A Cross-sectional study to explore the challenges faced by Myanmar women in accessing antenatal care services

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ABSTRACT

Background: Myanmar has one of the highest maternal mortality rates in the Southeast Asian region, with most maternal deaths occuring at the time of delivery. The aim of this research was to identify the relationship between socio-demographic characteristics of Myanmar women and utilisation of antenatal care services.
Methods: This is a descriptive cross-sectional study utilising the Myanmar Demographic and Health Survey Data 2015-16. A total of 13,454 women agedbetween 15-49 years were surveyed. This study sampled married women only (n=7870).
Results: The mean age of the respondents was 35 years and the majority of respondents (50.7%) belonged to the 35-49 age group. Approximately 46.3% of respondents reported more than four antenatal care service (ANC) visits and almost 54% respondents attended ANC during their second and third trimesters. This study found that women with no education, poorer socioeconomic status, less access to mass media, living in rural areas and with more children were not utilising ANC services adequately.
Conclusion: Strategies should be introduced to encourage pregnant women to attend a minimum of four antenatal check-ups and there should be adequate monitoring in place of the timing of ANC visits during pregnancy.

Key words: Myanmar, Antenatal care, Women, Pregnancy, Access

BACKGROUND

Morbidity and mortality are crucial and universal concerns, especially during the reproductive years [1]. Most maternal deaths (approximately 80%) occur because of causes directly related to pregnancy [2]. The World Health Organization (WHO) estimates that over a quarter million women die worldwide because of complications during childbirth or pregnancy [3], with the majority of these deaths occurring in developing countries. For every woman who dies from obstetric complications, many more face injuries, disabilities and infections [4]. The majority

of these deaths and complications could be prevented if antenatal care (ANC) was part of standard practice globally or if women gave birth with the assistance of skilled midwives [5,13]. The aim of ANC is to improve and monitor the welfare of both mother and foetus, identify potential problems, prepare women for childbirth and child rearing and respond to their complaints6. Women of reproductive age (15-49) need to acknowledge the importance of antenatal care [7].

When women do not or unable to attend ANC clinics regularly, be it through lack of knowledge, choice or lack of access, they miss out on fundamental care components that prenatal services can offer, such as screening and diagnosis, education, treatment and referral to specialist care [8]. Indeed, WHO advises that pregnant women should attend at least four ANC reviews during their pregnancy [3].

There are several recent studies which highlight that ANC utilisation has increased in developing countries [9-11]. In addition, the global maternal mortality rate has decreased by almost 50% between 1990 and 2013 [3],and according to the third goal of Sustainable Development, the target is to reduce the global maternal mortality ratio to less than 70 per 100,000 live births by 2030 [12]. Recently, there has been an improvement in the outcomes of pregnancy and childbirth in several low and middle-income countries including Ethiopia, Bangladesh, Bolivia, Myanmar and Pakistan [14]. Myanmar however continues to have one of the highest rates of maternal mortality in the Southeast Asian region, with most maternal deaths occurring during the time of delivery. These deaths are largely viewed as preventable through a availability and accessibility to maternal and child health [15]. Although the present Myanmar government has introduced initiatives to improve maternal health services, these remainunderutilised [16]. For all the above reasons, the aim of this study was to identify whether sociodemographic characteristics of Myanmar women are linked to ANC utilisation, and to identify any resulting implications for practice.

METHODS

Sources of data and sample

This study utilised the Myanmar Demographic and Health Survey 2015-16 conducted by Ministry of Health and Sports (MoHS) and ICF [17]. The survey provides up-to-date basic demographic and health indicators. A stratified two-stage sampling technique was used for collecting data from seven states and eight regions of Myanmar. The sampling frame consisted of 76,990 primary sampling units (PSUs) from the entire country. A PSU is either an enumerated area (EA) or a ward/village tract. At the first stage, clusters were selected consisting of EAs or ward/village tracts. A total of 442 clusters were selected of which 123 were urban areas and 319 were rural areas. From each cluster, a fixed number of 30 households were selected using probability systematic sampling and 13,260 households were selected in total. From this, 13,454 women aged between 15-49 years were surveyed. For the purpose of this study, only all married women were included (n=7870) [17].

Data collection process and ethical approval

Census data collection took place from December 2015 to July 2016 using a structured and pre-tested household questionnaire. The survey protocol was reviewed and approved by the Ethics Review Committee on Medical Research including human subjects in Department of Medical Research, Ministry of Health and Sports and was approved by ICF Institutional Review board [17]. Before the data collection process began, interviewers were trained, a pre-test was performed and data collection was conducted under frequent supervision to maintain the quality of the data. All interviews were conducted in local languages then translated into English [17].

Data Analysis

Data were analysed using the statistical package SPSS version 24.0. To show the association between dependent and independent variables, the odds ratios were measured at a 95% confidence interval and significance was measured at a 5% level. For data analysis, two types of variables were used:

Dependent Variables: Two dependent variables were used. These were – number of ANC visits and the timing of the first antenatal visit. For the number of ANC visits, participants who attended ANC less than four times were coded as 0 and participants who attended ANC more than four times were coded as 1. Similarly, for the timing of the first antenatal visit, participants who made ANC visits in 1st trimester (conception to the 12th week of pregnancy) were coded as 0; participants attended ANC in the second trimester (pregnancy weeks 13 to 27) and third trimester (starts at pregnancy week 28 and lasts until birth) were coded as 1.

Independent Variables: The independent variables were the demographics and other characteristics such as the age of the respondents, educational level, place of residence, wealth index, number of children five years and under and access to mass media (frequency of reading newspapers, frequency of listening to radio and frequency of watching television).

Frequency distribution and bivariate logistic regression analyses were carried out using odds ratios, as both the dependent variables of this research are categorical.

TABLE 1. Background characteristics of respondents

VARIABLES	FREQUENCY	PERCENTAGE
Age of the respondent		
15-24	1094	13.9
25-34	2785	35.4
35-49	3991	50.7
Mean ± SD	34.55±8.4	
Educational level		
No education	1201	15.3
Primary	3622	46.0
Secondary	2432	30.9
Higher	613	7.8
Place of residence		
Urban	2057	26.1
Rural	5813	73.9
Number of children 5 years and under		
1	3087	69.9
2-3	1293	29.3
4+	35	0.8
Frequency of reading newspaper		
Not at all	4954	62.9
Less than once a week	1961	24.9
At least once a week	955	12.1
Frequency of listening of radio		
Not at all	4679	59.5
Less than once a week	1539	19.6
At least once a week	1652	21.0
Frequency of watching television		
Not at all	2115	26.9
Less than once a week	1512	19.2
At least once a week	4243	53.9
Wealth index		
Poorest	1685	21.4
Poorer	1620	20.6
Middle	1608	20.4
Richer	1554	19.7
Richest	1403	17.8

RESULTS

Table 1 shows that mean age of the respondents was 35 years and the majority of respondents (50.7%) belonged to the 35-49 age group. Approximately 46% of respondents had completed primary education and almost 74% respondents lived in rural areas. About 70% of respondents had only one child below five years age. About 25% respondents read newspapers less than once a week, and only 21% listened to the radio at least once a week. About 20% respondents were from middle class families.

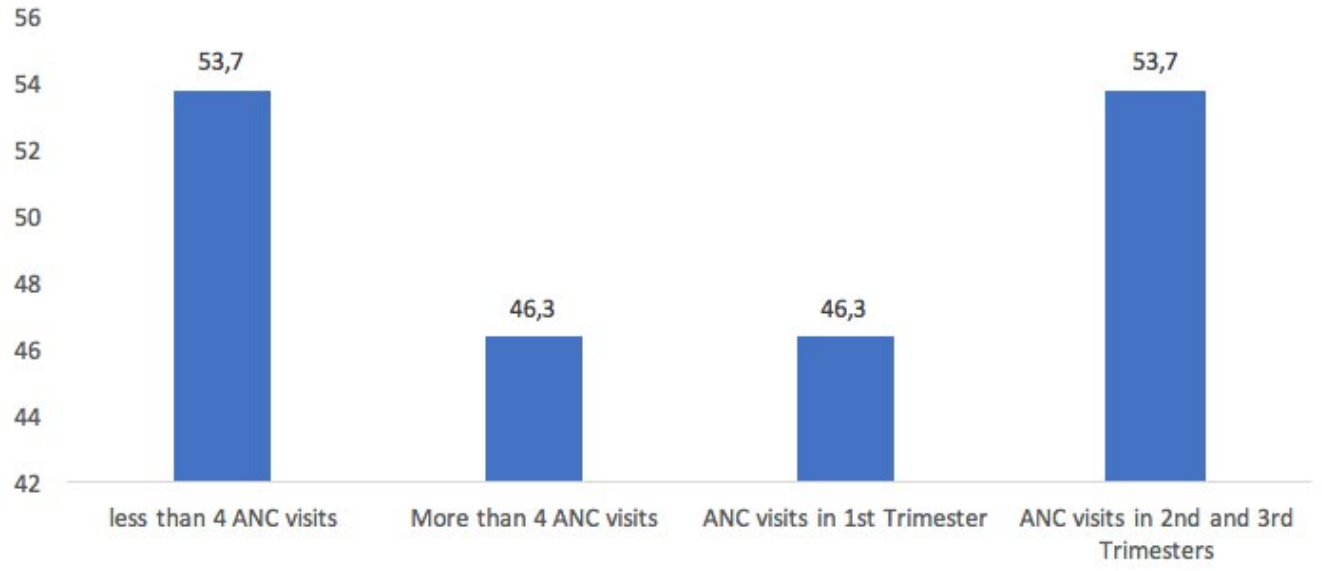
As can be seen in Figure 1 below, approximately 46.3% of respondents visited ANC more than four times and almost 54% respondents did so during their second and third trimesters.

The bivariate analysis between ANC visits, their timing and background characteristics of the respondents is presented in Table 2. About 48% of respondents between the ages of 15 and 24 had used ANC services and about 57% of women between age group have attended ANC during their second and third trimesters.

There is a significant association shown between respondent age and frequency of ANC visits but there is no relationship between the timing of ANC and age. Similarly, place of residence -urban or rural - has an impact on ANC visit frequency, but no relationship was found between the place of residence and ANC timing. Additionally, access to mass media significantly correlated with both ANC visit frequency and timing. The chi-square results also show that women with the highest socioeconomic status (80.8%) had visited ANC more than 4 times and 55% of them had utilised the services during the first trimester (p value <.00).

Table 3 presents the logistic regression analysis of background characteristics of women with the number of antenatal visits and timing of the first antenatal visit. Women's education level, place of residence, number of children aged five and under and wealth index have a significant impact on ANC visits. Women with higher education were more likely to use ANC – this was four times higher than for those with no education. Women with two to three children under five years of age were more likely to attend ANC more than four times than women with one child (odds ratio 0.75, 95% CI (0.63-0.88) and p-value <0.05). Women scoring most highly on the wealth index were almost four times more likely to visit ANC than

FIGURE 1. Frequency of ANC visits and timing of ANC visits



their poorest counterparts. Women who had completed higher education visited ANC during their second and third trimesters more frequently than women with lower education levels. Women inhabiting rural areas were more likely to use ANC services and visit these during their second and third trimesters than women inhabiting urban areas. Women who watched TV less than once a week (odds ratio 1.33 and 95% CI (1.04-1.63) and p-value 0.05) were more likely to visit ANC services during their second and third trimesters.

DISCUSSION & CONCLUSION

The aim of ANC is to prevent complications for mothers and babies through accessible high-quality care before and during pregnancy, childbirth and the postnatal period18. The maternal and child health voucher scheme (MCVHS) was introduced in Myanmar in 2013 to increase the uptake of health care services by women to improve maternal and child health [19]. Despite this initiative, utilisation of maternal health care services in Myanmar remains low [20]. This study identifies some of the factors and patient population characteristics which may influence the frequency and timing of women accessing ANC in Myanmar.

For instance, place of residence has been found to have a significant impact on the health seeking behaviour of pregnant women with women from rural areas not using the services as frequently as their urban counterparts. A hospital based cross-sectional study in Myanmar also revealed that place of residence is related to early ANC attendance by women [22,23]. However, a study conducted in Bangladesh showed a significant difference between maternal awareness of antenatal care in rural versus urban areas [24,29]. The chi-square of this study, suggests that mass media have an influence on women's utilisation of ANC. Similar results were obtained from a study in Bangladesh and Nepal, demonstrating a strong association between watching TV and ANC [7,25,26,29]. Moreover, pregnant women preferred programmes in which health experts discussed ANC and maternal health issues and this in turn influenced ANC utilisation [27]. In an Indian study, the mother's education and media exposure have shown large, positive and statistically significant effects on receiving an antenatal checkup [28].

The bivariate analysis also revealed that 50% of women with one child under 5five years used ANC more than four times, which chimes with another study conducted in an eastern village of Nepal [18,29]. The logistic regression analysis shows that women with higher education are four times more likely to use ANC than women with no education. Similarly a study in Bangladesh revealed that women with secondary education were four and a half times more likely to use ANC compared to those with no education [30]. Furthermore, a qualitative study conducted in the Kyimyindaing Township, Yangon, Myanmar argued that maternal health care services needed to be tailored to women with no education [21].

This study demonstrated that about 53.7% respondents receive their antenatal care during their second and third trimesters. In line with this, 61.4% women used antenatal care services during the second and third trimesters of their pregnancy in a recent study in Bangladesh [31]. Further, Mayanmar women from richest households used ANC more frequently, but a study in Ethiopia found that women from the middle quintile wealth category were more likely to use the service [32].

TABLE 2. Bivariate analysis of ANC visits and Timing of ANC with background characteristics of women of Myanmar

VARIABLES	ANC VISITS		TIMING OF ANC	
	Less than 4	More than 4	1st Trimester	2nd & 3rd Trimester
Age of the respondent				
15-24	55.8	44.2	43.1	56.9
25-34	51.3	48.7	47	53
35-49	57.3	42.7	46.6	53.4
p-value	.00		.22	
Educational level				
No education	78.9	21.1	41.2	58.8
Primary	61.1	38.9	44.3	55.7
Secondary	41	59	45.8	54.2
Higher	15.9	84.1	63.3	36.7
p-value	.00		.00	
Place of residence				
Urban	26	74	45.3	54.7
Rural	62.2	37.8	46.4	53.6
p-value	.00		.57	
Number of children aged 5 and under				
1	49.9	50.1	46.6	53.4
2-3	61.6	38.4	44.9	55.1
4+	68.6	31.4	43.3	56.7
p-value	.00		.65	
Frequency of reading newspaper				
Not at all	61.9	38.1	43.3	56.7
Less than once a week	42.4	57.6	50.2	49.8
At least once a week	31.6	68.4	52.5	47.5
p-value	.00		.00	
Frequency of listening of radio				
Not at all	57.1	42.9	44.3	55.7
Less than once a week	49.1	50.9	47.6	52.4
At least once a week	48.3	51.7	50.6	49.4
p-value	.00		.01	
Frequency of watching television				
Not at all	67.9	32.1	46.9	53.1
Less than once a week	58.4	41.6	41.4	58.6
At least once a week	44.3	55.7	47.6	52.4
p-value	.00		.02	
Wealth index				
Poorest	74.7	25.3	43.1	56.9
Poorer	62.5	37.5	45.8	54.2
Middle	53.5	46.5	43.8	56.2
Richer	37.9	62.1	45.5	54.5
Richest	19.2	80.8	55.1	44.9
p-value	.00		.00	

In South Africa for instance, women were generally poorly informed about the risks of pregnancy and the significance of antenatal care [33], and patient information is seen to be one of the effective ways of preventing maternal mortality and morbidity in developing countries [34]. Myanmar is going through complex political and economic transformation and since 2011, the Ministry of Health, Myanmar has started to assimilate and rebuild the health care system to achieve universal health coverage by 2030 [35]. This study has revealed that Myanmar women with no education, poorer socioeconomic status, less access to mass media, inhabiting rural areas and with more children in the family are not utilising the ANC services adequately. Recently, WHO provided a model for antenatal care for a positive pregnancy experience in low and middle income countries and that model recommends that a pregnant woman should have minimum eight ANC visits, and the first contact should take place in the first trimester(upto 12 weeks of gestation), two contacts in the second trimester (at 20 and 26 weeks of gestation) and finally five contacts in the third trimester (at 30,34,36,38 and 40 weeks) [36]. Therefore, the Myanmar government should introduce strategies to encourage pregnant women for four antenatal check-ups and there should be proper monitoring in place of the timing of ANC visits. This will help to enhance the antenatal care service utilisation by

TABLE 3. Association between ANC timing and ANC visits with background characteristics of respondents

VARIABLES	ANC VISITS (LESS THAN< 4 ANC VISITS) OR(95.0%CI)	TIMING OF ANC (FIRST ANC VISIT AT 1ST TRIMESTER) OR(95.0%CI)
Age of the respondent		
15-24	1	1
25-34	1.13(0.93-1.40)	0.91(0.75-1.11)
35-49	1.00(0.80-1.25)	0.91(0.73-1.13)
Education level		
No education	1	1
Primary	1.95(1.52-2.50) *	0.91(0.71-1.16)
Secondary	2.79(2.11-3.68) *	0.88(0.67-1.16)
Higher	4.81(3.09-7.49) *	0.54(0.36-.79) *
Place of residence		
Urban	1	1
Rural	0.50(0.41-0.62) *	0.75(0.57-0.87) *
Number of children 5 and under		
1	1	1
2-3	0.75(0.63-0.88) *	1.05(0.89-1.24)
4+	0.54(0.23-1.25)	1.01(0.47-2.19)
Frequency of reading newspaper		
Not at all	1	1
Less than once a week	1.17(0.98-1.42)	0.81(0.67-0.97) *
At least once a week	1.20(0.90-1.60)	0.85(0.65-1.11)
Frequency of listening of radio		
Not at all	1	1
Less than once a week	1.21(0.99-1.48)	0.94(0.77-1.13)
At least once a week	1.08(0.88-1.33)	0.87(0.72-1.06)
Frequency of watching television		
Not at all	1	1
Less than once a week	0.94(0.75-1.18)	1.30(1.04-1.63) *
At least once a week	1.07(0.88-1.31)	1.01(0.84-1.24)
Wealth index		
Poorest	1	1
Poorer	1.48(1.191-.84) *	0.97(0.78-1.21)
Middle	1.77(1.40-2.24) *	1.10(0.87-1.41)
Richer	2.45(1.89-3.18) *	0.96(0.74-1.25)
Richest	3.67(2.61-5.17) *	0.62(0.45-0.86) *

Myanmar women, in turn reducing the risk of maternal mortality and morbidity. Priority should be given to women with no education, women from rural areas, from poorer backgrounds and with more than one child.

Finally, future research in this field should take into account the limitations of this study. This study has used secondary data and one of the disadvantages of using secondary data is that it was not collected to answer the research question. Lastly, the sample size used in the study is relatively small, so future research should use a larger population-based sample size of pregnant women to increase understanding of how socio-demographic characteristics of women may influence ANC utilisation.

Conflict of Interest

The authors declared no conflict of interest.

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