

**PERCEPTION OF RURAL MARRIED WOMEN REGARDING
PROVISION OF DELIVERY CARE BY
MIDWIVES AND TRADITIONAL BIRTH ATTENDANTS,
MYANMAR**

AYE NYEIN MOE MYINT

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ABSTRACT

Every year, more than half millions of women die complications of pregnancy and childbirth worldwide. All women need access to skilled health care in pregnancy, during childbirth, and after childbirth. Therefore skilled birth attendants (SBAs) at delivery are important for preventing both maternal and neonatal death. In Myanmar, a large proportion of delivery care in rural areas is provided by SBAs especially midwives. However, one third of women still deliver by traditional birth attendants (TBAs) which may lead to maternal and neonatal morbidity and mortality.

This study aims to find out factors influencing perception of rural married women regarding provision of delivery care by midwives and by traditional birth attendants. The secondary data on cross-sectional survey in two villages of Leiway Township in Nay-Pyi-Taw of Myanmar, 2011-2012 among 246 married women who had experienced delivery a baby within 5 years was used.

This study found that women's age, their education, household income regularity and knowledge on delivery care are the strong predictors of perception on delivery care by midwives and traditional birth attendants from multivariate analysis. In terms of their working status, maternal characteristics and access to delivery care did not yield significant factors on perception on delivery care. Health education about advantages of midwife assisting delivery care should be encouraged to the target group.

KEY WORDS: PERCEPTION/ RURAL MARRIED WOMEN/ DELIVERY CARE/
MIDWIVES/ TRADITIONAL BIRTH ATTENDANTS/ MYANMAR

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LIST OF ABBREVIATIONS

ANC	Antenatal Care
CBR	Crude Birth Rate
FRHS	Fertility and Reproductive Health Survey
HBM	Health Believe Model
KAP	Knowledge, Attitude, Practice or Perception
IMR	Infant Mortality Rate
IPSR-IRB	IPSR-Institutional Review Board
MCH	Maternal and Child Health
MDGs	Millennium Development Goals
MMCWA	Myanmar Maternal and Child Welfare Association
MMR	Maternal Mortality Ratio
MW	Midwives
NPA	National Perinatal Association
RHC	Rural Health Centre
SC	Sub Rural Health Centre
TBAs	Traditional Birth Attendants
TFR	Total Fertility Rate
UNFPA	United Nations Population Fund
WHO	World Health Organization

CHAPTER I

INTRODUCTION

1.1 Background of the study

To improve maternal health is one of the targets to fulfill Millennium Development Goals (MDGs). In the MDG framework, one of the indicators to achieve this goal is the proportion of women who deliver with the assistance of a skilled birth attendant (SBA). Skilled attendance during childbirth plays a role to improve maternal health outcomes. The United Nations set targets of 80% coverage of skilled birth attendance by 2005, 85% by 2010, and 90% by 2015. World Health Organization (WHO) suggests that in countries with very high Maternal Mortality Ratio (MMR), the goal should be at least 40% of all births assisted by SBAs by 2005, 50% by 2010 and 60% by 2015 (WHO, 2004).

To avoid preventable causes of maternal morbidity and mortality, every woman should have right to access quality maternal health services which must be accessible, affordable, effective, appropriate and acceptable to them. According to WHO, all women need access to antenatal care in pregnancy, skilled care during childbirth, and postnatal care after childbirth. So, skilled health staffs are essential for providing quality health care to mothers and children. In majority of countries, there are four key types of providers of maternal and newborn care (1) doctors;(2) midwives and nurse-midwives or country equivalents; (3) care providers without midwifery skills and traditional birth attendants (TBAs); and (4) volunteer workers/supporters, family members, friends, and women themselves as self-care for their pregnancy and/or birth. However, according to WHO, only the first two groups considered to be skilled attendants (WHO, 2005).

1.2 Problem Statement

Every year, more than 500 000 women die complications of pregnancy and childbirth worldwide. At least 7 million women who survive childbirth suffer serious health problems and a further 50 million women suffer adverse health consequences after childbirth. The majority (99 %) of these deaths and complications occur in developing countries (WHO, 2008). Maternal mortality ratio (MMR) in developing countries is 240 per 100 000 births, compared with 16 per 100 000 in developed countries. High MMR in some areas of the world reflects inequities in access to health services, as well as the gap between the rich and the poor (WHO, 2012).

Maternal mortality is higher in women living in rural areas and in poor communities. Poor women in rural areas are less likely to receive adequate health care. The area with low numbers of skilled attendants, such as sub-Saharan Africa and South Asia are facing high MMR. In low-income countries, more than one third of pregnant women have the recommended four antenatal care visits. While increasing in numbers of antenatal care in all over the world, only 46% of women in low-income countries benefit from care by skilled attendants during childbirth (WHO, 2002).

In most developing countries including Myanmar, the current number of skilled attendants is insufficient. An estimated 700,000 midwives are needed worldwide for maternity care, but currently shortage of them about 50 %. Therefore, health care providers without midwifery skills may be able to delivery some or parts of the interventions. This situation leads to increase maternal and neonatal morbidity, mortality and a lot of complications. Moreover, all deliveries assisted by skilled attendants, as timely management and treatment can make the difference between life and death. Many complications of pregnancy and child birth that lead to high mortality can be prevented by providing quality care (WHO, 2012).

In Myanmar, over 60 percent of the total population constitutes with mother and children who are the most vulnerable group. MCH services are provided free of charge in both urban and rural setting and it is also a crucial component of National Health Plans. MMR in Myanmar is 200/ 100 000 live births in 2013 (Ministry_of_Health_Myanmar, 2013). Maternal death in rural areas was found 2.5 times higher than that in urban areas. Health professionals delivered about 63.9 % of the pregnant women and TBAs delivered about 32.6 %. About 2.9 % of pregnant

women received delivery care by relatives/neighbors/friends and 0.6 % with no assistance (women herself). Delivery assisted by nurses/midwives between rural and urban area is (49 % vs 39 %) and the proportion of assistance by TBAs in rural areas is twice the proportion in urban areas (38 % vs 16 %) (Ministry_of_Immigration_and_Population_Myanmar, 2009).

Moreover, in Myanmar, most of deliveries (76.4%) are performed at home, 17 % at government hospital, and 1 % at Myanmar Maternal and Child Welfare Association (MMCWA), while 5 % of births are in private hospital and private clinics. Among home deliveries, some of deliveries are performed with the assistance of untrained providers such as traditional birth attendants (TBAs) rather than midwives (MWs). TBA is a widely available, community-based, self-managed, largely self-supported and mobile source of maternity services. In general, the assistance of TBAs does not substantially reduce maternal mortality and morbidity, regardless of whether the attendants are trained or untrained (UNFPA, 2010).

The national target to secure at least one midwife per village to provide professional care during pregnancy and childbirth is a challenge. At present, the quoted 1:2 ratio of midwives (one midwife per two villages) and ancillary midwives (who work as volunteers, are not trained to a high level of proficiency and are not in a position to handle a full range of midwifery services) per village reflects a current status of a heavy reliance on the midwives, especially those related to life saving skills. Moreover, a large proportion of maternal health services like all antenatal care, many deliveries, and most treatment of obstetrical and abortion-related complications are provided by the public sector although the role of the private sector is expanding. So, government staffs like midwives are currently overburdened with average coverage areas of 4500 population, which make it difficult for them to reach all the women and children in need services. Therefore, TBAs continues to provide assistance at a significant proportion of deliveries in most of rural areas (Ministry_of_Health_Myanmar, 2013).

1.3 Justification

The health need of women and children, particularly of those living in rural areas of developing countries, is not adequately met. Concerning about mother health, it will mention about women's overall status, access to health care, and responsiveness of the health care system to women needs and indirectly, women economic and social status, ignorance and change in social environment made a great burden on community particularly women of reproductive age. In many countries it takes several years that national resources are sufficiently allowed for the development of an adequate number of qualified staff to provide essential health services for the whole society. The outstanding challenge for many countries is how to ensure that all women have access to skilled attendants through pregnancy, childbirth and the postpartum period. To achieve this, it will be necessary to identify currently available human resources and to make most effective and efficient use of them.

In Myanmar, although Maternal and Child Health Care services is strengthened with laid down reproductive health policies to improve the maternal and child health, it is still the challenge as national concern as Ministry of Health trains midwives for 2 times annually to the target that one midwife will cover one village for all delivery all over the country. Women's past experiences with poor-quality care (poor communication or miscommunication with skill birth attendants) or unclear information in health facilities also contributed to women's misperceptions and lack of understanding regarding healthy behaviors and potential complications. Therefore TBAs play a key role in some areas and they still inevitably take care of some deliveries with the resultant unsatisfactory outcomes.

So it can be thought that if community's perception express that delivery by midwife has better outcome than by TBA, unnecessary morbidity and mortality of maternal and child will significantly reduce and MDG goals will be timely fulfilled. Therefore this study focused on the influencing factors for perception of rural married women regarding provision of delivery care by MWS and TBAs in one selected area of Myanmar. The results of the study will be contributed to relevant sectors of Ministry of Health in order to improve existing maternal and child health services as necessary.

1.4 Research questions

What are the factors influencing perception of rural married women regarding provision of delivery care by midwives and traditional birth attendants?

1.5 Objectives

1.5.1 Ultimate objective

To provide information for policy maker and program manager for developing effective intervention programs to increase community utilization of delivery care by midwives

1.5.2 Immediate objectives

To describe socio-demographic and economic factors, maternal characteristics, access to delivery care of rural married women and their knowledge towards delivery care by midwives and traditional birth attendants

To examine relationship between socio-economic and demographic factors, maternal characteristics, access to delivery care, knowledge on delivery care and perception of rural married women regarding provision of delivery care by midwives and traditional birth attendants

CHAPTER II

LITERATURE REVIEW

Ninety-nine percent of maternal mortality occurs in developing countries where there is no skilled attendant during delivery. Education, wealth status, place of residence, distance to the health center and antenatal care influences skilled care during childbirth. And, women's low socioeconomic status relates closely to the function of the traditional childbirth sector at the community level. Knowledge, attitude about factors affecting the use of institutional birth are important to eliminate barriers and attract women to modern care (Kempe, Noor-Aldin Alwazer, & Theorell, 2011).

2.1 The health belief model

The health belief model (HBM) was applied in this thesis to understand perception of individuals. HBM is a psychological model that attempts to explain and predict health behaviors. And, this is also focusing on the attitudes and beliefs of individuals. The HBM has been adapted to explore a variety of long and short-term health behaviors (Hochbaum, 1958; Rosenstock 1966; Becker, 1974; Sharma and Romas, 2012). According to HBM, the likelihood that someone will take action to prevent illness depends upon (1) the individual's perception that they are personally vulnerable to the condition; (2) the consequences of the condition would be serious; (3) the precautionary behavior effectively prevents the condition; and (4) the benefits of reducing the threat of the condition exceed the costs of taking action. These four factors as perceived susceptibility, perceived severity, perceived effectiveness and perceived barrier, which are influenced by mediating variables, indirectly influence the probability of performing protective health behaviors by influencing the perceived threat of the illness and expectations about outcome.

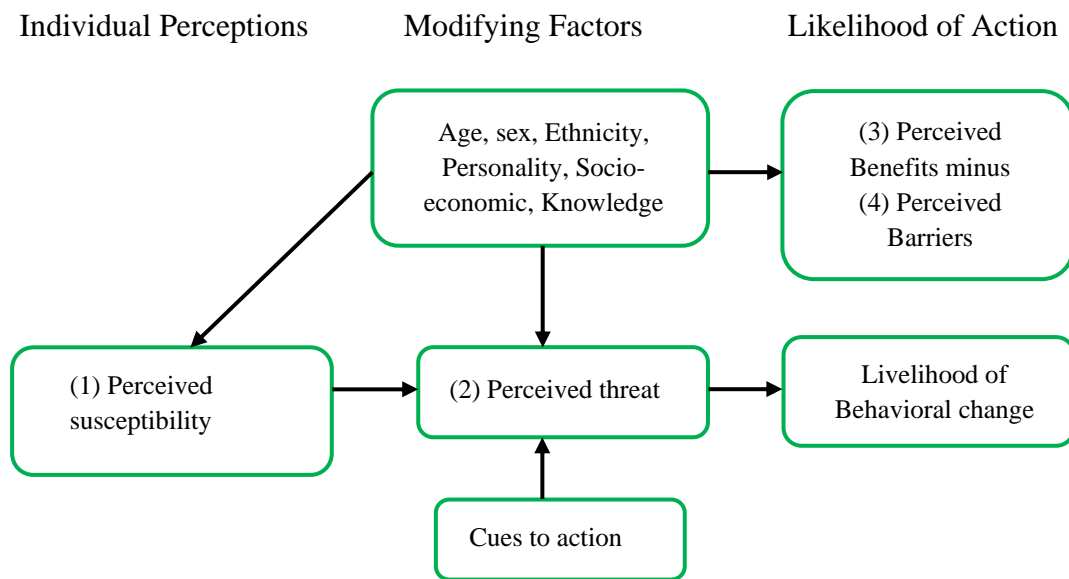


Figure 2.1. The Health Belief Model adapted by Rosenstock I., Strecher, V., and Becker, M (1997).

The perceived susceptibility refers to the probability that an individual assigns to personal vulnerability in developing the condition. The perceived severity refers to how serious the individual believes the consequences of developing the condition are. Perceived effectiveness refers to the benefits of engaging in the protective behavior. Motivation to take action to change a behavior requires the belief that the precautionary behavior effectively prevents the condition. Perceived barrier refers to the barriers or losses that interfere with health behavior change.

Socio-demographic factors like age, education, working status, socio-economic status and knowledge influenced perceived susceptibility, severity, barrier and effectiveness. In my study, women have precautionary behaviors that are also depending on how much they believe their own susceptibility to danger of child birth by TBAs. If a woman with low knowledge toward delivery care, and/or social effects like financial burden pose serious consequences which becomes perceived severity. And, they may have experiences of limited access to delivery care (geographical barriers, limited affordability) which lead to perceived barrier. Each woman has their own perception of likelihood of experiencing delivery care by MWs and TBAs and they have enough knowledge about danger signs of pregnancy complications and their

pervious good experiences, they may perceive that delivery care by midwives are more skillful and safer than TBAs.

2.2 Maternal health care

2.2.1 Maternal health situation in Myanmar

In Myanmar, over 60 percent of the total population constitutes with mother and children who are the most vulnerable group. MMR is 123 deaths per 100,000 live births in urban and 157 per 100,000 live births in rural areas (Ministry_of_Immigration_and_Population_Myanmar, 2009). Based on UN estimates, MMR in Myanmar is found to be declining from 520 per 100,000 live births in 1990 to 200 per 100,000 in 2010 (Ministry_of_Health_Myanmar, 2013). According to FRHS 2007, adolescent pregnancy (teenage pregnancy) fall from 17.4 % in 2001 to 16.9 % in 2007 (Ministry_of_Immigration_and_Population_Myanmar, 2009). And contraceptive prevalence increases from 37 % in 2001 to 39.5 % in 2010 (Ministry_of_Health_Myanmar, 2013).

2.2.2 Mother and child health services in Myanmar

There is no doubt that uses of maternal health care services improve maternal and child health. The Ministry of Health has been planning various interventions to improve the health status of mothers, newborns and children. And, promotion of maternal and child health has been one of the most important components of the MCH services. As 70 % of people reside in rural area of the country, resource and intervention need to be centered on mothers and children living in rural area. Therefore Rural Health Centers (RHC) are main health care service centers for them. Under one RHC (a village tracts), there are at least 8 to 10 villages, but only 4 sub-rural-health centers (SC) can be established with permanent staffs of one midwife and one public health supervisor grade II. But, in Myanmar, limited access of the people to the MCH services and information especially in rural remote areas is a real challenge (Ministry_of_Health_Myanmar, 2013).

2.2.3 Midwives on delivery care

“A midwife is a person who has successfully completed a midwifery education program, who has acquired the requisite qualifications to be registered and/or legally licensed to practice midwifery and use the title midwife and who demonstrates competency in the practice of midwifery” (NPA, 2008). According to WHO, midwifery encompasses care of women during pregnancy, labor, and postpartum period, as well as care of the newborn, the detection of abnormal conditions, the procurement of medical assistance when necessary, and the execution of emergency measures in the absence of medical help. Their deployment to rural areas is much more feasible, fulfilling the Ministry of Health objective of increasing access to maternal and newborn care in rural areas (Shrestha, 2013).

Maternity care was linked with midwife density (the number of midwives per 10,000 population) and village characteristics. Distance to the nearest hospital, whether the midwife was village-based or health center-based and her working experience in a community, together with women’s level of education and wealth, were also associated with birth with a health professional (Vieira et al., 2012). The services of skilled birth attendants (SBAs) like midwives include antenatal care (ANC) as well as delivery and postnatal care. Such services are critically important for reducing maternal and neonatal mortality because they provide timely delivery of obstetric and newborn care when life threatening complications arise (Choulagai et al., 2013).

Mid-wives are regarded as backbone of Myanmar health care system because the most peripheral frontline health facility (sub-rural health center) located deep in the rural community in Myanmar is run by mid-wives. They are posted at 1635 RHCs and 5804 SCs all over the country. According to 2013 data, there are altogether 20617 midwives in 2012-2013 with midwife-rural population ratio of 2.89/10,000. Obviously there is critical shortage of this important human resource for maternal health (Ministry_of_Health_Myanmar, 2013).

2.2.4 Traditional birth attendants on delivery care

WHO (2004) has defined traditional birth attendants (TBAs) as “traditional, independent of the health system, non-formally trained and community-

based providers of care during pregnancy, childbirth and the postnatal period". TBAs continue to play an important role providing antenatal care, assistance during labor and delivery, and initial postpartum care in many developing countries. They are easy to access in community settings and cost less than government health workers. But, delivery practices to improve maternal outcomes remains a challenge given the lack of standardization among TBAs (Thatte et al., 2009). Wanjira et.al (2011) indicated that unskilled birth attendants like TBAs are most likely to attend to deliveries in unhygienic conditions causing both the mother and the newborn at risk of delivery related complications and this may lead to maternal and neonatal morbidity and mortality (Wanjira, Mwangi, Mathenge, Mbugua, & Ng'ang'a, 2011).

In Africa, majority of births (74 %) had been attended by TBAs, relatives, or alone, and only 26% used delivery care services by SBAs (Darmstadt, Syed, Patel, & Kabir, 2006; J.Kayombo, 2013; M.Hunt, Glantz, & Halperin, 2002). In rural Nepal, about 89% of deliveries still occur at home and TBAs attend 23% of deliveries (Thatte et al., 2009). About one-third of deliveries in Bangladesh were assisted by TBAs who are the most common birth attendants in rural areas (Darmstadt et al., 2006). Because women perceived that pregnancy are normal phenomenon so it is unnecessary to deliver with SBAs (YR, K, J, & ER, 2010). In Myanmar, about 32.6 % of births had been attended by TBAs.

2.3 Socio-economic and demographic characteristics

Maternal age was important for an increased awareness and utilization of maternal health care services (Gazali, Muktar, & Gana, 2012; Shrestha, 2013). In Sweden, the patients' age was important for their perception with the provision of nursing care (Peter J.et .al, 2002). Increasing age showed a reduction in used of SBAs. Younger women are higher used of SBAs because they fear to deliver in home because of starting child bearing (Mpembeni et al., 2007). In India, women between the ages of 25 and 29 were 40% less likely to deliver with skilled assistance than women 19 years of age and younger (Chang, 2008). According to Oo et.al study in Myanmar, younger women, i.e 30 years and below were lower use of SBAs (Oo et al., 2012). Because women involved in decision making on their own health care

including utilization of SBAs with increasing age, from 15-19 year olds (9%) to aged 35 or older (33-38%) in Nepal (Furuta & Salway, 2006).

Different education levels actually affect the delivery care services differently. In Nigeria, Adeyemo et al indicated that education was a significant factor on perception of pregnant women toward midwives led delivery care (Adeyemo, Oyadiran, Ijedimma, Akinlabi, & Adewale, 2014). In India, mothers with 10 or more years of schooling were more likely to deliver with SBAs than mothers with no formal education (Chang, 2008). In Myanmar, as education level of mother increases, the percentages of delivery were assisted by TBA fall from 54 % to 3 % (Ministry_of_Immigration_and_Population_Myanmar, 2009). In Nigeria, educated women self-perceived that they have higher autonomy to make decisions on the quality of health care they received (Yar'zarver & Said, 2013). Education level related to the level of exposure to the right information regarding delivery (Gazali et al., 2012; Mayhew et al., 2008).

Employment status can increase women's economic autonomy and their health status because of awareness raising and better behavior via communication with their work mates and community (Kistiana, 2009). Working women with earning money can decide to spend it on a facility delivery because they have more chance to overcome access barriers including transportation costs or female mobility limitations (Gabrysch & Campbell, 2009). Unemployed women have positive attitude towards TBA services (Ebuehi & Akintujoye, 2012).

Household with higher socio-economic status associated with positive perception on health care and the poor have more negative perception on health care (Nikoloski & Mossialos, 2013). In Bangladesh and India, nearly 50 % of richest people can use SBAs and only 5 % of poor people can use them (Akhter, 2007; Chang, 2008).

2.4 Maternal characteristics

In Kenya, Wanjira et.al (2011) indicated that mothers who had three children and above were found to practice unsafe delivery as compared to those who had delivered less than 3 children (Wanjira et al., 2011). In Thailand, mothers who

delivered with SBA are more likely to use health care services than those who did not deliver with SBA because they perceived that SBAs can handle any complications occurring during delivery or after delivery (Arif, 2005).

2.5 Access to delivery care

Access to health care is an important concept in health policy and health services research. It is presented as five dimensions to access the degree of fit between the patients including their resources, needs and expectations, and the health care system with its services and providers. They are “(1) Availability: the existing health care services and goods meet clients’ needs; (2) Affordability: the prices of services fit the clients’ income and ability to pay; (3) Accessibility: the location of the services is in line with the location of clients; (4) Accommodation: the organization of health care services meets the clients’ expectations; (5) Acceptability: the characteristics of providers match with those of the clients” (Gulliford et al., 2002). However, this study will focus on two dimensions of access to delivery care due to limitation of data.

2.5.1 Affordability to delivery care

In Nepal, receiving of maternal services was associated with women’s perceived accessibility. In Uganda, women with difficulty in geographic and economic accessibility was the main factors affecting perception of women in Nyakayojo sub-county (Armstrong, 2011; Furuta & Salway, 2006). In rural Bangladesh, Moran et al. (2007) found that the median cost of home-based treatments was less expensive (US \$1) than care received in health centers (US \$11) (Moran et al., 2007). Though all the MCH care services are theoretically free of cost but indirect and informal payments such as travel cost to and from the government health centers, leaving work to seek care, and paying for prescribed medicines were as considerable barriers to accessing care and treatment (Pandey, 2010).

The poorer people are, the less they use public services, contributed to higher maternal mortality later. Poor health outcomes among reproductive women concerns with the non-use of modern maternal health care services, such as antenatal care, delivery care and postnatal care (Kistiana, 2009). In Cambodia, women

commonly perceived the governmental health facility fees were very expensive. This informational gap made them afraid to deliver at governmental health centers (Matsuoka, Aiga, Rasmey, Rathavy, & Okitsu, 2010). Perceptions of the cost of delivery care services, including the cost of reaching health facility and staying there, contributed to decisions to seek delivery care at facility. Delivery costs by midwives and at health care facility were perceived unaffordable (Titaley, Hunter, Dibley, & Heywood, 2010; Van Eijk et al., 2006). Therefore even skilled care services are available, many women perceived to use TBAs services because user fees tend to prevent the poorest mothers from accessing skilled and quality care and have been associated with a decrease in SBAs use (Kruske & Barclay, 2004; Mayhew et al., 2008). Physical access to health centers and financial costs associated with accessing health facilities are the main factors affecting perception of women in Nyakayojo sub-county (Armstrong, 2011).

2.5.2 Accessibility to delivery care

According to WHO (2002), it is recommended that all pregnant women should be able to access a minimum health care package within a radius of five kilometers which is considered to be a walkable distance and 30 minutes travel times from women's house and formal health centers is standard (WHO, 2002). Geographical factors like hard to reach area, poor or non-existent roads and the absence of proper transport in rural areas, distance remains as the major obstacle for using health services. Even in urban areas, the distance and availability of transport affect the utilization of delivery services (Karkee, Binns, & Lee, 2013; Oo et al., 2012). In India, the average distance from communities to primary health care centers is still nearly 10 km, rather than the 5 km limit recommended by WHO (Meda et al., 2008).

In the Mayhew et al (2008)'s study, there is positive relationship between distance and utilization of health facilities. Small variations in distance were associated with significant differences in SBA use (Mayhew et al., 2008). Other studies also indicated that the main reasons for women did not seek SBA services included distance to a health center (45%) and inadequate transportation (21%). Nearly one-third of women (32%) had to travel more than 30 min to reach the nearest health facility. Nearly half (46%) of the women who did not use SBA services at

delivery indicated that the distance to the health center prevented them from using the services (Anwar, 2008; Choulagai et al., 2013; Kumbani, Bjune, Chirwa, Malata, & Odland, 2013). Therefore, in Vietnam, the travel time from women' house to the health centers influences her perceived decision of going to health centers for delivery or not (Ha, 2005).

2.6 Knowledge and perception on delivery care

Possibly the most frequent used studies in health-seeking behavior research are KAP (knowledge, attitude, practice or perception) surveys. Knowledge is usually assessed in order to see how far community knowledge corresponds to current biomedical or health care concepts. People reported knowledge which deviates from scientifically approved concepts is usually termed beliefs (J.Good, 1994).

Perception means "individuals come to know their own attitudes, emotions and internal states by inferring them from observations of their own behavior and circumstances in which they occur" (J.Bem, 1972). Perception is "the process by which organisms interpret and organize sensation to produce a meaningful experience of the world. In other words, a person is confronted with a situation or stimuli. The person interprets the stimuli into something meaningful to him or her based on prior experiences. However, what an individual interprets or perceives may be substantially different from reality" (Lindsay & Norman, 1973).

Questions regarding practice or perception in KAP survey usually enquire about the use or tendency to use different health care options. (Yoder, 1997). Hausmann-Muela et al in 2012 warned that many investigators who use KAP studies do use them to explain health-seeking behavior although almost all their studies are based on the underlying assumption that there is a direct relationship between knowledge and action or perception. Many researchers assume that by changing knowledge, behavior is automatically changed as well. Hausmann-Muela et al clearly stated that this is overtly over-simplistic because there are many other factors which influence health-seeking behavior (Hausmann Muela, Muela Ribera, Toomer, & Peeters Grietens, 2012).

In Bangladesh, majority of women received health care services at home from unqualified providers (Moran et al., 2007). In Kenya, it was revealed that women perceived health facilities as an uncomfortable setting for childbirth and they chose deliveries at the comfort of their home (Byford-Richardson et al., 2013). According to Ghana Maternal Health Survey 2007, mothers (32 %) who did not have a skilled attendant at delivery, perceived SBAs as needless and were delivered without required skilled supervision because previous uneventful home delivery, preferred home deliveries with TBAs (Dako-Gyeke, Aikins, Aryeetey, Mccough, & Adongo, 2013; Van Eijk et al., 2006).

In communities where TBAs are perceived as equally skilled as trained SBAs (doctor, nurse, and midwife), mothers enjoy preference to attend to deliveries over the skilled attendants. Women perceived to deliver at home with absence of SBAs and health facilities were only for mothers who had problems (Wanjira et al., 2011). In Malawi, Kumbani et al found that TBAs was more preferable as are available at home, like a kin to them and affordable with minimum amount of money and patients can demand and receive additional time and support from TBAs (Kumbani et al., 2013).

In Malawi, depend on their knowledge, women who delivered by TBAs are already known that they just deliver but associated with inadequate care because they cannot manage complications. At a health center, women can receive adequate care and if she cannot deliver well, health care provider give quality care to her. Despite knowing this, women still delivered with TBAs at home despite presence of a village midwife in the village because women perceived they would have normal deliveries therefore; there was no need to go to a health center (Kumbani et al., 2013).

Moreover, one of the qualitative studies in rural Cambodia, there was limited knowledge or misconception about health services. Some women (10 %) perceived that the midwifery skills of SBAs at health centers were limited. Some women (10 %) avoided accessing maternal health services due to impolite or inappropriate behavior and attitudes of health professionals at governmental health facilities. The absence of SBAs at governmental health facilities was also a barrier to use health care services (Matsuoka et al., 2010). In Myanmar, women are already known that midwives are more skillful but they could not always be available because

they were overburden of their workload and they cannot rapidly reach all patients (Oo et al., 2012).

In Bangladesh where different perceptions and interpretations of danger signs during pregnancy and delivery were found to be important factors that influenced mothers' health seeking behavior during pregnancy and delivery (Wanjira et al., 2011). Contact with a skilled attendant may increase specific knowledge on childbirth via health education. Knowledge about the risks of childbirth (recognition of danger signs), and benefits of skilled attendance are influenced by women' perception and may increase perceived utilization of SBAs (Adeyemo et al., 2014; Gabrysch & Campbell, 2009). Moreover, increasing maternal knowledge could empower them in decision making process in maternal health care (Phoxay, Okumura, Nakamura, & Wakai, 2001). Knowledge of risks involved in unskilled birth attendance was linked to the source of information which resulted in incorrect choices on safe delivery. Low knowledge on safe delivery was associated with perceive utilization of unskilled birth attendance (Wanjira et al., 2011). And, in Thailand, knowledge about ANC was associated with perception of pregnant women regarding ANC (Iino, Sillabutra, & Chompikul, 2011).

There are very limited studies on factors influencing perception on delivery care by midwives and traditional birth attendants. Most of the studies are mainly investigated as factors related with utilization of skilled birth attendants on delivery care. There was also literature gap on this study.

2.7 Conceptual framework

Based on the literature review and related theory, socio-demographic factors like age, education, working status, socio-economic status and knowledge influenced perceived susceptibility, severity, barrier and effectiveness. In my study, women have precautionary behaviors that are also depending on how much they believe their own susceptibility to danger of child birth by TBAs. If a woman with low knowledge toward delivery care, and/or social effects like financial burden pose serious consequences which becomes perceived severity. And, they may have experiences of limited access to delivery care (geographical barriers, limited

affordability) which lead to perceived barrier. Each woman has their own perception of likelihood of experiencing delivery care by MWs and TBAs and they have enough knowledge about danger signs of pregnancy complications and their previous good experiences, they may perceive that delivery care by midwives are more skillful and safer than TBAs.

It has been demonstrated that there are limited studies on relationship between the socio-economic and demographic factors, maternal characteristics, access to delivery care, knowledge on delivery care and perception of rural married women regarding provision of delivery care by midwives and traditional birth attendants and they are illustrated as follows:

Conceptual framework

Independent variables

Dependent variable

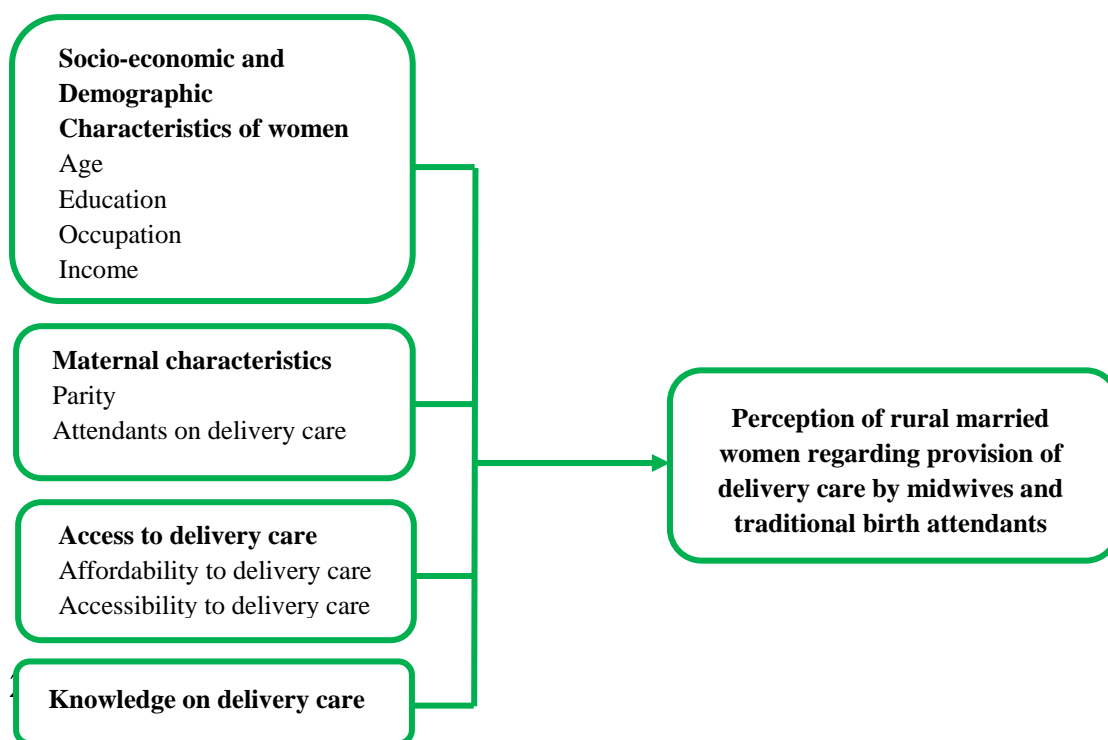


Figure 2.2. Conceptual framework showing the relationship between independent and dependent variables

2.8 Hypothesis

Rural married women with higher knowledge on delivery care have positive perception on delivery care by midwives.

CHAPTER III

RESEARCH METHODOLOGY

3.1 Source of data

The analysis of this study is based on the secondary data which is a community based cross sectional survey in rural married women, Myanmar, October 2011 to January 2012. This data set is from Department of Health Planning, Ministry of Health. The title of the study is perception of married women towards delivery care between midwives and traditional birth attendants.

The above data set contains quantitative and qualitative data. For this thesis, only quantitative data was used. From this quantitative questionnaire, socio-demographic factors (age, education, working status, household income regularity), maternal characteristics (parity, attendants on delivery care), access to delivery care (accessibility and affordability to delivery care), knowledge toward delivery care (15 questions), attitude towards delivery care (15 questions) and perception towards delivery care (11 questions is used out of 16 questions) were used.

3.1.1 Study area

The Leiway Township is located in Mandalay Region situated in the middle part of Myanmar. This township is one of the eight townships of Nay Pyi Taw Council region, the new capital city of Myanmar. There are 6 wards, 59 village tracts and 260 villages in this township. According to the 2012 data, the total population is 269,786 in this township. The rural population constitutes 249,470 (about 90% of total).

In this area, regarding maternal health service utilization, ANC coverage is about 87 % but only 67.4 % of births were attended by skilled-birth attendants. According to the 2012 data, Crude Birth Rate (CBR) was 20.07/ 1,000 live births, MMR was 60 per 100,000 live births and infant mortality rate (IMR) was 19.4 per

1,000 total births. And midwives population ratio in rural area of this township was 1:5700 populations.

3.1.2 Study population and sample size

This study include all married women who had experience in deliver a baby (at least one delivery regardless of outcomes of delivery) within the past 5 years and resided in rural areas. The total analytical sample was 246 respondents.

3.1.3 Sampling design

The project which the thesis is based upon used multistage sampling. Leiway Township in Nay-Pyi-Taw Council region was purposively chosen. There are 59 village tract and 260 villages in the township with the total population of 269,786. The rural population constitutes 249,470 (about 90% of total). Two villages in the township was chosen randomly. In the chosen villages, a list of households where at least one married women who had experience deliveries within past 5 year existed was made. A random selection of households was made until the required sample size of 246 respondents was obtained.

3.1.3 Ethical issue

The proposal of this thesis was approved by the Ethics Committee of Myanmar (University of Community Health, Magwe). Married women had a right to agree or refuse to participate in the study. The informed consent was taken if married women agreed to participate. Anonymous policy on questionnaire was employed to ensure their confidentiality. And this study is also received IPSR-Institutional Review Board (IPSR-IRB) approval from Institute of Population and Social Research.

3.2 Definition of terms

Midwife

A midwife is a health provider (basic health staff) who is trained one and a half years in midwifery skills and possesses the knowledge and a defined set of

cognitive and practical skills to provide safe health care during childbirth to women and their infants in home, health center and in hospital setting.

Traditional birth attendant (TBA)

A TBA refers to a woman in local area with midwifery skills usually inherited from their family (grandmother, mother or aunts)

Delivery care

Delivery care refers to any care during child birth given by midwives and traditional birth attendants whether they are properly trained or not properly trained

3.3 Operational definition of variables

All the variables in the study are described in the table of section 3.4. Definitions of some key terms are provided below.

3.3.1 Independent variables

Age

Age refers to the respondent's age in completed year at the time of survey. Age is grouped into 5 groups by 5 years in the analysis according to obstetric risk's age of women: ≤ 19 years =1, 20-24 years =2, 25-29 years =3, 30-34 years =4, ≥ 35 years =5.

Education

Education refers to the highest level of education attended by the respondent during the time of the survey. No education means who never attended the school at all coded as 1. The primary education refers to completing at least 5 years of schooling and coded as 2. The secondary education refers to completing at least 9 years of schooling coded as 3, while more than secondary schooling refers to completing more than 9 years of schooling and coded as 4.

Working status

Working status refers to current working status of the respondents at the time of the survey. Not working means women are full-time housewives. Working status is grouped into 2 in the analysis: working =1, not working = 0.

Household income regularity

Household income regularity refers to amount of regular household income or not. It is a proxy for social economic status of women. That family who earns regular income is grouped as 1, those who does not earn regular income are grouped as 0.

Parity

Parity refers to number of children the women have. Parity is grouped into 3 in the analysis according to obstetric risk complication of women: 1 child =1, 2-4 children = 2, ≥ 5 children = 3.

Attendant on delivery care

Attendant on delivery care indicates whether women were delivered by trained health personnel or not. Trained health personnel including midwives are skilled birth attendant helping especially in rural area and coded as 1. Women delivered by local women with midwifery skills but untrained (TBA) were coded as 0.

Affordability to delivery care

Affordability to delivery care refers to amount of cost for delivery care services (drugs, consultation fees, hospital costs, travel costs, others costs) and it can reflect access to delivery care or women' ability to pay for delivery care services. Affordability is grouped into 3: $\leq 20,000$ kyats =1, 20,001-50,000 kyats =2, $>50,000$ kyats =3. Note that one US\$ = 900 kyats.

Accessibility to delivery care

Accessibility to delivery care is measured using number of hours walking from the respondents' house to formal health center. Accessibility is grouped into 3:

<1 hour = 1, 1-2 hours = 2 and > 2 hours = 3. Note that 30 minutes travel times from women' house to formal health centers is standard according to WHO.

Knowledge of married women on delivery care

Knowledge on delivery care assesses whether married women have knowledge about provision of delivery care by midwives and traditional birth attendants. Knowledge is measured using 15 questions for knowledge on delivery care. The responses are "Yes" and "No". Correct answers were scored 1 and incorrect answers were score 0. The higher score indicates the more knowledge. The score ranges from 0-15.

3.3.2. Dependent variable

Perception of married women on delivery care

Perception on delivery care assesses how married women interpret their beliefs about provision of delivery care by midwives and by traditional birth attendants based on their prior experience. There are 26 questions for perception (15 question from attitude questionnaires and 11 questions from perception questionnaires) because attitude toward delivery care and perception toward delivery care questionnaire are same concept. In attitude questionnaires, there are 5 options: strongly agree, agree, neutral, disagree and strongly disagree are given and scores as 5,4,3,2,1 accordingly. These options are re-scored into 3,2,1 (strongly agree and agree as 3, neutral as 2, disagree and strongly disagree as 1). The scores range from 15-45. And in perception questionnaires, there are 3 responses: Yes, Don't know, No and score as 3,2,1 accordingly. The scores range from 11-33. These scores are combined into perception scores ($15 \times 3 = 45$ and $11 \times 3 = 33$). So, total perception score ranges from 26 -78.

3.4 Variables Descriptions and Level of Measurement

Table 3.1 Variables Descriptions and Level of Measurement

Variables	Variable description	Level of Measurement
Independent		
Age	Respondents' age in complete years ≤19 years =1, 20-24 years = 2, 25-29 years =3, 30-34 years =4, ≥35 years =5	Ordinal
Education	The highest level of education attended by the respondent No education=1, Primary=2, Secondary=3, >Secondary =4	Ordinal
Working status	Current working status of the respondents Working=1 , Not working = 0	Dichotomous
Household income regularity	Whether receive regular monthly income of household Yes=1, No=0	Dichotomous
Parity	Number of children of the respondents 1 child= 1 , 2-4 children = 2, ≥ 5children= 3	Ordinal
Attendant on delivery care	The person/persons who attend the birth Skill Birth Attendant=1, Traditional Birth Attendant =0	Dichotomous
Affordability to delivery care	Amount of cost during delivery ≤20000 kyats =1 , 20001-50000 kyats = 2, >50000 kyats = 3	Ordinal
Accessibility to delivery care	Number of walking hours from home to formal health center < 1 hours =1, 1-2 hours =2, > 2 hours =3	Ordinal
Knowledge	Knowledge of married women about provision of delivery care by midwives and traditional birth attendants	Interval

Table 3.1 Variables Descriptions and Level of Measurement (cont.)

Variables	Variable description	Level of measurement
Dependent		
Perception	How married women interpret their belief about provision of delivery care by midwives and by traditional birth attendants based on their prior experience	Interval

3.5 Data Analysis

Descriptive statistics was used to describe demographic characteristics of the respondents and explore frequency and percentage distribution of these variables. Data were coded by using Stata software programme. Student's t test, ANOVA, and correlation were used for bivariate analysis. To determine the factors influencing perception of married women regarding provision of delivery care by midwives and traditional birth attendants, multiple regression analysis was employed as the dependent variable was measured as interval scale. Note that the dependent variable is perception on delivery care and the independent variables are the socio-demographic characteristics, maternal characteristics, access to delivery care, knowledge among rural married women regarding provision of delivery care by MWs and TBAs.

3.6 Limitation of the Study

The study used secondary data which was designed to serve the thesis's objectives. Thus, this analysis is limited by the scope of questionnaires, number of variables and the sample size. This study was conducted only in two villages of Leiway Township, Nay-Pyi-Taw Council (Metropolitan Administrative) Area. Although appropriate sample size calculation, multi-stage sampling was done, study area was purposively selected and thus the findings may not represent the whole

population of married women. This study is also a cross-sectional study so it cannot reflect sufficient information to understand the causes and the effects. Some important information was also missing, such as previous birth outcomes delivered by midwives or traditional birth attendants (baby are healthy / not) which was not include in this questionnaires. Some of the findings in this study can be applied in some parts of rural area of Myanmar because Myanmar's rural area means the areas where poor people with low education and low living standard reside.

CHAPTER IV

RESEARCH FINDINGS AND DISCUSSION

This chapter describes perception and some selected socio-economic and demographic characteristics of 246 rural married women, who were respondents in the cross-sectional analytic study, in Myanmar, 2011-2012. The chapter also presents descriptive statistics of maternal characteristics, access to delivery care and knowledge of rural married women regarding provision of delivery care by midwives and by traditional birth attendants. Multiple regression analysis was used to determine the relationship between each independent variable (socio-economic and demographic characteristics, maternal characteristics, access to delivery care and knowledge of rural married women regarding provision of delivery care by midwives and by traditional birth attendants) and dependent variable (perception of rural married women regarding provision of delivery care by midwives and by traditional birth attendants).

4.1 Findings

4.1.1 Socio-economic and Demographic Characteristics

Mean age of women was 30.2 ± 7.37 SD years. Figure 4-1 showed that the highest percentage of women was 25-29 years age group (nearly 30 %) followed by ≥ 35 years of age was 26 %. Almost one fourth (23 %) aged ≤ 24 years old and (22 %) aged 30-34 years. Only 2.4 % of women are age ≤ 19 years old.

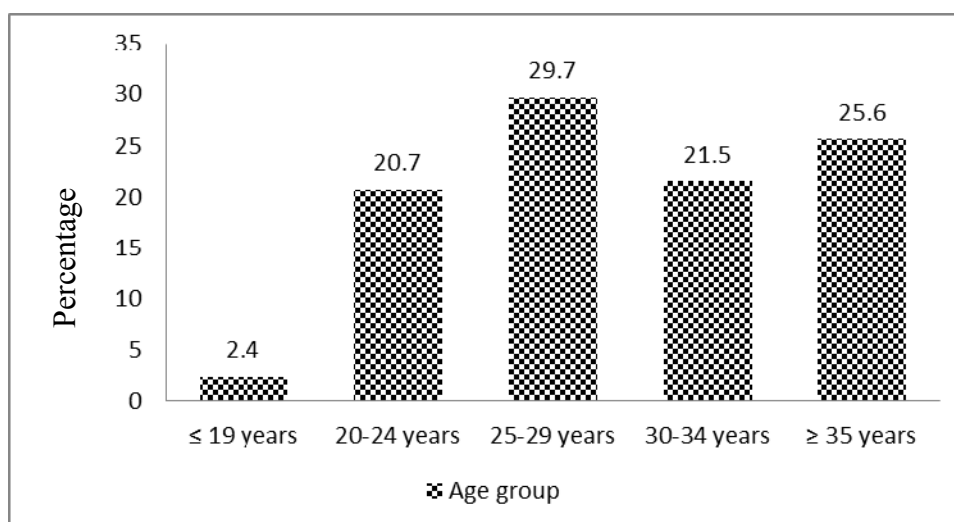


Figure 4.1 Percentage distribution of age group of the respondents

Education refers to the highest level of education attended by the women. As shown in Figure 4-2, one third of the women (33 %) completed higher than secondary school level or more than 9 year of schooling. Then, 29 % of women completed primary school level or 5 years of schooling. Another 29 % completed secondary level or 9 years of schooling. Women with no education accounted for 9% of the total 246 women.

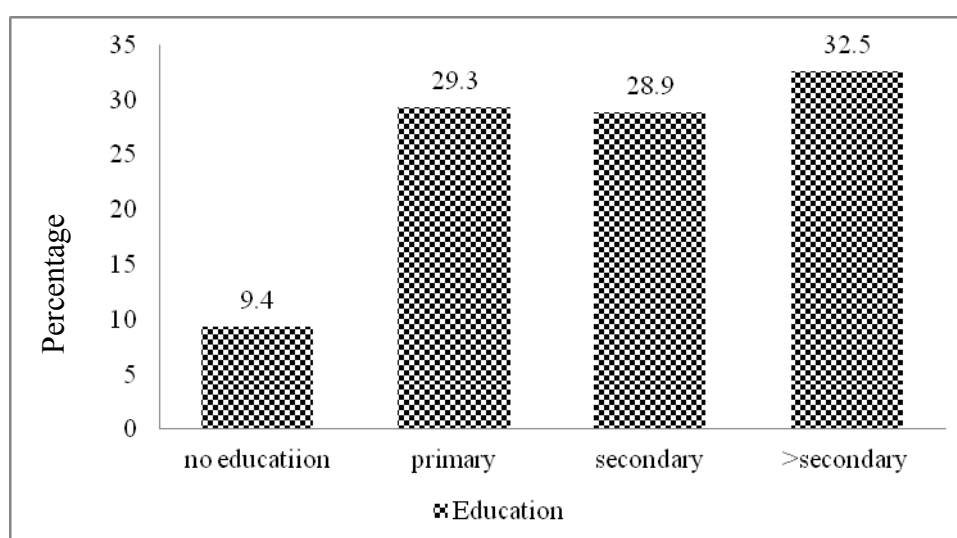


Figure 4.2 Percentage distribution of education of the respondents

Most of women 66% reported not working or full-time housewives. About one-third (34 %) of women currently work at the time of the survey (Figure 4-3).

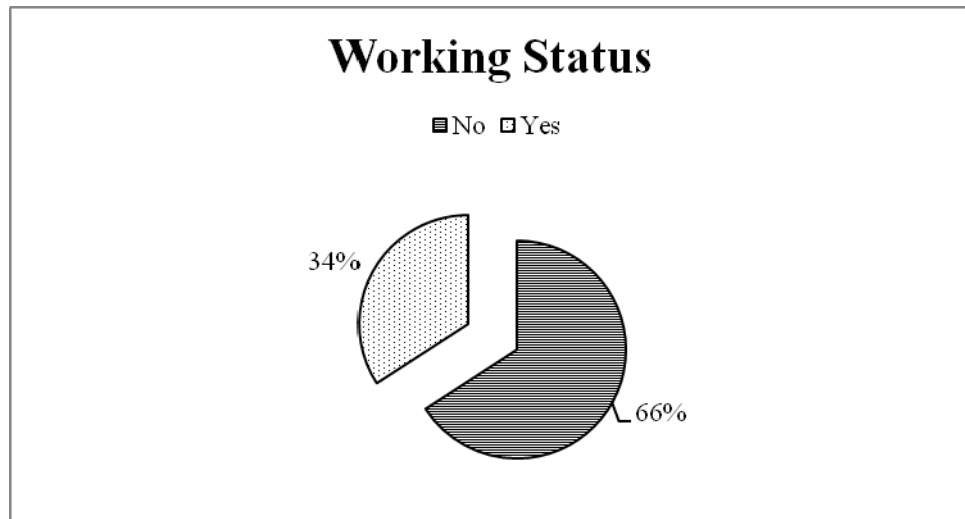


Figure 4.3 Percentage distribution of working status of respondents

Regarding household receiving regular income, more than half of women (56 %) reported household having regular income, while 43 % did not receive regular income (Figure 4-4).

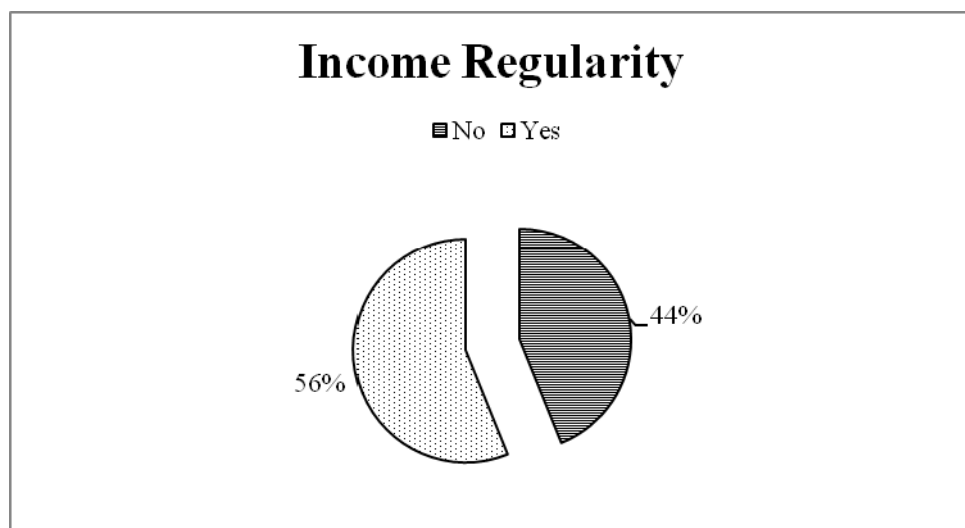


Figure 4.4 Percentage distribution of household income regularity of respondents

4.1.2 Maternal Characteristics

Parity refers to number of children of women at the time of survey. As shown in Figure 4-5, most of women (54 %) had 2-4 children; while (36 %) had only one child. Only 9.8 % of women had ≥ 5 children.

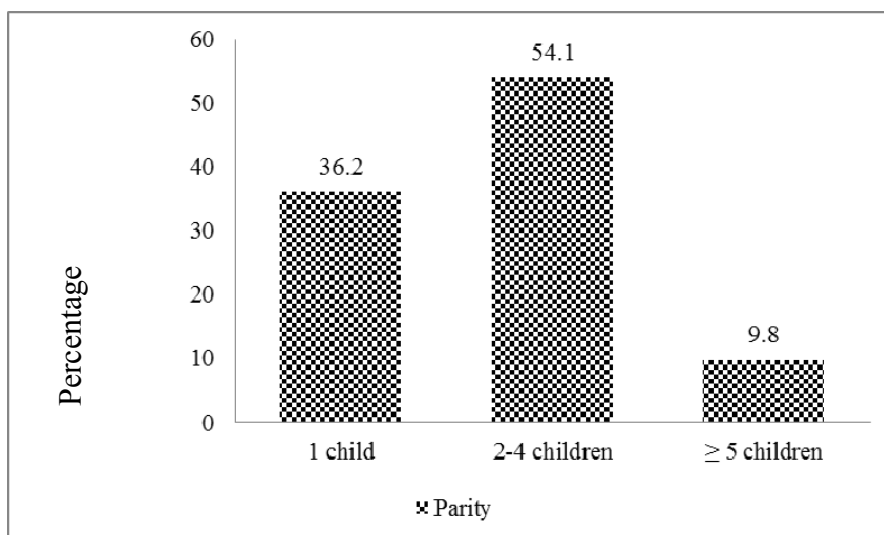


Figure 4.5 Percentage distribution of number of children of respondents

Attendants at delivery care indicate whether women's delivery was attended by trained health personnel or not. Majority of the women (82 %) gave birth by skilled birth attendants, while only 18% women delivered by traditional birth attendants (Figure 4-6).

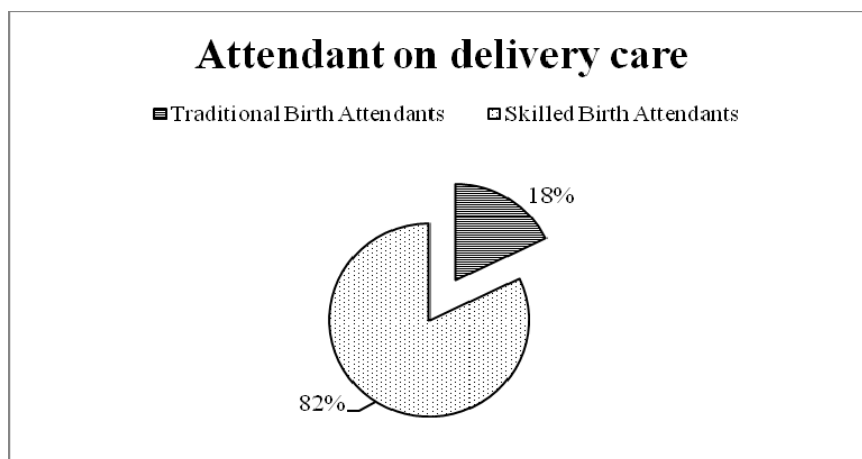


Figure 4.6 Percentage distribution of attendants on delivery care of the respondents

4.1.3 Access to delivery care

Affordability means amount of costs during delivery (drugs, consultation fees, hospital costs, travel costs, others costs) and it can reflect access to delivery care or women' ability to pay for delivery care services. About half of women (53 %) paid less than 20,000 kyats on delivery services. Only 22 % of women paid between 20,001 to 50,000 kyats. About one-fourth (24 %) paid > 50,000 kyats (1 US\$ = 900 kyats) (Figure 4-7).

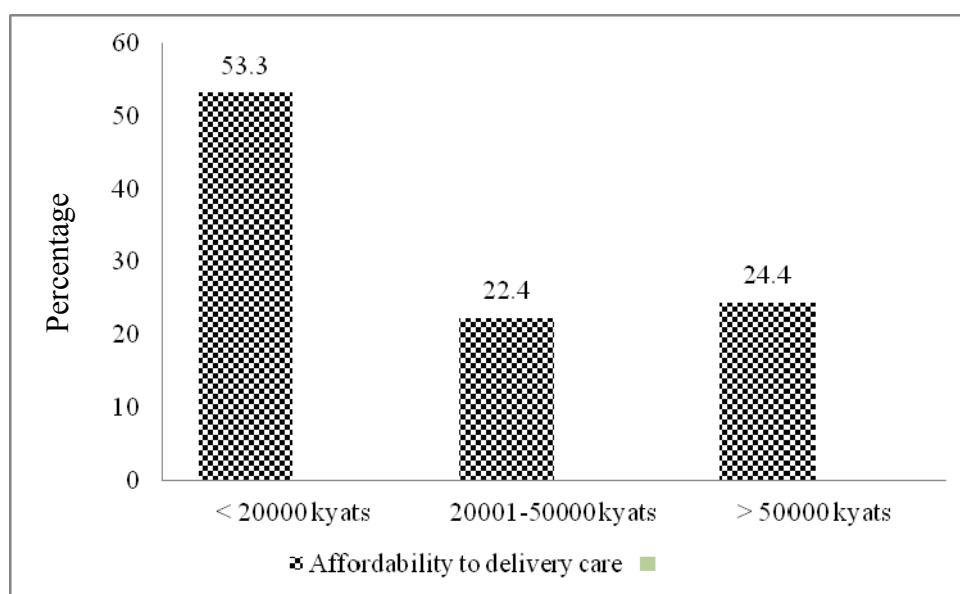


Figure 4.7 Percentage distribution of affordability to delivery care of the respondents

The time taken by women to the nearest health centers indicates the distance between their house and health facility. Descriptive results showed that the majority of women (82 %) reported that number of walking hour from home to nearest formal health center was 1-2 hours. Only 17 % and 2 % of women said the number of walking hour was < 1 hour and > 2 hours respectively (30 min travel time from women' house to formal health centers is standard according to WHO) (Figure 4-8).

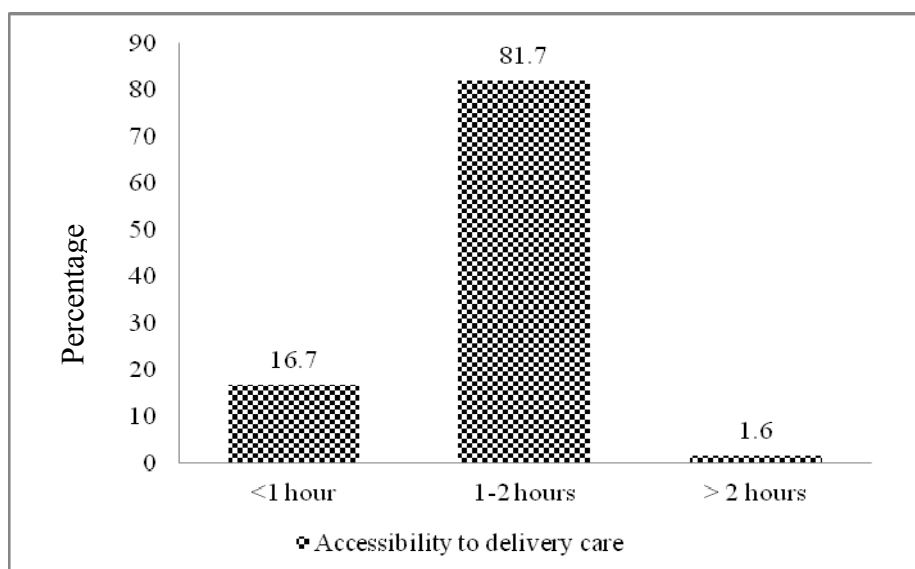


Figure 4.8 Percentage distribution of accessibility to delivery care of the respondents

4.1.4 Knowledge score of women on delivery care by MWs and TBAs

Knowledge on delivery care assesses how much the married women know about provision of delivery care by midwives and by traditional birth attendants. Knowledge was measured using 15 questions for knowledge on delivery care. The responses were “Yes” and “No”. Correct answers were scored 1 and incorrect answers were score 0. The higher score indicated the more knowledge. The score ranged from 0-15. Results were shown in Table 4-1. More than half of women (58%) had got knowledge scores (11-15) and 42 % of women had got knowledge scores (6-10). Mean knowledge score of women on delivery care was 11.1 ± 1.9 SD and minimum was 6 and maximum was 15. It meant that most of them had moderate knowledge about delivery care by MWs and TBAs.

Table 4.1 Percentage distribution of knowledge score of women on delivery care

Knowledge of women on delivery care	Number of women	Percentage
6-10	104	42.3
11-15	142	57.7
Total	246	100
Mean	11.1	
Median	11	
SD	1.9	
Minimum	6	
Maximum	15	
n=246		

4.1.5 Perception score of women on delivery care by MWs and TBAs

Perception on delivery care assesses how married women interpret their beliefs about provision of delivery care by midwives and traditional birth attendants based on their prior experience. There were 26 questions for perception (15 question from attitude questionnaires and 11 questions from perception questionnaires) because attitude toward delivery care and perception toward delivery care questionnaire are same concept. In attitude questionnaires, there were 5 options: strongly agree, agree, neutral, disagree and strongly disagree were given and scored as 5,4,3,2,1 accordingly. These options were re-scored into 3,2,1 (strongly agree and agree as 3, neutral as 2, disagree and strongly disagree as 1). The scores ranged from 15-45. And in perception questionnaires, there were 3 responses: Yes, Don't know, No and these were scored as 3,2,1 accordingly. The scores range from 11-33. These scores were combined into perception scores ($15 \times 3 = 45$ and $11 \times 3 = 33$). So, total perception score ranged from 26 - 78. In Table 4-3, almost half of women (50%) had perception scores (46-58) and another 50 % of women had perception scores (59-71). The mean score of perception of women on delivery care was 58.8 ± 5.2 SD and the minimum and the maximum number was 46 and 71 respectively. It means that their perception about delivery care by MWs and TBAs are moderate.

Table 4.2 Percentage distribution of perception score of women on delivery care

Perception scores of women on delivery care	Number of women	Percentage
46-58	130	50.4
59-71	116	49.6
Total	246	100
Mean	58.8	
Median	58	
SD	5.2	
Minimum	46	
Maximum	71	
n=246		

4.1.6 The association between perception scores of women on delivery care and socio-economic and demographic characteristics on delivery care

According to Table 4-3, there was a positive association between age group and perception score of women on delivery care ($p < 0.001$) by using ANOVA test. Regarding household income regularity, there was a positive association between household income regularity and perception score of women on delivery care ($p < 0.001$) by using student's *t* test. Education and working status were not significantly associated with perception (Table 4-3).

Table 4.3 Mean score of perception on delivery care by socio-demographic and economic factors on delivery care

	Mean perception score on delivery care by midwives and traditional birth attendants
Age group***	
≤ 19 years	61.5
20-24 years	61.8
25-29 years	58.4
30-34 years	57.8
≥ 35 years	57.5
Education	
No education	57.4
Primary	58.9
Secondary	60.0
> Secondary	58.1
Working status	
Not working	59.2
Working	58.2
Household income regularity***	
No	60.2
Yes	57.8
n= 246, *** (p< 0.001)	

According to Table (4-4), parity and attendants on delivery care were not significantly associated with perception by using student's t test (Table 4-4).

Table 4.4 Mean score of perception on delivery care by maternal characteristics on delivery care

	Mean perception score on delivery care by midwives and traditional birth attendants
Parity	
1 child	59.4
2-4 children	58.3
≥ 5 children	59.8
Attendants on delivery care	
Traditional Birth Attendants	59.8
Skilled Birth Attendants	58.6
n= 246	

Regarding Table 4-5, perception was also correlated with knowledge, ($p < 0.001$). But accessibility to delivery care and affordability to delivery care were not significantly associated with perception (Table 4-5).

Table 4.5 Mean score of perception on delivery care by access to delivery care and knowledge on delivery

	Mean perception score on delivery care by midwives and traditional birth attendants
Affordability to delivery care	
≤ 20000 kyats	59.4
20001-50000 kyats	59.0
> 50000 kyats	57.6
Accessibility to delivery care	
< 1 hours	58.4
1-2 hours	58.8
> 2 hours	63.0
Knowledge on delivery care***	58.8
n= 246, *** (p< 0.001)	

4.1.7 Multivariate Analysis Results

In order to access the factors influencing perception of rural married women regarding provision of delivery care by midwives and by traditional birth attendants, multivariate regression was done by using ordinary least square method. The dependent variable was perception and the independent variables were the socio-economic and demographic characteristics, maternal characteristics, access to delivery care, knowledge among rural married women regarding provision of delivery care by MWs and TBAs. The results of the multivariate regression were as follows:

Considering age of the respondents, controlling other independent variables, there was a positive relationship between age group and perception on delivery care. When the young age group ≤ 19 years was a reference category, women age 25-29 year old, 30-34 year old and ≥ 35 years old had more negative perception score, ($p < 0.01$). Regarding education level, controlling other variables, there was positive relationship between education level and perception on delivery care. When no education was a reference group, women with secondary school level and more than secondary school level had more positive perception score, ($p < 0.01$) and ($p < 0.05$)

respectively. With regards to household regular income, controlling other independent variables, women with regular income household had more positive perception on delivery by midwives than no regular income household ($\beta = 2.3$ and $p < 0.001$). Knowledge scores had positive effect on perception scores by controlling other independent variables. Net of other independent variables, an additional knowledge score of the respondents increased perception scores by 1.0, $p < 0.001$. Working status, parity, attendants on delivery care, accessibility and affordability to delivery care were not significant factors for perception on delivery care (Table 4-6).

Table 4.6 Regression coefficient on perception on delivery care by midwives and traditional birth attendants

Perception on delivery care	β	Standard Error	t	95 % CI	
				Upper	Lower
Age group					
≤ 19 years (reference)					
20-24 years	-1.7	2.0	-0.8	-5.7	3.2
25-29 years	-5.6**	2.0	-2.8	-9.6	-1.6
30-34 years	-5.8**	2.0	-2.8	-9.8	-1.8
≥ 35 years	-6.1**	2.1	-2.9	-10.2	-2.0
Education					
No education (reference)					
Primary	2.2	1.2	1.9	-0.1	4.5
Secondary	2.9**	1.1	2.6	0.7	5.1
> Secondary	2.4*	1.1	2.1	0.2	4.7
Working status					
No (reference)					
Yes	-0.3	0.7	-0.5	-1.6	1.0
Household income regularity					
No (reference)					
Yes	2.3***	0.6	3.7	1.1	3.5
Parity					
1 child (reference)					
2-4 children	-1.0	0.6	-1.7	-2.4	0.2
≥ 5 children	0.4	1.2	0.3	-2.0	2.9
Attendants on delivery care					
TBA (reference)					
SBA	0.3	0.8	0.4	-1.3	1.9

Table 4.6 Regression coefficient on perception on delivery care by midwives and traditional birth attendants (cont.)

Perception on delivery care	β	Standard Error	t	95 % CI	
				Upper	Lower
Affordability to delivery care					
\leq 20000 kyats (reference)					
20001- 50000 kyats	0.1	0.8	0.1	-1.5	1.6
> 50000 kyats	-1.1	0.8	-1.5	-2.6	0.4
Accessibility to delivery care					
< 1 hours (reference)					
1-2 hours	1.1	0.8	1.4	-0.5	2.7
> 2 hour	2.3	2.5	0.9	-2.7	7.2
Knowledge on delivery care	1.0***	0.2	5.8	0.6	1.3
Constant	52.0***	2.9	17.9	46.2	57.7

$n = 246$, $R^2 = 0.2$, $df = 15, 230$, *** ($p < 0.001$), ** ($p < 0.01$), * ($p < 0.05$)

4.2 Discussions

In order to examine perception of rural married women regarding provision of delivery care by midwives and traditional birth attendants in rural areas of Myanmar, a quantitative study was done in rural area of Leiway Township. In this study, age, education, household income regularity and knowledge of women on delivery care were the strong predictors of perception of delivery care by midwives and traditional birth attendants.

4.2.1 Socio-demographic and economic characteristics

The word *rural* in Myanmar means the areas where poor people with low education and low living standard reside. This common understanding seems to be true even in rural area so close to Myanmar Administrative Capital: Nay-Pyi-Taw. In this study, most of women (30 %) are between 25-29 years of age and there was an association between age of the respondents and perception on delivery care. This finding is similar to a previous study from Sweden, for example, the patients' age was

important for their perception with the provision of nursing care (Peter J. et.al, 2002). Current findings in this thesis, compared with age ≤ 19 years, older age group such as age group 25-29 years, 30-34 years and ≥ 35 years have more negative perception on delivery care by midwives and lead to positive perception toward TBA assisted delivery but 20-24 years age group has no association with perception on delivery care. It means that younger age groups have more positive perception towards delivery care by midwives and more likely to use delivery care by midwives. Generally, younger women aged 15–19 years and those over 35 years are at greater risk during childbirth. Most of the studies also indicated that younger age women are more likely to use SBAs and their perception indicate to more positive perception on delivery care by midwives because they fear to delivery at home starting child bearing.

Regarding education, one third of the respondents (33 %) were above secondary school level. There was a significant association between education and perception of women on delivery care in this study. Regarding results compared with no education, secondary school and also higher than secondary school have more positive perception towards midwives oriented delivery care but primary school level has no association with perception on delivery care by MWs. It means that as education level increases, more positive of their perception on delivery care by midwives. Similar study in Nigeria indicated that education was a significant factor on perception of pregnant women toward midwives led delivery care (Adeyemo, Oyadiran, Ijedimma, Akinlabi, & Adewale, 2014) . In contrast, according to FRHS (2007), as educational level of mother increases, the percentages of delivery were assisted by traditional birth attendants fall from 54 % to 3 % (Ministry_of_Immigration_and_Population_Myanmar, 2009). It was assumed that education status of the respondents has impact on their empowerment, income, mobilization and access to information and thus affects perception on delivery care. More educated women may use delivery care services by midwives than less educated women as they have higher autonomy to make decisions on the quality of health care they received (Chang, 2008; Yar'zarver & Said, 2013). And also in Myanmar, more educated women have more decision making power and their empowerment lead to more positive perception toward delivery care by midwives.

In this study, majority of women (66 %) was full-time housewives and it means that they have no income even a penny like other rural areas in Myanmar. There is no association between working status and perception of women on delivery care by MWs and TBAs. Some women who are currently worked in Myanmar can lead the whole family with their own autonomy and this situation lead to positive perception towards delivery care by midwives. And vise visa, fulltime house-wives will depend everything on their husband especially money matter. But because of Myanmar culture, some women do not have their own autonomy regardless of their working status because they should obey their husband especially in rural area. They perceived that husbands are leader and also bread winner.

According to current finding, only (56%) of household had regular income. The study found significant association between household income regularity and perception of women on delivery care. In Myanmar, 26 % of populations are below extreme poverty line (< 1.25 US \$ per day) who mostly live in rural area. Therefore only rural household with regular income can use delivery care services by midwives. But household with no regular income cannot use midwives oriented delivery care services because they perceived that governmental health facility fees were very expensive as one of the studies in Cambodia. This informational gap made them afraid to deliver at governmental health facilities. Therefore their perceptions of delivery MWs and TBAs depend on their socio economic status in this study. Similar study in Europe, household with higher socio-economic status associated with positive perception on health care and the poor have more negative perception on health care (Nikoloski & Mossialos, 2013). It may be related to perceived utilization of SBAs and if respondents have much money, they can use delivery assisted by SBAs (Mayhew et al., 2008). And poor women in Myanmar perceived that TBAs oriented delivery care are cheaper, give more compassionate care than midwives. Therefore their perception lead to TBAs services positively.

4.2.2 Maternal characteristics

In the current study, most of women (54%) had 2-4 children. This finding is similar with TFR of Myanmar (TFR=2) according to FRHS 2007. Then, no significant association was observed between parity and perception on delivery care.

According to a study in Kenya, Wanjira et.al (2011) indicated that increased in parity were found to practice unsafe delivery than women less than three children (Wanjira, Mwangi, Mathenge, Mbugua, & Ng'ang'a, 2011). But, in this study, it may be related with their first experience of delivery and if they perceived that child birth by MWs was safe and skillful, they may be delivered by midwives regardless of how many children they have.

Most of women (82 %) used SBAs during delivery. But, it did not reach the UN target of SBA coverage. This study found no statistically significant differences between attendants on delivery care and perception on delivery care. Previous study indicates the relationship between birth attendants at previous delivery and perception on delivery care. Women once delivered by SBAs also want to deliver with SBAs next times (Launiala, 2009). In Thailand, mothers who delivered with SBA are more likely to use health care services than those who did not deliver with SBA because they perceived that SBAs are highly capable in handling any complications occurring during delivery or after delivery (Arif, 2005). But this situation may depend on communication between patients and SBAs/TBAs in Myanmar. If women perceived that midwives' quality of services are limited and misperception about inappropriate behavior of midwives, their perception will change to use TBAs services.

4.2.3 Access to delivery care

More than half of the women (53 %) paid < 20000 kyats for delivery services (1 US \$ = 900 kyats). It means that amount of costs for delivery services was not so much but very poor people cannot afford it. Affordability to delivery care like amount of cost during delivery care is not associated with perception on delivery care in this study. Almost all countries, maternal health care services including delivery care in public hospital and health centers is free of charge but indirect cost and payment are still barriers among poor people. So, these high costs lead failure to access quality delivery care services and it is certainly catastrophic health care payment for poor families with no savings and assets. But in Myanmar, it is one of the important things to consider misperception on quality of delivery care services by SBAs. Therefore even skilled care services are available, many women perceived to

use TBAs services because user fees tend to prevent the poorest mothers from accessing skilled and quality care and have been associated with a decrease in SBAs use (Kruske & Barclay, 2004; Mayhew et al., 2008).

Most of the women (82%) lived within one to two walking hour from their house to health centers. It means that they had to walk nearly one and half hours to health center in order to receive maternal health care services. Although this factor does not influence on perception of women on delivery care, geographical factors like hard to reach area, poor or non-existent roads and the absence of proper transport in rural areas, distance remains as the major obstacle for using health services. And, the travel time from women's house to the health centers significantly influences her perceived decision of going to health centers for delivery or not in Vietnam (Ha, 2005). But, in Myanmar, most of rural people used bicycles, motorcycles and also trailer jeeps (a small 1/4-ton cargo trailer and mostly used in rural area of Myanmar) to go to health center which can save time. Even if women herself did not have any vehicles, her neighbors could help and transport her to the hospital with their own.

4.2.4 Knowledge on delivery care by MWs and TBAs

Knowledge on delivery care assesses whether married women have knowledge about provision of delivery care by midwives and traditional birth attendants. Regarding findings mean knowledge score of women on delivery care was 18.95 ± 1.91 SD and minimum was 15 and maximum was 24. It means that most of women had moderate level of knowledge about delivery care by MWs and TBAs. In this study, knowledge of women on delivery care is positively associated with perception of women on the delivery care. It could be said that the higher the knowledge, the stronger the good perception for midwife oriented delivery care. And, also vice versa, if they have prevailing knowledge based on their previous bad experience about delivery care services or low knowledge on delivery care by midwives, they have negative perception on delivery care by midwives and they have positive perception toward TBAs services. Consistent with other studies, this study showed that low knowledge on safe delivery was associated with perceived utilization of unskilled birth attendants (TBAs). Knowledge of risk involved in unskilled attendants was linked to incorrect choices in unsafe delivery (Wanjira et al., 2011).

In this study, knowledge of women is the strongest influencing factor for their perception. Increasing maternal knowledge could empower them in decision making process in maternal health care (Phoxay, Okumura, Nakamura, & Wakai, 2001). If women have enough knowledge about delivery care services by SBAs, they will use delivery care services given by MWs and it also can help relieve them from misperception of midwives oriented delivery care services. Contact with a skilled attendant may increase specific knowledge on childbirth via health education. Knowledge about the risks of childbirth (recognition of danger signs), and benefits of skilled attendance are influenced by women' perception and increased perceived utilization of SBAs (Gabrysch & Campbell, 2009). In Myanmar, midwives are also well-trained and they can give health education to women well. But because of shortage and over workload of midwives, they cannot give sufficient information about risk and benefit of child birth by SBAs and their information did not reach to target groups effectively.

CHAPTER V

CONCLUSION AND RECOMMENDATION

5.1 Conclusion

This study has identified the socio-economic and demographic characteristics of women, maternal characteristics, accessibility to delivery care, knowledge and perception on delivery care by midwives and traditional birth attendants. The aim here has been to provide information for policy maker and program manager for developing effective intervention programs to increase community utilization of delivery care by midwives by improving perception of women.

The study reveals that some of the deliveries are still delivered by TBAs and this situation does not reach United Nations target of coverage of SBAs utilization. The barrier against midwifery service during delivery is financial one because for every health care service in Myanmar, consumers paid by themselves in terms of out-of-pocket payment. So they preferred the services those are affordable for them. Adequate knowledge on delivery care will increase positive perception toward delivery care by MWs in rural settings. However, on the basis of research finding and discussion presented in chapter IV, it was concluded that socio-economic status and knowledge of women on delivery care are the most important factors influencing perception of married women regarding provision of delivery care by midwives and traditional birth attendants.

5.2 Recommendations

5.2.1 Recommendations for Policy Maker

On the basis of the findings, some suggestions could be useful to help increase community utilization of midwives oriented delivery care in Myanmar.

1. Health education about advantages of midwife assisted delivery care in target groups should be encouraged.
2. Enhance behavioral change communication and promote the knowledge and perception of rural married women to encourage midwife oriented delivery care.
3. Rural married women should be well informed about currently available maternal health care services.
4. Strengthening of human resources especially midwife posting should be enhanced in rural and sub-rural health centers.
5. Trainings of midwife for kind and compassionate care like traditional birth attendants and the services married women expect most.
6. Health education to traditional birth attendants for aseptic delivery care and recognition of danger signs in delivery for early and effective referral in order to prevent grave outcomes in delivery should be encouraged.

5.2.2 Recommendations for Future Research

In this study, perception on delivery care has been investigated in terms of only delivery care services. So, it should be investigated antenatal care and post natal care services. Only individual characteristics of rural married women that were suitable for the study were selected from the study. For further study, it is necessary to examine relationship between not only individual characteristics of women but also household factors as well as community factors on perception on delivery services. Qualitative research should be done to fully understand reasons behind negative perception on delivery care by midwives that in order to give the accurate intervention program.

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APPENDIX

**Selected Questionnaire from perception of married women towards delivery care
between midwives and traditional birth attendances in rural Le Way area,
Nay Pyi Taw**

SECTION A

I. Socio-demographic characteristics

1. Age of the respondent (complete years)

2. Education of the respondent

What was your highest education?

- ☐ 1. Illiterate (never went to school)
- ☐ 2. Just read and write
- ☐ 3. Primary (Grade I to V)
- ☐ 4. Middle school (Grade VI to IX)
- ☐ 5. High school (Grade X to XI)
- ☐ 6. University/College
- ☐ 7. Graduate

3. Occupation of the respondent

What is your occupation, that is, what kind of work do (did) you mainly do?

- ☐ 1. Housework
- ☐ 2. Daily wagger
- ☐ 3. Farmer
- ☐ 4. Self-employed
- ☐ 5. Government employee
- ☐ 6. NGO employee
- ☐ 7. Others (specify) (-----)

5. Is it regular monthly income of your family?

- ☐ 1. Yes
- ☐ 2. No

SECTION B**II. Maternal and Child Health: Awareness, Availability, Accessibility and Affordability**

1. How many children do you have?

2. How long does it take to reach the nearest health care center from your house?
(Estimated time in hours by walking) _____

3. Who delivered your last child?

4. Cost of your last delivery

Drugs

Consultation fee for deliverer

Hospital cost (If any)

Travel cost/ food cost/ living cost

Other cost

SECTION C**III. Knowledge, Attitude and Perception towards delivery care between mid-wife and traditional birth attendant****A. Knowledge of married women towards delivery care**

Please answer each statement by marking x in appropriate box

No.	Statement	Yes	No
K1	Pregnancy can endanger health and life		
K2	One should seek health care as soon as she knows she is pregnant		

No.	Statement	Yes	No
K3	There are health services specially focus on pregnant women in my village		
K4	That services are mainly given by basic health staffs mainly mid-wives		
K5	Doctors are trained health personals for pregnancy and delivery		
K6	Health Assistants (HA) are properly trained health personals for pregnancy and delivery		
K7	Lady health visitors (LHV) are properly trained health personals for pregnancy and delivery		
K8	Mid-wives (MW) are properly trained health personals for pregnancy and delivery		
K9	Auxiliary Mid-wives (AMW) are properly trained health personals for pregnancy and delivery		
K10	Traditional Birth Attendants (TBA) are trained health personals for pregnancy and delivery		
K11	If doctors are not available, delivery by MW is the best option		
K12	Delivery by TBA is the best option regardless of the availability of other health personals because of her experience		
K13	Knowledge and skill of deliverer can determine the outcomes of pregnancy		
K14	Delivery by MW is more likely to attain good outcomes		
K15	Delivery by TBA is more likely to attain good outcomes		

B. Attitude of Married Women towards delivery care

SA=Strongly agree, A=Agree, N=Neutral, D=Disagree, SD=Strongly Disagree

Please answer each statement by marking x in appropriate box

No.	Statement	SA	A	N	D	SD
A1	Ante-Natal Care (ANC) is essential for every pregnant women					
A2	All pregnant women should receive at least 4 times of ANC in order to detect any complications in pregnancy					
A3	Quality of ANC service depends on type of service provider					
A4	ANC service should be given by qualified health personals (doctors, lady health visitors, mid-wives) only					
A5	ANC service can be given by auxiliary health forces also (Auxiliary mid-wives, traditional birth attendants)					
A6	Mid-wives (MW) can detect any abnormalities in pregnancy more than any traditional birth attendants (TBA)					
A7	Well experienced TBA services are better than newly trained MW service					
A8	If serious complications detected in pregnancy, delivery should always be performed in hospitals if possible					
A9	Even without any complications, deliveries in RHC or SC (labor rooms) by are always better than home deliveries					
A10	Delivery by LHV/MW is always better than delivery by TBA					

No.	Statement	SA	A	N	D	SD
A11	Delivery by well experienced TBA may be better than delivery by newly trained MW					
A12	Delivery by MW is more aseptic than delivery by TBA					
A13	MW can detect any complications in delivery more quickly and precisely than TBA					
A14	If delivery is difficult, MW can refer the patient timely but TBA can not					
A15	Health of mother can endanger by TBA delivery rather than MW					

C. Perception of Married Women towards delivery care

Please answer each statement by marking x in appropriate box

No.	Statement	Yes	No	Don't know
P1	For every child, proper ANC was always received from MW			
P2	For every child, no ANC was received because of no MW in my village			
P3	In ANC and delivery, MW service was always superior and better than TBA			
P4	For future pregnancy, always prefer MW service rather than TBA			
P5	For future pregnancy, I'll deliver with TBA rather than MW because there is no MW in my village			
P6	For future pregnancy, I'll deliver with TBA rather than MW because cost of delivery by TBA is much lower than that by MW			

No.	Statement	Yes	No	Don't know
P7	For future pregnancy, I'll deliver with TBA rather than MW because experience of TBA is better than MW			
P8	For future pregnancy, I'll deliver with TBA rather than MW because TBA takes care me much more than MW			
P9	For future pregnancy, I'll deliver with TBA rather than MW because I used to TBA for my deliveries			
P10	For future pregnancy, I'll deliver with TBA rather than MW because her services always satisfy me			
P11	For future pregnancy, I'll deliver with TBA rather than MW because there is only TBA in my village and I've no choice			

BIOGRAPHY

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