Determinants for Postpartum Care of Women in Rakhine State, Myanmar: A Descriptive Cross-sectional Study

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Abstract

Background – The maternal mortality ratio of Rakhine State is cited as being the highest level among the states of Myanmar. In contrast, the usage of healthcare providers for the delivery process is at the lowest rate in the Union. Therefore, this study sought to discover the factors influencing women from Rakhine State in receiving postpartum care from healthcare providers.

Methodology – All in all, 278 women from the 15- to 49-year-old age group collected from the Myanmar Demographic Health Survey (2015-2016) were used for this study**.** Binary logistic regression was likewise employed.

Results – Among the 104 cases receiving postpartum care, only 42 cases were home deliveries. Maternal health knowledge status, the role of healthcare providers, and places of delivery, rather than socioeconomic status and social structure, were the most essential factors in promoting postpartum care status. The occupation status of women also influenced their postpartum care receiving status.

Conclusion – By strengthening the health care system setting and promoting the job efficacy of women, the postdelivery care status of Rakhine state can be increased and the maternal death after child birth can be reduced to reach the SDGs.

Background

Due to its importance, reducing maternal deaths, which can indicate the maternal healthcare status of a country, was considered in both the United Nations' Millennium Development Goals (MDGs) and Sustainable Development Goals (SDGs). In Myanmar, most maternal deaths are from vaginal bleeding, preeclampsia, unsafe abortions, and other medical diseases complicating pregnancy and delivery [1]. From 2012 to 2017, many maternal deaths occurred during the postpartum period, and as a consequence, the most common maternal death in Myanmar was postpartum hemorrhage [1–3].

Rakhine State, situated in the westernmost part of Myanmar, consists of 6.2% of the total population of the Union, with most people living in rural areas [4]. The maternal mortality ratio of Rakhine State was 314 per 100,000 live births in 2014 and 116 per 100,000 live births in 2015. These rates were the highest of the entire Union during those years [1, 5].

The World Health Organization (WHO) declared that postpartum care by skilled healthcare providers should begin at least 24 hours after delivery for public sector facility deliveries and as early as possible after delivery for home delivery cases [6]. But in 1991, within Rakhine State, 70.4% of home deliveries used traditional birth attendants (TBA) [7], and 65% in 2007 [8]. Although this data was the principal indicator, the poor post-delivery care status could be estimated by using this data as proxy indicators. In 2014, the postpartum check for home and public sector facility deliveries in Rakhine State was only 40.3%, the third-lowest rate in Myanmar. Among these cases, only 30.2% of women received post-delivery care from healthcare providers [4]. Globally, merely 23% of home delivery cases received postpartum care

(PPC) within two days of childbirth [6]. In Kenya and Nepal, fewer women receive PPC, and therefore most maternal deaths are due to postpartum hemorrhage [9, 10]. Therefore, this study is interested in two objectives concerning the postpartum care status of Rakhine State. The first objective was to identify the proportions of home delivery cases that received PPC from healthcare providers. The second was to examine the factors influencing PPC in Rakhine State.

Methods

The data from the 2015-2016 Myanmar Demographic Health Survey (MDHS), conducted from December 7, 2015, to July 7, 2016, was applied to examine the postpartum care status of the Rakhine State. The eligible criteria for the 278 respondents were women from Rakhine State between 15 to 49 years old and who gave birth to their last child within 5 years of the survey.

Variable Description

This study is interested in PPC received by women in Rakhine State from skilled healthcare providers irrespective of the places of delivery along with the WHO classification of types of birth attendants [6]. Based on Andersen's modern theory, the conceptual framework was structured with sociodemographic factors, social structure, enabling factors, need factors, and healthcare system factors (e.g., accessibility, affordability, availability) [11]. The questionnaires from the MDHS about the respondent’s characteristics and their husband's characteristics were analyzed as sociodemographic factors. To examine the social structure, the questionnaire about the type of decision-maker for healthcare was used. The enabling factors were from the wealth index of the MDHS. Asking about the place of delivery was involved as the need factor. For the healthcare system, factors measuring accessibility status such as types of both ANC and intrapartum care providers; affordability status such as any money problems for receiving healthcare at a healthcare facility (accommodation fee, transportation fee apart from healthcare service cost); availability status as residency and status of receiving knowledge about the danger signs of pregnancy during ANC were applied from the MDHS.

Statistical Procedure

STATA 14 was used to analyze the data. As the variables were the categorized socioeconomic variables, and the outcomes had two options of whether or not to receive PPC from healthcare providers, binary logistic regression was employed [12].

Results

Descriptive Statistics

From descriptive analysis, among 278 women, only 37% received PPC from healthcare providers. Of the respondents, 53% were 24-34 years old, 19% were younger than 24, and 27% were older than 35. Of the women, 45% had 2 to 4 children, 34% had only one child, and 21% had more than four children. Just 22% of women and 33% of their husbands had higher than primary education. Notably, 78% of women and 67% of their husbands had low education levels. For the occupation status of women, 53% were housewives, 32% were agricultural and manual workers, and only 16% were officers. For husband's occupation status, 84% worked as agricultural and manual workers, and 16% were officers. For decision-making to seek care, 44% of cases were decided by the husband alone, but 56% were done by the women alone or as a couple. Amazingly 81% of the women were poor. About 71% of women received ANC from healthcare providers. Over half (52%) of women received maternity healthcare knowledge during their ANC visits. Nearly 77% of cases were home delivery, and only 23% had institutional delivery. During the delivery process, 66% of women received care from TBA, and 34% received care from healthcare providers. Over half (51%) of women said that money was their big problem with receiving PPC. At last, over 87% of women were from rural areas.

Bivariate Analysis

Bivariate analysis was used to investigate relationships between the two variables, age of mother and PPC, and parity of mother and PPC, at a 95% confidence interval. According to Table 1, the only variable, age of respondent, analyzed by Chi-2 test was not significantly associated with receiving PPC from healthcare providers as the distribution of each category for a dependent variable was quite similar.

Table 1
Bivariate Study for Receiving PPC from Healthcare Providers (N=278)

Variable	Category	Yes		No		Chi-squared
		n	**%**	**n**	**%**	
Age of women	<24	21	39%	33	61%	0.065
	24-34	55	37%	93	63%	
	≥35	28	37%	48	63%	
Parity	1	57	60%	38	40%	42.465***
	2-4	42	34%	82	66%	
	>4	5	8%	54	92%	
Education status of women	Primary education or no education	54	25%	162	75%	63.703***
	Higher than primary education	50	81%	12	19%	
Education status of husband	Primary education or no education	40	22%	146	78%	60.7194***
	Higher than primary education	64	70%	28	30%	
Occupation status of women	Not working	41	28%	105	72%	24.6570***
	Agricultural and manual workers	33	38%	56	62%	
	Officers	30	70%	13	30%	
Occupation status of husband	Agricultural and manual workers	75	32%	159	68%	18.1321***
	Officers	29	66%	15	34%	
Male involvement	Wife alone or both	71	45%	86	55%	9.4034***
	Husband alone	33	27%	88	73%	
Wealth status	Poor	63	28%	163	72%	46.9034***
	Moderate or rich	41	79%	11	21%	
Types of ANC providers	No ANC provider	3	4%	78	96%	55.461***
	Healthcare providers	101	51%	96	49%	
Receiving knowledge during ANC	Yes	87	60%	58	40%	66.054***

Note - *=95% confidence interval (CI)**

	No	17	13%	116	87%	
Place of delivery	Home	42	20%	172	80%	125.556***
	Public sector facility	62	97%	2	3%	
Types of intrapartum care providers	Traditional Birth Attendants	16	9%	167	91%	187.94***
	Healthcare providers	88	93%	7	7%	
Money problem	Not a problem	36	27%	99	73%	12.937***
	Significant problem	68	48%	75	52%	
Type of residence	Rural	74	31%	167	69%	34.764***
	Urban	30	81%	7	19%	
Note - *=95% confidence interval (CI)**						

The primigravid women (pregnant for the first time) with higher education for themselves and their husbands, who, together with their husbands, worked at a job with regular salaries, were significantly associated with the usage of PPC services. Decision-making to seek care by women or both, and the family's wealth were factors in receiving PPC. The group which acquired ANC from healthcare providers was more likely to seek PPC services. The women who received maternal health knowledge during ANC visits, delivered their children using public sector facilities, and received delivery care from healthcare staff had significantly received PPC services. In the descriptive study, there is no difference in the number of respondents between the problem with money in receiving PPC. Still, using bivariate statistics, the women who could afford maternal healthcare had more chance of receiving PPC than those who could not. The respondents who lived in urban areas significantly used PPC services more than those in rural areas.

Multivariate Analysis

According to the bivariate analysis, almost all variables were significant for maternal PPC except the age of women. To interest the relationship of outcome variables with all factors, each variable from the sociodemographic factors, social structure, enabling factors, need factors, and healthcare system factors were selected for multivariate analysis; occupation status of women, male involvement, wealth status, types of ANC providers, place of delivery, residency, and knowledge received during the ANC visits. According to the low rates of working women with regular salaries, the relationship between female labor force participation (FLFP) and the outcome was interesting. Therefore, women’s occupation status was chosen and was then recategorized into two categories. The first group was a combination of not

working and agricultural and manual workers, and the category for the officers remained the same for FLFP.

To conduct multivariate analysis, some variable scales and categories were changed. The women's ages and their parity would be used as the controlling factors by ratio scales. Sometimes, the multiparous and older women thought they had already experienced the delivery process and did not need maternal and neonatal care.

Binary Logistic Regression

Table-2. Binary Logistic Regression Between the Receiving of PPC from Healthcare Providers and the Selected Variables

PPC_HCP (No reference)	Odd ratio	P>|z|	95%CI
Age of women	1.04	0.30	0.96-1.13
Parity	0.74	0.04	0.55-0.99
Place of Delivery (Home delivery_ref)			
Public sector facilities	49.76	0.00	10.32-239.88
Types of ANC providers (No ANC_ref)			
Healthcare providers	4.21	0.05	0.95-18.73
FLFP (agricultural and manual_ref)			
Officers	2.85	0.04	1.05-7.78
Receiving knowledge during ANC (no_ref)			
Yes	2.98	0.01	1.20-7.40
Male involvement (wife alone and both _ref)			
Husband alone	0.52	0.11	0.23-1.17
Wealth status (poor_ref)			
Moderate and rich	0.99	0.98	0.28-3.37
Type of residence (rural_ref)			
Urban	1.92	0.32	0.52-7.06
_cons	0.03	0.003	0.00-0.30

According to the binary logistic analysis shown in Table 2, after controlling for age and parity of women, the women who delivered their child using public sector facilities had 49.76 times the chance to receive PPC from healthcare providers than the women who gave birth at home. Women who received ANC from healthcare providers were 4.21 times more likely to receive PPC from healthcare providers than those who did not. Women who participated in the labor force were 2.85 times more likely to receive PPC from healthcare providers than the women who did not. Acquiring knowledge about the danger signs of pregnancy during ANC visits was also significantly associated with receiving PPC from skilled healthcare providers, with an odds ratio of 2.98, compared to the women who did not. However, the decision-making by the husband alone, the wealth status of the women, and residency were not significantly associated with receiving PPC from healthcare providers.

The three marginal effect analyses were done to explore the important factors of this study for promoting the PPC status [13] as it is challenging to interpret directly from multivariate results. Therefore, applying marginal effects analysis enabled and supported the study when discussing this finding.

The first marginal analysis was between receiving knowledge during ANC visits and place of delivery (Table 3). If the women did not receive healthcare knowledge during their ANC visits and their delivery process was at home, the probability of seeking PPC from skilled healthcare providers was only 16%. At the same time, if the women received maternal healthcare knowledge during their ANC visits, the probability of receiving PPC was 32%, even though for home delivery cases. For institutional delivery cases, the probability of receiving PPC from healthcare providers with women who did not previously obtain healthcare knowledge was 79%, and the likelihood for the women who obtained healthcare knowledge was 90%.

Table – 3. The Marginal Effects of Receiving Healthcare Knowledge During ANC Visits and Place of Delivery

Variable	Margin	P>|z|	95%CI
Receiving knowledge during ANC			
no	0.30	0.000	0.25-0.37
yes	0.42	0.000	0.36-0.48
Place of Delivery			
Home	0.26	0.000	0.21-0.33
Public sector facility	0.82	0.000	0.65-1.00
Interaction between receiving knowledge during ANC visits and Place of delivery			
Women who did not acquire knowledge and delivered at home	0.16	0.001	0.70-0.25
Women who did not acquire knowledge and delivered at a public sector facility	0.79	0.000	0.58-1.003
Women who received knowledge and delivered at home	0.32	0.000	0.23-0.40
Women who received knowledge and delivered at a public sector facility	0.90	0.000	0.76-1.04

The second marginal analysis was between receiving knowledge during ANC visits and FLFP (Table 4). If the women did not obtain information about the risk of pregnancy and were from the manual and agricultural workers group, the probability of receiving PPC was only 29%. Even though they were general officers, clerical officers, or managers, their likelihood of receiving PPC was only 39%. If the women obtained the maternal health information during ANC visits, the outcome probability was 40% for the manual and agricultural workers and 55% for the women from the officers' group.

Table – 4. Marginal Effects for Receiving Healthcare Knowledge During ANC Visits and Female Labor Force Participation (FLFP)

Variable	Margin	P>|z|	95%CI
Receiving knowledge during ANC			
no	0.31	0.000	0.25-0.37
yes	0.42	0.000	0.36-0.48
FLFP			
Women who worked in the manual and agricultural group	0.36	0.000	0.32-0.50
Women who worked in the officers' groups	0.47	0.000	0.40-0.59
Interaction between receiving knowledge during ANC visits and FLFP			
Women who did not acquire knowledge and worked in the manual and agricultural group	0.29	0.000	0.23-0.35
Women who did not acquire knowledge and worked in the officers' group	0.39	0.000	0.27-0.52
Women who received knowledge and worked in the manual and agricultural group	0.40	0.000	0.33-0.47
Women who received knowledge and worked in the officers' group	0.55	0.000	0.38-0.71

The last marginal analysis was between receiving knowledge status and types of ANC providers (Table 5). If the women did not receive ANC visits and did not receive maternal health knowledge, their probability of receiving PPC was only 22%. If the women received ANC visits from healthcare providers but did not receive maternal healthcare knowledge, the outcome probability was only 33%. If the women received healthcare knowledge during ANC visits, but that ANC was not from healthcare providers, the probability of receiving PPC from providers were only 30%. If the women received ANC and health knowledge from health staff, their probability of receiving PPC was 47%.

Table – 5. Marginal Effects for Received Healthcare Knowledge During ANC visits and Types of ANC providers

Variable	Margin	P>|z|	95%CI
Receiving knowledge during ANC			
no	0.31	0.000	0.25-0.37
yes	0.42	0.000	0.36-0.48
Types of ANC providers			
No ANC visits	0.27	0.000	0.17-0.37
Healthcare providers	0.40	0.000	0.35-0.45
Interaction between receiving knowledge during ANC visits and types of ANC providers			
Women who did not acquire knowledge and did not receive ANC visit	0.22	0.000	0.12-0.31
Women who did not acquire knowledge and received ANC visits from healthcare providers	0.33	0.000	0.25-0.41
Women who acquired knowledge and did not receive ANC visit	0.30	0.000	0.16-0.44
Women who received knowledge and received ANC visits from healthcare providers	0.47	0.000	0.40-0.54

Discussion

The nature of the women from Rakhine State was associated with low education and low economic status. Most of the women were housewives and from rural communities. The usage of healthcare providers was low, and their delivery process was dependent on traditional birth attendants.

According to binary logistic regression and three marginal analyses (marginal effects of receiving healthcare knowledge during ANC visits and place of delivery, marginal effects for receiving healthcare knowledge during ANC visits and FLFP, and marginal effects for received healthcare knowledge during ANC visits and types of ANC providers), the place of delivery, types of ANC providers, female labor force participation, and receiving knowledge during ANC visits were important factors for receiving PPC from healthcare providers.

Well-trained healthcare providers could share the danger signs of pregnancy and childbirth during the ANC period. Moreover, they are present at the healthcare facilities, and they could give proper medical treatment. In contrast, TBA lacked healthcare knowledge and could not provide appropriate maternity care [14]. Studies from Kenya, Nepal, and Bangladesh agreed on the vital roles of different types of ANC providers and delivery facilities [9, 10, 15].

For women's employment status, the findings from Tehsil Silanwali revealed that homemakers were more likely to use healthcare services than working women [16]. But according to our study, the women's employment status was also a significant factor for their healthcare-seeking behavior. Almost all of the women employed with regular income were educated, and thus, they had more knowledge than the manual workers. Their workmates were also educated so appropriate information could be easily distributed among them. In that way, the post-delivery care status of the working mothers could be increased. Another reason may be that they could utilize their income as they wished. This finding was concurred by the Mru community's study [17]. But the study from Myanmar and China [18, 19] stated that occupation status was not significant to obtain health services.

The importance of receiving healthcare knowledge during ANC visits was supported by most studies. Attaining the knowledge of at least one danger sign of pregnancy could cause the mothers to seek follow-up care, but incorrect knowledge and false belief or opinion were barriers to that cautious behavior [20].

The study done in Nepal found that women receiving healthcare services depended on their husbands [20]. However, the women from the Rakhine State could make their own decisions for their health, seeing as the patriarchal society was not well developed in that state.

Due to the promotion of healthcare facility status in rural and peri-urban areas, residency was not an influential factor for women of the Rakhine ethnic group seeking care from health staff [21]. That result was supported by a study in China [19]. However, studies in Myanmar [18] and Kenya [9] noted that women from urban areas had more chances to use maternal healthcare services than rural communities.

Promoting maternal and child healthcare programs to reduce maternal morbidity and mortality and the community cost-sharing system was one of the strategies that the government of Myanmar developed to narrow the differentiation of affordability [21]. Thus, for the women from Rakhine State, wealth status was not important for receiving healthcare, and this finding was consistent with the results of Bangladesh maternal care services [15].

Limitation, Strength, And Weakness

As this is a secondary analysis, some background history, such as traditional beliefs and women's satisfaction with receiving healthcare, cannot be discovered. The attitude of both clients and providers for PPC is challenging to measure as a quantitative study. This study may become the first analysis of PPC services for Rakhine State as there was no specific research about that service in that state.

Conclusion

To strengthen the maternal healthcare system, promoting the quality and quantity of the healthcare providers, promoting institutional deliveries, and reinforcing healthcare literacy should be done. Creating job opportunities for women may expand their network, and empowerment for their health status will be increased. In addition, it is imperative to promote and support women to access this welfare by using

public information and policies. Further, the role of the ANC program needs to be followed up. The method that can be applied should be a mobile team visit. Since we learned that the healthcare providers are essential, the findings of this paper can support the implementation of the Sexual and Reproductive Health Right policy, and target of SDGs could be reached by reducing postpartum maternal death.

Abbreviations

MDGs
Millennium Development Goals
SDGs
Sustainable Development Goals
WHO
World Health Organization
TBA
Traditional Birth Attendants
PPC
Postpartum care
MDHS
Myanmar Demographic Health Survey
ANC
Antenatal care
FLFP
Female Labor Force Participation

Declarations

Ethics approval and consent to participation

Ethical approval for this study was received from the Institute of Population and Social Research-Institutional Review Board (IRB), (No. 2020/05-257). The Demographic Health Survey Program also endorsed using the data for secondary analysis. All the procedures were accomplished with the relevant guidelines and regulations.

Consent for publication

Not applicable

Availability of data and materials

Raw data of that study was available at
https://www.dhsprogram.com/data/dataset/Myanmar_Standard-DHS_2016.cfm?flag=1

Competeing interest

Not applicable

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Author's contribution

The idea, proposal writing, data analysis and the draft of manuscript were taken by Thiri. And Mr.Yothin guided for the concept of the study, analysis and critical review. Both authors read and agreed to submit the manuscript for the peer review.

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