Journal of Population and Social Studies, Volume 27 Number 1, January 2019: 23 - 38
DOI: 10.25133/JPSSv27n1.002

Women's Beliefs about the Utilization of Antenatal Services and their Determinants: A Qualitative Study in Three Townships of Chin State, Myanmar

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Abstract

Although the health care resources in Chin State are comparable to those in other regions, the indicators of maternal health status there are the poorest in Myanmar. While the Myanmar government has initiated health care system reforms, the increase in service capacity alone is a necessary but insufficient condition to improve access. Because the effectiveness of antenatal care is critical in terms of reducing maternal mortality and serious morbidity, this study determines how women's beliefs affect the utilization of antenatal services. The qualitative study analyzes in-depth interviews with 25 women who had given birth during the past year in both rural and urban areas of three townships in Chin State. The results show that women's beliefs strongly influence the utilization of antenatal services. The women did not recognize pregnancy risks or the benefits of antenatal services. They also did not trust the staff in the formal health care sector, and their trust in traditional birth attendants served as a barrier to utilization of antenatal service. To improve utilization, policymakers must understand the sociocultural context of women, as well as their beliefs and trust related to antenatal care, and should design policy to address the relevant influencing factors.

Keywords

Chin State; women's beliefs; utilization of antenatal services

Introduction

Though the maternal mortality ratio (MMR) fell by 45% worldwide between 1990 and 2013, from 380 to 210 maternal deaths per 100,000 live births, women from developing regions are still underserved with respect to maternal care services (United Nations, 2015). Approximately 800 women die daily around the world due to pregnancy or childbirth-related complications; 99% of these deaths occur in developing countries (World Health Organization, 2016a). In Myanmar, approximately 230 women died during pregnancy, during childbirth, or within two months after childbirth for every 100,000 live births during the seven years before the 2015-16 Myanmar Demographic and Health Survey). According to the 2014 Myanmar Population and Household Census, the MMR values in 2013 varied widely, from 157 in the Tanintharyi Region to 357 in Chin State (Myanmar. Department of Population, 2016). This may have been the result of widespread poverty and insufficient institutional

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resources in the states compared to the regions. As the MMR of Chin State was 361 per 100,000 live births in 1999, the maternal health status in Chin State did not significantly improve between 1999 and 2013 (Myanmar. Ministry of Health, 2010).

A number of factors may contribute to the fact that the maternal health situation in Chin State lags behind that in other states. Approximately 70% of women ages 25 years and older in Chin State have attained only a primary level of education, while approximately 95% of residents work on crop lands for their income (Bilanceri, 2015; Department of Population of Myanmar, 2015). Most of the inhabitants of Chin State have to seek alternative sources of income because of flooded cropland. Approximately 73% of those residing in Chin State were living in poverty in terms of household expenditure in 2009-2010, representing the highest poverty rate among all the states and regions in the country (Ministry of National Planning and Economic Development & UNICEF, 2012). There are six main Chin ethnic groups—Asho, Cho, Khumi, Laimi, Mizo and Zomi—as well as dozens of sub-groups, with people in one village often being unable to understand the dialect spoken within neighboring villages. There is a strong patriarchal social structure in all the townships in Chin State, and the role of married women is limited in both private and public spheres).

To improve the utilization of health services, the residents need to access health care which reflects how well matched the characteristics and expectations of residents are to the characteristics of the health services and staff (Penchansky & Thomas, 1981). The government has been reforming the health system since the 2012–2013 fiscal year by upgrading hospitals, expanding the organizational setup, increasing the allocation of health workers in remote areas and boosting their skills and performance (Myanmar. Ministry of Health, 2014). As maternal health is regarded as a priority issue, the government has also worked to reduce the burden of medical costs. There is no cost for routine check-ups, medication and examination fees during antenatal visits for pregnant women when they use governmental health services.

However, the upgrading and reforming of the health system has not sufficiently improved the maternal health status within Chin State. The state's poor maternal health status is not the result of deprivation of health care resources, since Chin State has the highest density of government hospital beds, medical doctors, nurses and midwives of all the states and regions in the country (Myanmar. Ministry of Health, 2010). There are fewer health care resources in Mon State than Chin State, yet the MMR values in Mon State were 213 in 1999 and 217 in 2013, representing much better values than those of Chin State (Myanmar. Department of Population, 2016; Myanmar. Ministry of Health, 2010).

Most complications relating to maternal deaths develop during pregnancy, with the majority being treatable and preventable (United Nations, 2008). The effectiveness of antenatal care is critical in terms of reducing maternal mortality and serious morbidity, especially in developing countries (Carroli, Rooney & Villar, 2001). Antenatal services not only detect risky conditions, but also treat pregnant women's existing illnesses. In addition, these services also provide pregnant women with good advice about healthy lifestyles and healthy diets. Therefore, the World Health Organization (WHO) recommends that pregnant women should receive antenatal care on at least four occasions during pregnancy. However, only approximately 50% of pregnant women from low and middle income countries received antenatal care on four or more occasions in 2012 (World Health Organization, 2016c). In Chin State, 75.6% of pregnant women received antenatal care from the health service on one or more occasions during 2009 and 2010, representing the lowest rate among all of the states and regions in the country (Ministry of National Planning and Economic Development, Ministry of Health & UNICEF, 2011).

The new antenatal model suggests that pregnant women should increase the number of their antenatal care visits from four to eight, with the first visit undertaken in the first 12 weeks of gestation, so that problems can be detected early and good relationships can be developed between health staff and pregnant women (World Health Organization, 2016b). Because approximately 70 percent of the Myanmar population resides in rural areas, women in villages usually depend on basic health staff for maternal health care. One of the main tasks of basic health staff is making home visits for antenatal care, but it is difficult to find women during early pregnancy unless they actively seek out health care staff. The situation of early antenatal care and regular follow-up among pregnant women is determined by their perceptions of the risks of pregnancy and the effectiveness of antenatal care. Despite the challenges of using antenatal services in Chin State, women seek antenatal care as early as possible from the health service and have regular follow-ups if they are fully aware of the severity of the risks of pregnancy, the benefits of antenatal care and the availability of health care staff. This study explores beliefs about the utilization of antenatal services and determinants among women in Chin State.

Methodology

Study area

Chin State, which has an area of approximately 360,000 km^2, is situated in the northwestern part of Myanmar and is administratively divided into three districts. It is the state with the lowest population density (13 people per km^2) and the second smallest population size among all the states and regions (approximately 480,000 people), with approximately 80% of inhabitants residing in rural areas (Ministry of Immigration and Population, 2015). Chin State is a mountainous region, with all areas being at least 3,000 feet above sea level. As residents can use only motorcar routes for travel, they face difficulties in emergencies because natural disasters, such as flooding and subsequent landslides, have damaged local road networks and bridges. In addition, some villages are not located near the roads, with some situated far away from the main district roads.

Study design

This is a qualitative exploratory study that was performed in both rural and urban areas of three townships in Chin State and involved 25 women who had given birth within the past year. The data collection process was conducted from July 1 to November 30, 2017. The three townships—Mindat, Tedim and Hakha—were selected because they had the highest official MMR in each district.

Conceptual framework

The conceptual framework of this study was developed by integrating the health belief model (Janz & Becker, 1984) and Dahlberg and Krug's social-ecological model (Yakob & Ncama, 2016). Women's belief related utilization of antenatal services includes two main categories: beliefs about pregnancy and beliefs about antenatal care services. In-depth interview guides were developed according to the main constructs of the health belief model. To explore women's beliefs regarding pregnancy, this study examined women's perceptions of the risks involved in pregnancy and the severity of those risks, which harmonize with the two

constructs of "perceived susceptibility" and "perceived severity" of the health belief model. To explore women's beliefs regarding antenatal care services, this study assessed women's perceptions of the benefits of antenatal care and their trust in antenatal services, which are consistent with two other constructs—"perceived benefits" and "perceived barriers"—of the health belief model. The utilization of antenatal services is a complex issue; individual women's behaviors with respect to seeking antenatal services are influenced not only by their beliefs, but also by their families, environment and social networks. Therefore, the other constructs of the health belief model—self-efficacy, cues to action and modifying factors—were replaced by a social-ecological model. To investigate the factors influencing the beliefs and behaviors related to the utilization of antenatal services, in-depth interview guides were developed according to a social-ecological model so that the findings could be stratified into multiple levels: individual (biological and sociodemographic factors), interaction with others (family and peers), community (organization and physical environment) and societal (social relationships).

Recruitment and data collection process

Before visiting the study sites, a preliminary test was conducted with 15 ethnic Chin women in Kalay, which is a town in Sagaing Region situated at the border between Sagaing Region and Chin State, to test the feasibility of the interview guides. Two interpreters were trained to conduct in-depth interviews in each township study site. The pilot interviews were conducted to assess the local language interpreters' interview skills. The regional health authority suggested maternal health services in urban areas and two rural health centers or sub-health centers in each township that could be targeted for data collection. Ten women who had given birth during the past year from each of the areas served by the health centers were invited to participate and asked about their sociodemographic characteristics and the circumstances under which they had last received antenatal care. To obtain rich information on women's beliefs regarding pregnancy and antenatal care and the related influencing factors, a purposive sampling method was applied for the recruitment process. Two to three women from urban areas in each township and three women from villages served by each rural health center or sub-health center were enrolled in this study.

After thoroughly explaining the procedure that would be followed for the in-depth interview, written informed consent was obtained from each participating woman. The interviews were conducted individually to maintain privacy and confidentiality. The participants included women who had or had not received antenatal care from health care staff at the government health service: eight women from Mindat Township, nine women from Tedim Township and eight women from Hakha Township. After obtaining the women's consent to participate in the research, good relationships with the participants were developed by visiting their homes two to three times; then, informal and formal conversations were held with the women. The women selected the place for the in-depth interview. Although most of the women understood Myanmar, they could not readily reply in that language, so the local language interpreter led the in-depth interviews. We asked about the women's beliefs about pregnancy, the benefits of antenatal care from the government health service and the availability of health care staff and why they received or did not receive antenatal care.

Data analysis

To explore the maximum variability of women's beliefs, the participating women were recruited from three townships in different districts. Data processing and data analysis were performed along with the data collection. After each interview ended, the information and observations were jotted down as field notes. Interviews were conducted with the assistance of local language interpreters, and voice recorders were used with the permission of the participants. The interpreter translated the recorded data from the local language into Myanmar, and the jotted field notes were then expanded with the data transcribed from the voice recording. The data were manually categorized according to the constructs of the health belief and social-ecological models (Elo & Kyngas, 2008). The results of the data analysis were coded by classifying and categorizing individual pieces of data. The data were analyzed using qualitative content analysis, and data interpretation was performed in the final step.

Ethical Approval

The proposal for this study was approved on June 27, 2017 (Certificate of approval no. 2017/135.2706) by the Mahidol University Social Sciences Institutional Review Board (MUSSIRB) prior to the collection of the data. Since the in-depth interviews were conducted with women from three townships in Chin State, Myanmar, ethical clearance was also obtained from the Ethics Review Committee on Medical Research Involving Human Subjects, the Department of Medical Research, and the Ministry of Health and Sport, Myanmar on July 3, 2017 with approval no. Ethics/DMR/2017/094.

Findings

Characteristics of the participating women

Table 1 summarizes the characteristics of the 25 participating women, including the frequency distribution of age, location of residence, educational attainment and occupation of the women and their husbands, average monthly family income, ethnicity, religion, parity and circumstances under which maternal health care was last received. Among the participating women, eight were from Mindat Township, nine were from Tedim Township, and eight were from Hakha Township.

Table 1: Characteristics of the participating women

Characteristics of the participants		Frequency		
		Mindat	Tedim	Hakha
Age (n=25)	20-29 years	4	4	4
	30-39 years	3	5	3
	40 years and older	1	-	1
Residence (n=25)	Urban	2	3	2
	Rural	6	6	6
Education (n=25)	Basic primary education	3	1	2
	Basic middle school education	3	5	4
	Basic high school education	2	3	1
	Graduate	-	-	1
Husband's education (n=25)	Basic primary education	-	1	1
	Basic middle school education	7	4	2
	Basic high school education	1	4	5
Occupation (n=25)	Household work only	1	2	3
	Household + farm work	4	3	2
	Household + other income work	3	4	3
Husband's occupation (n=25)	Farmer	5	3	2
	Manual worker	2	3	2
	Trader	1	2	3
	Company employee	-	-	1
Monthly family income (n=25)	< 300,000 kyats	4	6	4
	300,000 to 400,000 kyats	3	2	3
	Above 400,000 kyats	1	1	1
Parity (n = 25)	One	-	2	-
	Two to Four	4	2	6
	Five or more	4	5	2
Ethnicity (n=25)	Chin	6	8	8
	Burma	2	1	-
Religion (n=25)	Christian	5	8	8
	Buddhist	3	1	-

Women's beliefs about the utilization of antenatal services

Women's beliefs were found to be a strong influencing factor in the utilization of antenatal services. In this study, three main themes of women's beliefs were identified: (a) beliefs about the development of risks during pregnancy; (b) beliefs about the effectiveness of antenatal care services; and (c) beliefs about the availability of health care staff compared with that of traditional birth attendants (TBAs).

Beliefs about the development of risks during pregnancy

The participants expressed three beliefs about the development of risks during pregnancy: (a) risks cannot develop; (b) if risks develop, these relate to minor illnesses; and (c) life-threatening risks can develop during pregnancy.

Most women did not know about the life-threatening risks of pregnancy, so they did not actively seek antenatal care. This fact was one main reason for the women's late first antenatal visits and the absence of regular follow-ups. They first received antenatal care when health care staff came to their villages. They did not meet again with health care staff during the next visit because they felt healthy. Even if they suffered from minor symptoms, such as fatigue, morning sickness, dizziness, headache, constipation, back pain, difficulty breathing because of abdominal distension, discomfort caused by leg swelling and frequent urination, they assumed that these conditions were minor and would resolve without treatment.

> *"Pregnant women can suffer from morning sickness in early pregnancy and back pain, dizziness and difficulty moving in late pregnancy. I didn't worry about such illnesses. They disappear and resolve soon without care."*
>
> 32-year woman from Tedim Township

Some women described the "pregnancy process" as a normal phenomenon. Because they assumed that they would experience illness or disease even if they were not pregnant, the symptoms and illnesses they developed during pregnancy were not strange to them. They assumed that pregnancy was an inevitable condition for married women.

> *"[Pregnancy] is concerned with women; pregnancy and childbirth are the tasks of married women. We can perform daily activities during pregnancy. If we avoided them, our ethnicity would cease. I have five children, but I didn't have experiences of danger or illness during pregnancy."*
>
> 39-year woman from Hakha Township

Only two women noted the significant risks of pregnancy that can be fatal. One woman experienced severe morning sickness, and she thus considered morning sickness to be a life-threatening risk for a pregnant woman. The other woman had learned about bad experiences from her relatives. However, these women could not explain these life-threatening risks and how they endanger women's lives.

> *"My two aunts died during pregnancy. I believe that a pregnant woman walks on a string carrying a heavy object. She is like a kangaroo. She can slip and die at any time."*
>
> 22-year woman from Mindat Township

Beliefs about the effectiveness of antenatal care

The participants expressed three beliefs about the effectiveness of the antenatal care provided by the health service: (a) antenatal care is not needed; (b) antenatal care is needed but it cannot prevent the development of risks; and (c) antenatal care is needed because it can prevent or treat the development of risks.

Most of the women had experienced illness during pregnancy, but some were not aware of the antenatal care available through the health service, while some did not believe that such threats could be treated or prevented by seeking antenatal care services. Almost all of the women did not understand the benefits and importance of early first antenatal visits. Their aim in antenatal visits was to obtain assistance from health care staff if they had difficulties during home delivery, so they met with health care staff during the second or third trimester.

> *"I visited the health service for severe morning sickness… The health care staff gave me some medicine and an injection. But I didn't get relief. I visited again at sixth months of pregnancy to get assistance from her during childbirth."*
>
> 22-year woman from Mindat Township

Although some women did not understand the risks of pregnancy or the benefits of antenatal care, they had contacted health care staff to learn about the fetus (e.g., about the position of the fetus and its sex), but not because of their health status. There were some women who sought out antenatal services for other reasons not related to either maternal or child health.

> *"Health care staff conducted an abdominal examination and urine tests… I think it means detection of abnormalities in the fetus. I had visited health services to learn the condition of my fetus."*
>
> 24-year woman from Hakha Township

> *"As I would like to deliver at home, I contacted the TBA. I visited the antenatal clinic providing maternal health services for the birth registration certificate and government support."*
>
> 36-year woman from Hakha Township

Beliefs about the availability of health care staff

Regarding women's beliefs about the availability of health care staff compared with that of TBAs, the participants expressed three views: (a) they trusted health care staff more; (b) they trusted TBAs more; and (c) they had neutral views about health care staff and TBAs.

It was found that TBAs were available in the study sites. Some women had relied on TBAs and deeply trusted their birth delivery skills, having more confidence in TBAs than health care staff.

> *"[The TBA] has been caring for women during the childbirth process since I was young. All my relatives received maternal health care from her. I received advice and care from her. I didn't pay any fee to her. Sometimes, I gave some meat and food to her."*
>
> 31-year woman from Mindat Township

On the other hand, some women were reluctant to receive care from TBAs because of their poor reputation, so they sought out health care staff. The women from rural and urban areas in Mindat Township expressed their trust in the skills of the health care staff.

> *"I heard bad news about a TBA who lives in our ward. Whenever pregnant women got assistance from her during labor, the baby either died or was sent to the hospital. I am afraid to contact her for childbirth. So, I visited the health service for antenatal care."*
>
> 23-year woman from Mindat Township

Most of the participants accepted that health care workers are more skillful in the childbirth process than TBAs, but they did not trust their availability and accessibility. They did not get advice about pregnancy from them when they experienced illness or discomfort. As the TBAs were local women, the residents could easily contact them.

"We are not sure when the health care staff will come to our village. Antenatal visits to health services were difficult for me because I left my other children to make the visit. So, I cannot neglect [the TBA's] advice."

34-year woman from Hakha Township

Factors influencing women's beliefs about the utilization of antenatal services

Individual level

Although the participants understood the severity of pregnancy-related risks, they did not seek antenatal care from health services. The lack of maternal health literacy influenced their beliefs about the utilization of antenatal service at the individual level. The participants did not recognize the benefits of early first antenatal care visits and regular antenatal follow-up visits. The low health literacy among the participants led them to be underserved with respect to antenatal care. Some women preferred their occupation to visiting antenatal clinics. On the other hand, women who had no previous experience did seek out antenatal care. However, they did not have an early antenatal visit or regular follow-up. Women made the decision to seek antenatal care based on their previous pregnancy experiences. Only women who had experiences of life-threatening risks during pregnancy sought antenatal care from a health service.

"As this was my first experience, I contacted both a TBA and maternal health service for antenatal care. I asked them about discomfort during pregnancy, the dangers of childbirth and illnesses of puerperium. As I was well, I did not have regular follow-ups."

32-year woman from Tedim Township

"Health workers did not make regular antenatal visits. My husband's work is at the India-Myanmar border. He cannot help me get to an antenatal visit. And I didn't want to go a long distance. If I went, I would leave my children alone. So, I received antenatal care at home from a TBA."

24-year women from Tedim Township

"After two miscarriages, I contacted and received care from a TBA for my sixth pregnancy; I had a miscarriage again. So, my husband and I decided to get antenatal care from a health service for this seventh pregnancy."

34-year woman from Mindat Township

Family level

Despite being aware of the risks of pregnancy and the benefits of antenatal care, women cannot freely make decisions regarding antenatal care. Encouragement from husbands and guidance from senior family members influenced the decision to receive antenatal care. Even when the participating women had decided to receive antenatal care, they had to consider the opinion of their husband in selecting an antenatal care provider. Encouragement from the husband plays a key role in seeking antenatal care. If the woman was doubtful whether she needed antenatal care or not, she would not visit an antenatal clinic without her husband's

encouragement. A woman from Tedim Township explained that her husband did not encourage her to seek antenatal care.

> *"I still worked with my husband until the seventh month of pregnancy to save money. My husband just asked me whether to get antenatal care or not. I decided not to visit the antenatal clinic. At near term, I contacted a TBA for childbirth."*
>
> 35-year woman from Tedim Township

One woman from the urban area of Tedim Township described her husband's strong encouragement to receive antenatal care.

> *"At the fifth month, my friend invited a TBA to examine me. She did an abdominal examination and told me to notify her when there was any problem. After my husband learned about it, he took me to the health service and let me to get regular care. I followed my husband's advice."*
>
> 21-year woman from Tedim Township

In Myanmar society, juniors usually follow the advice of their seniors unless there is a clear reason not to. Women who live with their parents or their husband's parents cannot oppose their advice regarding antenatal care.

> *"My husband and I planned to visit a health service for antenatal care. But my mother-in-law advised us to get the care from a TBA because of the poor availability of health care staff. I followed her advice. She supported me during childbirth."*
>
> 34-year woman from Hakha Township

Community level

The availability of health care resources and geographic isolation were still challenges to receiving antenatal care at the community level, although the local people perceived a need for antenatal care. As the TBAs were locals, they could give advice on how to live and care for oneself during pregnancy, assist during childbirth and conduct an examination after delivery if there was a problem. Regarding antenatal care, the participants discussed the lower availability and accessibility of health care staff from government health services compared to the availability of TBAs.

> *"My priority was to deliver at home with a TBA. When I suffer from labor pain, we cannot easily contact the health care staff. Even if we contact them, it is difficult for them to come in time."*
>
> 32-year woman from Mindat Township

"Because of transportation difficulties, a lot of household work, leaving the other children alone when I went to the health service, I didn't receive antenatal care from the health service. I consulted with a TBA for the childbirth process."

37-year woman from Tedim Township

Societal level

Sociocultural factors influence women's beliefs and behaviors with regard to their utilization of antenatal care. Some disliked having their private parts examined by others. Some were afraid of injections and of blood draws for examinations.

"I was shy to say that I was pregnant, even to my husband. When he asked me in the fifth month of pregnancy, I responded… I invited a TBA to my house to consult her about the childbirth at eight months of pregnancy. I didn't want to be examined in the health center where I felt there was no privacy… I delivered at home with the TBA… No one was invited to examine me after the delivery."

22-year woman from Hakha Township

"The TBA is my neighbor, and I have known her since I was young. I dislike having my private body parts examined by strangers. I didn't need to seek anyone for antenatal care… I delivered at home with the TBA… She didn't come after the delivery."

24-year woman from Mindat Township

"I didn't want to hear bad news about my baby from health care staff or a TBA. If some bad news were heard, I would be sad and unable to eat and sleep enough."

35-year woman from Tedim Township

The social relationship between locals and health care staff played a key role in receiving antenatal care. In this study, it was found that the social relationship between locals and TBAs was good, but the relationship between health care staff and locals was not.

"I was alone during the day and worried about having no attendant near me during childbirth. When I contacted the TBA, she stayed with me during the day and helped with household work. On the day of childbirth, she slept at my house."

24-year woman from Tedim Township

> *"When I visited hospitals and health centers, I felt that health care workers looked down on local people. So, I took advice from a TBA during pregnancy and delivered at home with her support. But health care staff came to my house on the fifth day after delivery."*
>
> 27-year woman from Hakha Township

Despite the existence of traditional pregnancy-related beliefs and behaviors at the study sites, they did not seriously influence the receipt of antenatal care.

Discussion

This qualitative study explores women's beliefs regarding pregnancy and the effectiveness of antenatal care services based on the framework of the health belief model. Most participants did not understand the significant risks of pregnancy and did not perceive the benefits of antenatal care services. Even though some women recognize the risks of pregnancy, they did not understand or acknowledge the severity of those risks. Their beliefs about pregnancy and distrust in health service remain as barriers to receive antenatal care.

These findings regarding women's beliefs with respect to the utilization of antenatal services were identified in regions of high maternal death, remote parts of developing countries and rural areas in neighbouring countries. The women visited health clinics for other reasons, such as to obtain a birth registration or government and/or NGO support (Abrahams, Jewkes & Mvo, 2001). They assumed pregnancy as a normal occurrence among women (Bredesen, 2013; Choudhury & Ahmed, 2011). Most women made antenatal visits to obtain assistance from health care staff in the event of childbirth-related difficulties rather than to receive general pregnancy care (Choudhury & Ahmed, 2011; Myer & Harrison, 2003). The lack of awareness about pregnancy's risks and the incorrect perceptions of the benefits of antenatal care led the women to have late first visits and no regular follow-ups (Chiang, Labeeb, Higuchi, Mohamed & Aoyama, 2013; Mathole, Lindmark, Majoko & Ahlberg, 2004; Pretorius & Greeff, 2004). In addition, many participants were more comfortable with the support of TBAs during their delivery than with visits to health services (Agus, Horiuchi & Porter, 2012).

The participating women did not receive antenatal care from health services even when they understood the risks of pregnancy and the benefits of antenatal care. This study identified the factors influencing women's beliefs regarding the utilization of antenatal services within the framework of Dahlberg and Krug's social-ecological model. This model suggests that individual beliefs and behaviors are rooted within one's family and social network (Yakob & Ncama, 2016). In addition, the processes of pregnancy and childbirth are regarded as life events and are commonly viewed from sociocultural perspectives. A person's behavior during these periods reflects current sociocultural beliefs, as well as the surrounding environment (Withers, Kharazmi & Lim, 2018). Therefore, women's beliefs with respect to the utilization of antenatal services are complex and influenced by intrapersonal, interpersonal, environmental and societal factors. This study demonstrates that challenges at the individual, family, community and societal levels have impacts on women's utilization of antenatal services. Previous articles described that influencing factors are based not only on the health delivery system, but also on the social, economic and environmental characteristics of local people (Jat, Ng & San Sebastian, 2011; Lama & Krishna, 2015; Silal, Penn-Kekana, Harris, Birch & McIntyre, 2012; Worku, Yalew & Afework, 2013). In this study, it was found that unmet antenatal care needs were not due to economic factors; the fees for antenatal care from health care staff or a

TBA did not burden the women (Agus et al., 2012; Chiang et al., 2013; Choudhury & Ahmed, 2011; Lama & Krishna, 2015; Mathole et al., 2004).

The factors influencing beliefs regarding the utilization of antenatal services were consistent with the results of other previous studies. Women with relatively easy previous pregnancies did not attempt to receive antenatal care, while women without experience were more likely to seek it; women did not receive antenatal care because of their lack of awareness (Jat et al., 2011; Oladapo & Osiberu, 2009; Worku et al., 2013). Due to the patriarchal nature of the community, women do not receive encouragement from their husbands to seek antenatal care, especially in extended families (Bredesen, 2013; Choudhury & Ahmed, 2011; Pretorius & Greeff, 2004; Simkhada, Porter & Van Teijlingen, 2010). The geographical isolation and the lack of rail and/or air links to large cities, as well as the lack of health facilities within the community, also lead to difficulty in utilization of antenatal services, causing many families to choose TBAs living within their community (Atuoye et al., 2015; Ganle, Parker, Fitzpatrick & Otupiri, 2014; Silal et al., 2012). The local people experienced disrespectful behaviors from health care staff and were examined without privacy. Such conditions led to poor social relationships between health care staff and locals. Local women therefore sought assistance from TBAs instead of health care staff. Similar results were found in low-resource areas in developing countries with an imbalance between workload and human resources (Agus et al., 2012; Ganle et al., 2014; Mehretie Adinew & Abera Assefa, 2017; Mubyazi et al., 2010).

There is no single model that explores the utilization of antenatal services in Chin State, Myanmar. However, the integrated framework of the health belief model and social-ecological model contributes to the exploration of women's beliefs regarding the utilization of antenatal services and the examination of the factors influencing those beliefs. This research is expected to increase awareness of pregnancy risks and of the benefits of antenatal care from health services that will lead to proper health-seeking practices among local women. The argument regarding the relatively ineffective antenatal care available in Chin State, because of late first antenatal visits and lack of regular follow-ups, reflects local residents' level of awareness regarding health care. This means that the local people do not receive correct antenatal care information and therefore have low health literacy. The high maternal mortality rate, poor utilization indicators of maternal health services and misperceptions of antenatal care should alert the responsible health organizations to focus on improving them. There is a global trend of health promotion via promoting healthy lifestyles and changing beliefs and behaviours among at-risk populations. Health promotion programs should increase levels of individual knowledge and health literacy, which will result in improvements in health-related behaviors (Chou, Prestin, Lyons & Wen, 2013). Health care authorities need to provide health promotion activities in Chin State that can improve individual health literacy.

Limitations

The findings of this study cannot represent the whole area of Chin State because the participating women were recruited with support from the regional health care and local administrative authorities. Women who had poor social relationships with these entities may not have been included in this study. Possible bias may exist in the sample collection, as well. Because local language interpreters were used during the in-depth interviews, cultural differences may have affected data collection and interpretation despite repeated training before the data collection. Therefore, bias may have existed during data interpretation.

Conclusion

Despite the existence of other influencing factors, women's beliefs strongly determined utilization of antenatal service. If local women understood the risks of pregnancy and the benefits of receiving antenatal care from health services, they would attempt to receive early initial antenatal care and regular follow-ups. To improve access, policymakers must understand the sociocultural context of women and their beliefs and trust related to antenatal care, and they should design policies to address the relevant influencing factors.

Acknowledgements

The authors express their gratitude to the staff of Chin State Health Department, local administrative authorities of study sites and participants for their assists during data collection.

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