myanmar that observed the levels of education in women had a positive and strong association with maternal health service utilization regarding the delivery place and kind of assistance for delivery (Win *et al.*, 2015 & Sheeny, 2016). A quantitative study conducted in Yangon found that there was an association between illiterate or lower-level educated women and a preference to give birth at homes with

untrained attendants (Sein, 2012). According to Myanmar Census data (2014), out of 33.9 million people aged 15 years and above, 30.37 million (89.5%) are literate. Among those, male and female ratios are 97.1%:93.7% in urban and 90.7%:83.8% in rural areas, respectively.

### **3.1.3.2.2 Employment status of the women**

In a household, when women are working and earning money, they are wholly or partially independent of their husband. It contributes women to holding the economic power to a certain extent in their households. As a consequence, those women can access resources and make decisions themselves, including on health issues (Paruzzolo *et al.*, 2010). In Myanmar, a study by Win *et al.*, (2014) mentioned that women who were not working in income-generating work were delayed in decision making, less using the health services for delivery, and maternal mortality during delivery was higher among those women. According to World Bank (2010), the female labor force in Myanmar is 48.9% of total labor force. However, the ratio for the employment-to-population ratio is much higher for males at 81% than for females at 48%. And remarkably, 39% of adult women are mostly doing unpaid household work, while it can see in only 1% of men (National population census, 2014).

### **3.1.3.2.3 Women's self-decision making power and position in the family**

The status of the women or autonomy of women in their family can favor or limit them to access health services. If women can make a decision in their respective families, those women and their children are healthier than the women who cannot (Castle, 1993; Adhikari & Sawangdee, 2011). In contrast, when women position is dependent on the others for financial reasons or other social affairs, the decision to seek delivery care is usually made by her husband, parents-in-law and other people in their families. This lack-of-decision making power deters women from accessing the resources, which in turn, leads to delay in receiving necessary care during childbirth (Jammeh *et al.*, 2011). Reflecting back to Myanmar, there is no formal research conducted which studied how women's decision-making power in the family links to their decision making for seeking delivery care. However, studies in Nepal (Adhikari, 2016), and India (Bloom *et al.*, 2001) proved that higher level of autonomy in women positively and strongly associated with the prompt use of maternal health services without hesitating.

### **3.1.3.2.4 Husband involvement in decision-making**

As indicated above, the involvement of the husband in maternal health plays an essential role in pregnant women' utilization of health services, especially in deciding to seek appropriate health services (Kakaire *et al.*, 2011; Mullany *et al.*, 2005 ; Bhatta, 2013). Even though patriarchal societies accept that giving child birth is mainly concerned with women, husbands are involved in (emergency) situations of women's delivery (Maine and Thaeus, 1994; Dudgeon & Inhorn, 2004).

In patriarchal Myanmar, women's utilization of health service is largely influenced by the participation of their husbands (Sen, 2001). According to two studies, there was a significant direct association between husband involvement and their wives' utilization of maternal health services (Wai, 2015; Ampt *et al.*, 2015). The majority of husbands in both studies were *positively* involved in their wives' delivery process by making decisions for birth places and birth preparedness, financial assistance, accompanying to go to clinics and presenting at the place of childbirth.

However, one study described that the involvement of husbands was more in indirect ways, like financial support to their wives than in direct involvement like accompanying to go to clinics (Kyi Mar Wai, 2015). Furthermore, male involvement in women health service utilization in Myanmar was more significant when husbands had higher education level, attained knowledge about maternal health and pregnancy complications (Wai, 2015 & Ampt *et al.*, 2015). This finding was supported by research done in India, in which the rate of women's facility delivery was much lessened as their low-educated husbands intentionally preferred to use an allopathic practitioner (Singh *et al.*, 1998).

#### **3.1.3.2.5 Social attachment with the traditional birth attendant**

The close social distance between the TBAs and the community is also an issue related to women's making decision for health service utilization (Titaley *et al.*, 2010). As presented above, in Myanmar, pregnant women are the center of the community attention, they have to receive information and knowledge from the community they belong to, and this community is made up of the people including TBAs (*lat thee*). In addition, when women gave birth at home with *lat thee*, this *lat thee* usually helps women by doing household chores, taking care of other children and making traditional medicines for the women who delivered. These close social relationship can be seen beyond the delivery itself, which influences women's decision making for a delivery place (Chit Ko Ko, 2007; Oo *et al.*, 2012; Sheehy, 2016; WHO report, 2011).

*"The TBAs and the women are like relatives and long-time neighbors. So they usually go to the TBA for the delivery."*(One Key informant from Sheehy, 2016)

*"We could not avoid TBA because they are more accessible and have better relationship with local people"* (One respondent from Oo *et al.*, 2012)

#### **3.1.4 Perceived accessibility of care**

Whereas physical and health services-related barriers and constraints hinder women from accessing to maternal health services (see 3.2 and 3.3), the perception related to these issues contributes women not to utilize health services to a large extent (Griffiths & Stephenson, 2001; Ram & Singh, 2006). The perception of women on accessibility and affordability of health care has an impact on their decision makings. A study conducted in selective areas of central and lower Myanmar highlighted that living in

urban areas led women to perceive that they can easily access the skilled provider at the onset of labor pain. This perception made those women decide to deliver at available health centers. In contrast, women living in rural areas decided to deliver at home as they perceived they could more easily access the TBA to assist their delivery. Those perceptions contributed to women's decisions on both place and kind of assistance for their deliveries (WHO project report, 2011). These findings are supported by a study of Dhaka *et al.*, (2011) in which Nepalese women were afraid to give birth at hospitals as they perceived the health facility as being too far away and it would be troublesome for women and other family members to join them for delivery.

In Myanmar, there is no study on how perceived costs influences the decision making of women about delivery. Studies in Nepal (Mesko *et al.*, 2003), and Cambodia (Matsuoka, 2010) provided evidence that perceived expensive costs for delivery at government public hospitals acted as a deterrent for women in making the choice for facility delivery.

### **3.1.5 Perceived quality of care at the health facility**

Perception of the quality of care significantly impacts women on their decision to utilize health services (Abera *et al.*, 2011). These perceptions gained from either good or bad past experiences or witness of others, which discussed in section 3.1.1.3 and 3.1.1.4. A study done by Sein, 2012 described when women have a negative perception of the attitude of health staff, structural quality in health facility like physical infrastructure and the number of staff, they are often unwilling to seek care at health facilities. Another case study on maternal deaths in the year 2013 conducted by Win *et al.*, concluded that perceptions of both local community and families on available health care provided from hospitals contributed to their delays in making the decision to go to the hospitals. Additionally, one study done in Myanmar concluded that positive perceptions about health services were the strong predicting factor for utilization of health services among women who delivered their child in a hospital (Chamroonsawasdi *et al.*, 2015). Similar supportive findings were also found in Nepal (Clapham *et al.*, 2008) and rural Cambodia (Matsuoka *et al.*, 2010).

### **3.2 Phase II delay: Delay to reach the health services**

Physical barriers and other unforeseen conditions related to accessing health facilities can limit the utilization of maternity health services, especially in hard-to-reach areas. This issue of accessibility to health services plays a dual role in maternal health service utilization; in the delay of women's decision making (described in the paragraphs above) and actual reaching to the hospital (Maine & Thaddeus, 1994; Bosu *et al.*, 2007). In the studies of (Alvarez *et al.*, 2009; Birmeta *et al.*, 2013; Karkee *et al.*, 2013), it was mentioned that the long distance to reach the health facilities, lack of available transportation and costs (including opportunity costs) of transportation were the major obstacles for women to reach to available health facilities.

### **3.2.1 Place of residence**

Whether living in urban or rural areas is one of the factors that influence a pregnant woman to make a decision to deliver at a health facility is closely related to the issues of accessibility and availability (WHO, 2015). The study conducted in Yangon found urban women utilized health services for delivery more than ten times than the women from rural areas (Sein, 2012). Another study carried out in rural areas in Myanmar also proved that there is a significant difference between institutional and domiciliary deliveries in the rural areas, 13.8% and 84.5%, respectively (Oo *et al.*, 2012). As stated in the Myanmar multiple indicator cluster survey 2009–2010, nearly two-thirds of babies were born in a health facility in urban settings, whereas merely one quarter was born in a health facility in rural settings (MOH, 2011).

### **3.2.2 Distance and road infrastructure**

According to the WHO (2002), all pregnant women should be able to access any health facility within 30 minutes. The health facility, therefore, should be located at utmost 5-kilometers of walkable distance. In Myanmar, where 70% of the total population is living in rural areas, the available health centers to cover 67,000 villages are 1504 in number. Mostly, the distribution of the health centers are unequal across the regions, and patients are needed to travel for long hours, sometimes days, to reach to available health centers (MOH, 2011).

Most of the areas of Myanmar are in underprivileged conditions, and transportation networks and density are the least developed among ASEAN countries. Besides, 61% of all available roads in the country are soil roads and unpaved. And generally, they are in poor conditions, and many of them are not passable during the rainy season (JICA Myanmar's National Transport Master Plan, 2014). The more difficult to access, the more likely to decide not to deliver at the hospital, especially for women living in the delta area where seasonal water fluctuations and turbulent waterways variations affect the access to roads (Oo *et al.*, 2012). The combined cause of inadequate and uneven distribution of available health centers and lack of proper transport networks cause geographical inaccessibility to the pregnant women (UNFPA, 2010). Win *et al.*, (2014) proved that the distance between residence and available health centers mainly impacted by the first and second delays-related maternal mortality in Myanmar. Even in urban areas, the distance, and poor transport system can impact on maternal utilization of health services (Sein, 2012).

### **3.2.3 Costs**

Financial barriers hamper access to maternal health services in developing countries (Jacob *et al.*, 2011). Despite the fact that all maternal and child health services are theoretically free of charge in Myanmar, indirect and informal payments like some provider costs, transportation costs, some medical drugs, and other opportunity costs are remarkable financial barriers in accessing health services (Myint, 2014). In Myanmar,

one community-based project report showed that women in the study were less likely to utilize available health services due to costs, fear of losing their daily income, and other opportunity costs like travel expenses, the cost for accompanying person (WHO project report).

*"We are afraid of going to the hospital because of its cost. It needs more money."* (FGD respondent)

*"We worried about travel cost. But we have to go by selling things."* (FGD respondent).

Likewise, a study conducted in rural Cambodia (Matsuoka *et al.*, 2010) also described both direct and indirect costs for delivery were a primary concern. In Myanmar, similar findings found in the qualitative study of Sheehy *et al.*, (2016) in which the indirect costs for institutional delivery were restraining the participants in the study regardless of free maternity health services, leading them to give birth at their homes.

In the study of factors related to the delivery practices among reproductive age women in six suburban townships of Yangon (Khin & Panza, 2012), women who can spend the money for hospital delivery were 7-23 times more likely to decide to visit the hospital for their deliveries. The mean cost of delivery of the last baby in the study was 26,000 kyats (~ 26 \$) for delivering with a TBA, 33,900 kyats (~ 33.9 \$) with midwives, and 103,000 kyats (~ 103 \$) with a doctor/at a hospital (1,000 Myanmar kyats = 1 US \$).

There is no formal study on probable under-table fees for delivery services in Myanmar, except one study conducted in suburban areas of Yangon described there were some amounts (5,000-10,000 kyats equivalent to 5-10 \$) of money paid voluntarily from a woman and her family to the providers as thanksgiving after delivery. Nevertheless, there are high out-of-pocket expenditures (OOPE) on health (70% in 2013), including for maternal delivery services in the country. And, some studies highlight the cost for facility delivery was high for the people (Sein, 2012 & Wai Mon Soe *et al.*, 2015).

One study of maternal health service utilization in Yangon indicated that people who resided in both urban and rural areas needed to travel long distances and faced financial constraints for travel cost and accommodation. Being unable to pay for travel and accommodation cost was the reason for not utilizing available health services (Sein, 2012). Another study showed that residing in villages which have rural health centers was a favorable factor for women to access to good delivery practices. The costs of other components of care such as out-of-pocket expenditures, a loss of daily wages, costs for accompanying persons resulted in not accessing the health services regardless of the fact that they are free (Khin & Panza, 2012).

### **3.2.4 Availability of providers in the community**

To the proximity of providers is one of the important factors contributing women in making decisions on how to deliver their child (Titaley *et al.*, 2010). In the Myanmar context, TBAs were mostly local persons, residing in the same village with pregnant women, while midwives were living in different villages, and seen as too far away from them to access compared to community-based TBAs (Sheehy, 2016). Thus, when women were in need, the easy availability of TBAs caused women not to deliver at a health facility. "*People know that midwives are more skillful but could not always be available ... [they] stay far away and thus more costly.*" (Oo *et al.*, 2012).

### **3.2.5 Affordability of traditional birth attendant services**

The fees for services of TBAs are often seen as affordable, which influences women's choice for a delivery place (Sarke *et al.*, 2016). In Myanmar, some studies proved that affordable rates of TBAs are a significant favorable factor for women to decide to deliver with TBAs (Sheeny, 2016; WHO report, 2011). Furthermore, another study reported that recently delivered women mentioned that payments to the TBA were settled not only by cash but also by agricultural-related items like rice, bean, and other exchanging items like hens and pigs (Chit Ko Ko, 2007). These payments to the TBAs even did not need to be made immediately after delivery, which was one of the favorable factors for the women to deliver with TBAs, particularly for the poor and rural women (WHO report, 2011).

## **3.3 Phase III delay: Delay to receive adequate and appropriate treatment at the health facility**

To increase institutional delivery, many health system-related factors need to be taken into account. Together with the issue of coverage of services, quality of care has attracted a greater attention as a key reason for under-utilization of maternal health services in recent days. To be able to rightfully focus on providing necessary measures to pregnant women, several health system-related factors, such as building infrastructure, drug supplies, functional operations, and training and recruiting human resources, are essential to meet the minimal necessities for quality of care in maternal health service provision (Lu *et al.*, 2010 & Mwaniki *et al.*, 2014). A death review case study conducted by Win *et al.* mentioned that according to the data, one-fourth of all maternal deaths in 2013 was due to a delay in timely receiving necessary care at a health facility. However, this study did not present the specific health system related factors contributing to delays in providing quality of care to the mothers at the health facility.

### **3.3.1 Available infrastructure and human resources for delivery services**

In the country, the infrastructure for delivery service is based on rural health centers and sub-rural health centers where paid cadres: Midwives,



Lady Health Visitors, and Health Assistants (they are also called as Rural Basic Health Staffs) are assigned to provide primary health care services including facility delivery to the rural community. These rural basic health staffs are supervised by township basic health staffs such as Township Health Nurse and medical doctor (MOH, 2014). There are 1,684 RHCs and 58,244 sub-RHCs in Myanmar throughout the country to cover the maternal delivery services.

In 2014, the total number of hospital beds including maternal delivery services was 56,748 in the country. Hospital bed per 1,000 people in Myanmar is merely 0.7 in 2010, while in Thailand, a neighborhood country, is 2.1, in Vietnam is 2.4 and Singapore is 2.9 (WHO, 2014). A lack or insufficient necessary infrastructures, especially in rural settlements, is the main barrier in promoting and provision of maternal health service utilization (WHO, 2014).

Regarding human resources, there is no formal study of the correlation between delays in receiving maternal health services and the available number of human resources in Myanmar. However, the total number of 88,975 public sector workers, consisting of 26,435 medical practitioners, 25,544 nurses and 19,556 midwives are currently working to provide care to about one million pregnant women yearly in the country. This manpower results in the ratios of 1.49 health workers per 1,000 population, and a midwife: population ratio of 1:6,000, showing a large gap to the WHO recommended a threshold of 2.3 health workers to support 1,000 population (ADB, 2012). This shortage of the human resources causes the insufficient coverage including the maternal health services.

In addition, with the objectives to identify the challenges and ways to improve services provided by skilled birth attendants in rural area, a study conducted by Oo *et al.*, discovered basic health staff in the study performed their tasks not according to guideline instructions in both providing health services and health education activities and making referral. The reasons why were related to inaccessibility, inadequate facilities, and equipment, lack of community cooperation and influence of the role of TBAs in the community as follows:

*"We could not go to them because they are staying in the middle of a paddy field alone and there was no road."*

*"We could not avoid TBA because they are more accessible and have a better relationship with local people. In hard to reach areas, we have to cooperate with them. If we cooperate, risk cases will be more access to us and be referred"*.

Maternity services in Myanmar provide to the pregnant women with free of charge, including medical equipment, and drugs. Due to the general country conditions, it's hard to study the lists of supplied medicines and equipment for delivery and their availability.

### **3.3.2 patients-provider relationship**

The relationship between health care providers and pregnant women can affect the choice of women for their delivery place in either positive or negative ways (WHO, 2014). The attitudes and behaviors of providers can directly influence pregnant women's decision making for the delivery place, kind of assistance and indirectly to the maternal and newborn health outcomes (Buttiens *et al.*, 2004; Holmes & Goldstein, 2012).

Two quantitative studies in two different urban areas of upper and lower Myanmar discovered that women's decisions to utilize a health facility for their deliveries much relied on their positive attitude towards providers, which was gained from their previous good experience (Chamroonsawasdi *et al.*, 2015 & Zin, 2015). However, a systematic review of attitudes and behaviors of maternal health care providers in Asia, Africa, and the Pacific from 1990-2014 proved that both health care seeking behavior and well-being of pregnant women were negatively affected by negative attitudes and bad behaviors of care providers (Mannava *et al.*, 2015).

### **3.3.3 Other factors in health facilities influencing maternal health service utilization**

#### **3.3.3.1 Responsiveness of health facilities to pregnant women's wishes**

In Myanmar, all the maternal labor rooms and operation rooms at the health facility are not allowed to be entered by family members for social reasons. According to Myanmar culture, any women's private parts are strictly not allowed to be seen by other people, especially men. In addition, there are medical reasons and sanitation issues that make other people not to be allowed in the labor room. Therefore, when the women are in labor, they have to go to the delivery rooms without their family members. A study of Oo *et al.*, (2012) observed when women in the study were in labor; they would like to get social and spiritual support from their families. Delivery at home with a TBA allowed the women to stay with their families, while institutional delivery hardly lets them do so. The possibility of family members attending during childbirth also influences women's decisions making of delivery places, especially in rural areas of Myanmar (Sheehy, 2016).

*"I wish my mother to be nearby and also my brother at that time."*

*"If my husband is by my side, I felt confident. I wish him to be by my side."*

*"I booked with them. They delivered at my home. I have nobody to help and accompany to go to another site for delivery."*

#### **3.3.3.2 The role of ANC in women's decisions making**

According to the WHO, taking antenatal care is an important initial step for women to utilize the maternal health services (WHO, 2003). If a woman comes and makes regular visits for ANC during her pregnancy, this woman is likely to deliver at a health facility, seek advice for her pregnancy

and its related complications (Ram & Singh, 2006). In Myanmar, there are some literature related to the linkage between the role of the ANC and women's decision-making for institutional delivery.

One cross-sectional, mixed method study in suburban Yangon discovered women in the study were about four times likely to give birth at a hospital if they were consulted and advised by skilled providers during their ANC visits compared to the women who went to non-skilled providers. It showed that the availability of skill providers in ANC is an important determinant for the women to make a decision for institutional delivery (Khin & Panza, 2012). Similarly, in the study of challenges faced by skill providers in rural Myanmar, some recently-delivered women expressed the reasons why they used health services provided by midwives were the competency of those midwives and advice from them (Oo *et al.*, 2012).

The number of ANC visits also has a linkage with women's delivery at a health facility. Studies conducted in India (Bloom *et al.*, 1999) and Bangladesh (Anwar, 2008) showed that women who had three or more ANC visits associated with institutional delivery. Consistently, a study in Yangon, Myanmar also highlighted women's decisions to go to the hospital for delivery were related to their at least four times ANC visits (Sein, 2012). Education of women also played a role in women's decision making for delivery places.

## **Chapter 4: Discussion of the study findings**

This chapter discusses the factors contributing to maternal health service utilization for delivery of pregnant women in Myanmar and possible interventions to increase service utilization and address the underlying causes of maternal morbidity and mortality, according to the Three Delay model.

### **4.1 Factors contributing to delay in making the decision to utilize the health services**

Regarding factors related to the delay in women's decision making, a range of factors such as knowledge about maternal health, their empowerment, and sociocultural factors can affect women's decision making to utilize health services for delivery. Among pregnant women-related factors, women's knowledge about advantage of institutional delivery services, pregnancy and its possible complications seems significant in the findings. When women are well knowledgeable about potential complications for pregnancy and delivery, they try to take better care of their pregnancy; they plan to deliver safely, and they decide to utilize the health services whatever the condition is.

Although the findings demonstrate that a previous good delivery experience leads to under-utilization of institutional delivery services, pregnant women can decide to utilize the health service for delivery if they are knowledgeable about the fact that every pregnancy has its risks, and they perceive the necessity of care. To promote maternal health service utilization in women, it should be considered to distribute information about the pregnancy and possible risks efficiently to the pregnant women, particularly in the rural areas where the majority of the population is living, and a larger portion of the maternal deaths happens. It would be profitable because, in Nepal, maternal health service utilization increased between 1996 and 2001 when the government enhanced the promotion of maternal health education in the countryside through mass media (Sharma *et al.*, 2007).

Women's education acts as a major determinant in their decision making. Education of women is also positively related to their employment status, which in turn promotes the women's economic power in their family. These all largely contribute to the empowerment of women, leading them to make their self-decisions, including for their health issues (Win *et al.*, 2015 & Sheeny, 2016). These findings are consistent with the systematic review on determinants of maternal health service utilization in low and middle-income countries (Gabrysch & Campbell, 2009; Paruzzolo *et al.*, 2010). Raising women's autonomy by making policies for their participation in education and employment could improve maternal health service utilization.

The evidence for the important role of individual factors in making the decision to utilize the health services is undeniable, but the role of the

husband and other family members is also largely influencing women's decisions for the delivery place, both positively and negatively (Sen, 2001; Kyi Mar Wai, 2015; Ampt *et al.*, 2015). Furthermore, the role of the cultural beliefs and practices and social values which are preserved by the community members like mothers, mothers-in-laws and other elderly people in the community seems critical in women decisions for the delivery process in the findings.

Therefore, a better health service utilization for delivery in pregnant women will not be materialized just only by focusing on pregnant women, but by trying to get the active participation of their husbands and other community members. In Myanmar, there are sub-help groups, small social welfare associations, and other community-based philanthropic groups in many parts of the country. It would be beneficial to provide maternal health education to the community through this community networks as they are local and composed of active community members. It can encourage to change the community's attitudes, raise their awareness and increase their support for the pregnant women to utilize health services for delivery.

The close social attachment with TBAs, the social-friendly services from them and the dominant positions of the TBAs in the community are found as major factors for pregnant women to decide not to deliver at a health facility (Chit Ko Ko, 2007; WHO report, 2011; Oo *et al.*, 2012; Sheehy, 2016). These findings are consistent with other findings in Indonesia (Titaley *et al.*, 2010) and Bangladesh (Parkhurst *et al.*, 2006). It would be advantageous to consider to promote the skills of TBAs by training them to increase their expertise and efficiency. By doing so, an increasing number of pregnant women can deliver with safer hands. TBAs can also make more referrals if it is necessary and a good communication can be formed between TBAs and providers (which is often not the case now). It could contribute to an increased coverage of (community) skilled birth attendants, making a decrease in the number of maternal and neonatal deaths in the country. It should also be considered to further study the role of the community and TBAs in health services utilization of pregnant women, as there is no available study conducted with from a community perspective.

#### **4.2 Factors contributing to delay in reaching to the health facility**

Concerning the factors for delaying to reach to the service, the long distance, lack of available and feasible transportation systems, costs to reach the health center are the main obstacles for women to utilize the health services (Oo *et al.*, 2012; Sein, 2012). These factors contribute to both the first and second delay (Win *et al.*, 2014). Although maternity service is officially free of charge in Myanmar, the supports to the delivering women are inadequate so that women have to pay the cost as out-of-pocket expenditures. Additionally, the loss of daily wages and costs for accompanying persons can result in not accessing the health services regardless of the fact that they are free (Khin & Panza, 2012).

In Myanmar, the maternal and child health voucher scheme (MCHV) was introduced as a pilot study in 2013 by a collaboration of the Health Intervention and Technology Assessment Program (HITAP), the WHO and the MOH. Its principle is by providing subsidized service costs to the health facility instead of voucher-holder pregnant women; it can help pregnant women to overcome the financial barriers and promote them to access and utilize maternal health services with free-of-charge. Due to this scheme, pregnant women's health service utilization for delivery increased in the studied townships from 51% to 71%. This Voucher Scheme is currently being implemented in only one township in Myanmar (Kingkaew *et al.*, 2016).

It could be worthwhile to apply and expand this voucher scheme program, particularly in less accessible areas. However, there are some factors needed to take into consideration while implementing the scheme. If the local facility cannot provide necessary services, it causes no improvement in access to pregnant mothers, for example, it depends on performance and motivation of providers. Furthermore, it needs efficient voucher distribution to the pregnant women within set criteria, and it needs to take into consideration the potential stigma attached to the voucher because people can be labeled as "poor" if they get the voucher. It is, therefore, necessary to do research to understand the effectiveness and impact of MCHV on the use of delivery services before establishing a large program.

Findings showed that long distances to travel, lack of proper transportation and its costs (regarding both time and money) significantly hamper not only the pregnant women to deliver at the health facility but also healthcare providers to provide the assistance to the delivering women (Oo *et al.*, 2012). Concerning the accessibility, there is a rule for basic health staff in many townships to deliver all pregnancies only at health centers (Oo *et al.*, 2012).

This regulation could promote good delivery practices in women from accessible areas, but for the women from less accessible areas, it encourages to be delivered at homes as they cannot afford the cost to pay for commercial vehicles to reach the health center. Surplus, this rule can cause wider rural-urban disparity as women from the urban areas can more easily access skilled providers at the time of labor pain, while women from the countryside will choose to access a TBA and local personnel to attend their delivery (WHO project report, 2011).

The Ministry of Health should reconsider some exemptions to these rules in some areas for the basic health staff. On the other hand, as discussed in 4.1, there are some community-based social welfare groups in many parts of the country. Hence, by raising the active participation of these local community groups, and initiating community-based free transportation services for pregnant women for delivery, it might already

be the solution to the transportation barriers for both pregnant women and health care providers.

#### **4.3 Health system related factors contributing to delay in receiving adequate and appropriate treatment at the health facility**

Among the health system-related factors, findings suggest unavailable and inadequate health infrastructure make women not to decide for institutional delivery. The shortage of manpower, inadequate and unequal distribution of health facilities, poor support of the drugs and equipment are the main contributors of the hindrance to using the institutional delivery. These findings are consistent with the results in Nepal (Karkee *et al.*, 2013), India (Vora *et al.*, 2015) and Vietnam (WHO, 2013). Scaling up of nationwide maternal health services programs would promote the geographical and physical accessibility of maternal health services.

Based on the findings, it seems there is an increasing awareness of women that delivery at a health facility with an SBA is safer than home-based deliveries with a TBA (Sein, 2012 & Sheehy, 2016). There are some factors that can affect the patient-provider relationships, which influence on women's delivery services utilization. But mainly, in Myanmar, the number of available health staff and health facilities for maternal delivery is remarkably inadequate to cover the number of pregnant women, particularly in the rural areas. Consequently, when women start their labor pain, the available and accessible providers for those are the TBAs, while midwives or other providers are living far from them as one basic health staff is appointed to take the responsibility for at least five villages.

The Ministry of Health should consider upgrading the human resources by recruiting and appointing adequate numbers of health providers, and build up an adequate number of health facilities to distribute equally at all levels of health services provisions for maternal delivery. Additionally, it would be advantageous to provide advanced training and some refresher courses to the existing health providers to upgrade their abilities. Along with it, regular monitoring and supervision systems should be integrated and strengthened in the health care system, as it was found that some providers cannot perform their tasks according to the guidelines from the ministry. Both quantity and quality of the health care providers should be scaled up to promote the provision of good maternal health services to the wider public.

Moreover, it is observed that there is an inadequate or lack of proper transportation facility for basic health staff in some areas, and because of this, they encounter obstacles in supporting maternity services. This finding is similar to the finding from a study in Cambodia which found that poor working conditions and low salary are the factors of poor performance of the providers. It would be beneficial to consider to provide some vehicles or travel allowances for those staffs as a part of the good working environment.

On the other hand, the role of the community and TBAs in pregnant women's health service utilization is a significant influence. The health care providers should try to build up good communications with respective community members and TBAs. Good communication between the two parties can promote good attitudes towards both sides, increase satisfaction, and motivate them to participate and provide some necessary measures in pregnant women's delivery process, for example, TBAs can accompany with pregnant women to the facility.

Besides, some findings suggest that of the fact that family members are not allowed to stay beside the laboring women during institutional delivery caused less use of health services for delivery (Oo *et al.*, 2012 & Sheehy, 2016). The Myanmar health system could also consider allowing one or two (woman) family members to stay beside the laboring women to make services more responsive to the needs of the women.

To sum up, some limitations are acknowledged for the findings. This study is based on studies with different objectives conducted in selected townships in Myanmar. Most of the studies were done in Yangon, the former capital city of Myanmar. Many of them were quantitative studies, and a few studies had both quantitative and qualitative components. All the studies had limitations such as sample size, selection bias, the scope of the study, and the analytical steps. It makes the findings difficult to generalize for the whole country. There were also a few number of available studies about the Myanmar health system related factors influencing women's decision making for delivery.



## **Chapter 5: Conclusions and Recommendations**

### **5.1 Conclusions**

This exploratory qualitative literature review was conducted to explore the factors influencing the maternal health service utilization for delivery of pregnant women. The study explored the pregnant women related factors, sociocultural and socioeconomic factors, accessibility factors and health system-related factors by applying the Three Delay model. The literature review focused on Myanmar and other comparable settings. According to the findings, poor maternal health knowledge, lack of women empowerment, sociocultural and socioeconomic factors, costs at the health facility, long distance and lack of appropriate transportation and weak infrastructure of the health system were found as the major factors contributing to three delays in health service utilization for delivery in pregnant women.

The number of maternal and neonatal deaths could be reduced if all the pregnant women delivered in a facility that can provide the quality delivery services. Their sociocultural conditions, the influence of the community and other individual factors are the major contributors to the delay to decide to deliver in a facility at an individual level. Increasing the participation of the community and providing maternal health education would be helpful to increase utilization of institutional delivery services. Financial difficulties and transportation-related barriers hamper women's abilities to access institutional delivery. Initiating financial aids programs to reduce the out-of-pocket expenses for pregnant women and their families could be a stepping stone to improve their health services utilization. Scaling up of both the quantity and quality of the provision of the health services and making some changes in some rules, especially in rural areas, can foster the maternal health service utilization for delivery in pregnant women. In the study, pregnant women often seem to encounter more than one type of delays in health service utilization. Therefore, it is required to make combined efforts and strengthen implementation of various programs to tackle all the factors for delays in utilizing the institutional delivery services.

Even though the findings showed the factors influencing the utilization of facility-based delivery and pointed towards different strategies to promote the maternal delivery service utilization, it may take the time to implement. Strong political will and commitment to implement those strategies are essentially necessary.

### **5.2 Recommendations**

The subsequent steps are recommended for the purpose of increasing the health service utilization for delivery among the pregnant women, to reduce the maternal and newborn morbidity and mortality in Myanmar.

#### **5.2.1 Recommendations for pregnant women**

To develop their knowledge and raise their awareness about the risks of pregnancy and the importance of utilizing institutional-based delivery services.

To try to get involved in paid jobs and enhance their empowerment to be able to make their own decisions and be less dependent on the family and community, they belong to.

To change their attitudes towards cultural beliefs and practices which might deter them to utilize the health services.

### **5.2.2 Recommendations for communities**

To develop their knowledge and increase their awareness on pregnancy-related issues by attending the health education sessions provided by the health care providers.

To change their attitudes towards cultural beliefs and practices related to the pregnancy and delivery.

To enhance their participation, capacity and support to the pregnant women and their families on one hand and the health care providers on the other hand.

To actively participate in the initiations of community-based free transportation services for delivering women.

### **5.2.3 Recommendations for health care providers**

To provide delivery services to the pregnant women with acknowledging their sociocultural encountering.

To provide the community awareness-raising campaign and effective health education not only to pregnant women but also their husbands and the community members.

To have effective and respected communications with pregnant women, TBAs, community members.

### **5.2.4 Recommendations for the Ministry of Health**

#### ***Develop and execute health policy in Myanmar***

To strengthen coordination and intensify service delivery modalities with other departments.

To upgrade and make some changes for regulations.

To develop and distribute up-to-date operational guidelines and standards.

To develop and execute a maternal health service promoting policy.

#### ***Ensure human resources and capacity***

To increase the efficiency of health authorities regarding resources allocation and utilization to provide better delivery services for spending money.

To upgrade managerial capacities by strengthening and integrating of monitoring and supervisions to the providers.

To give training to the providers rotationally to upgrade and ensure their performance.

### ***Continuous monitoring and periodic reviews for strengthening and sustainability***

To increase utilization of information and knowledge to improve the policy.

To improve the existing reporting system.

To conduct researches and monitoring and evaluation programs in necessary areas.

To hold regular meetings with stakeholders.

To increase cooperation and involvement of private sectors, UNFPA, UNDP, UNICEF, Save the Children who are supporting MNH care in the country particularly in remote areas.

To coordinate with JICA, other organizations and ministry of construction who are working to build up infrastructures like roads, hospitals, institutes, and labs.

### **5.2.5 Recommendations for government through the Ministry of Health**

To advertise and disseminate about the importance of maternal and neonatal health.

To allow and set up mass media communications and the web browsing for activities.

To hold the regular stakeholder's discussions to ensure transparency of policies for the providers and beneficiaries.

To make a strong political will and commitment to increasing maternal delivery health services and health financing to reduce the out-of-pocket expenses.

To pay priority to MNH care in the National Health plan and implementing programs for 5-year strategic Reproductive Health Plan.

### **5.2.6 Recommendations for further study**

Further qualitative studies with different perspectives should be done in different times and different places especially in hard-to-reach areas, in order to narrow the gaps between available delivery services and the needs of the pregnant women. This can contribute to improving not only the

provision of delivery services but also reduce the mortality and morbidity of both mothers and children, which can further improve the welfare of the whole society in Myanmar.

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