

The perceptions, health-seeking behaviours and access of Pnar women to maternal health care services in Nartiang village, West Jaintia Hills District, Meghalaya, India

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ABSTRACT

India has made an impressive progress in maternal health outcomes in the past three decades. However, inequities in access as well as utilization of reproductive health care persist across dimensions such as geography, wealth and rural-urban status. The present study is an attempt to assess the utilization of maternal health care services and to determine the factors influencing the maternal health care utilization among the Pnar women in Nartiang village, West Jaintia Hills District, Meghalaya. Data pertaining to antenatal care, delivery characteristics, post natal care and family planning methods as well as socio-demographic factors such as current age, age at marriage, number of live births, education and income groups have been collected from a total of 429 ever-married women belong to the reproductive age groups of 15-49 years. The results indicate that majority of the women (i.e., 86.71%) attended antenatal care (ANC). It is found that mothers who attended at least three antenatal care check-ups were 59.67%, whereby 52.68% of the mothers registered their first antenatal care check-ups during second trimester. About 36.67% of the women underwent institutional delivery and only 10% of them attended postnatal care check-ups after delivery. The adoption of family planning methods was found to be very low i.e., only 16.78% of the mothers are using any family planning methods. The present findings reveal that although the antenatal utilization was good in the study population, institutional delivery, postnatal care and adoption of family planning methods was poor. Among the socio-demographic factors included in the regression analysis, age and education of women were found as the leading contributors in utilization of maternal health care services. Enhancing literacy among women and improving of health infrastructure and its quality may be prioritized to improve the maternal health of the Pnar women in Nartiang village.

Keywords: Maternal health, antenatal care, institutional delivery, postnatal care, family planning methods.

INTRODUCTION

Once a country with highest maternal mortality ratios (MMR) in the world; India has made great strides towards improving maternal health outcomes. The MMR of India has declined from 167 deaths per 100,000 live births in 2011-2013 to 130 deaths in 2014-2016 (Sample Registration System, 2018). This decline can be partly attributed to the introduction of several key government interventions under the National Rural Health Mission (NRHM) which began in 2005, with the aim to provide access to improved health care at the household level through female Accredited Social Health Activists (ASHA), who acts as an interface between the community and the public health system (Ministry of Health and Family Welfare, 2018). The NRHM has been hailed globally as a successful programme, with institutional delivery rates increasing from 39% in 2005-06 to 79% in 2015-16 (IIPS and ICF, 2017). However, this progress has not been homogenous; maternal death varies dramatically country-wide, indicating the inequities that persist across dimensions such as geography, wealth and rural-urban status (Balarajan et al., 2011). These inequities, combined with India's vast population and high fertility rate, mean that India still accounts for 15% of global maternal deaths, more than any other country (USAID, 2014; GBD, 2016). Evidences suggest that high rate of maternal mortality are associated with inadequate uptake and poor quality of maternal health care services during pregnancy, childbirth and postnatal periods (Filippi et al., 2006; Gogoi et al., 2014)

Pregnancy and childbirth carry great risks because of the varying and embedded complications, practices, processes, beliefs, life conditions and the immediate environment. These risks can be reduced by health care interventions such as provision of maternal and public health care, supplementary nutrition, family planning, safe abortion and improvement in other reproductive conditions (Akram, 2004). Access to skilled assistance and well-equipped health institutions during delivery, appropriate and timely management of obstetric complication during pregnancy and postnatal care can reduce maternal mortality and morbidity, thereby improve pregnancy outcome. Maternal health care in the context of primary health care include prenatal care, safe delivery, postnatal care and family planning (WHO, 2004). Antenatal care during pregnancy provide information and advice to the women about pregnancy-related complication, detect and treat pre-existing and concurrent problems during pregnancy, and provide counselling on preventive care, delivery care, postnatal care, and related issues. In India, the Reproductive and Child Health Programme aims at providing at least three antenatal check-ups which should include a weight and blood pressure check, abdominal examination, immunization against tetanus, iron and folic acid prophylaxis, as well as anaemia management (Ministry of Health and Family Welfare, 2005). Antenatal care is an opportunity to promote the benefits of skilled attendance at birth and to encourage women to seek postpartum care for themselves and their newborns. The place where delivery takes place is an important aspect of maternal health care as quality of care received by the mother and the new born depends upon the place of delivery. The health of mothers and the new born depends on an operational continuum of care with accessible, high quality care before and during pregnancy, childbirth, and postnatal period. Family Planning on the other hand refers to the practices that help individuals or couples to avoid unwanted births, bring about wanted births, regulate the intervals between pregnancies, control the time at which births occurs in relation

to the age of parents and determines the number of children in the family. According to NFHS-4, the contraceptive prevalence rate among the currently married women age 15-49 years in Meghalaya is just 24% (IIPS and ICF, 2017)

The utilization of maternal health care service depends upon availability and accessibility of these services, socio-demographic factors and quality of care provided to the women (WHO and UNICEF, 2003). A number of literatures have highlighted the utilization of maternal health care services varies with the socio-demographic characteristics of the population (Bloom et al., 2001; Navaneetham and Dharmalingam, 2002; Pallikadavath et al., 2004; Dey, 2009). These studies have shown that education of the women is an important social variable that has a positive effect on the utilization of maternal health services. Women with higher education are more likely to know the long-term benefits of the utilization of services compared with women with less education or uneducated women. Educated women are more likely to take advantage of public health care services, seek high-quality services and have greater ability to use health care inputs that offer improved care than women with no education. The other factors which were found to influence the utilization of antenatal care are higher socio-economic status, availability of health facilities, good connectivity and easy accessibility to public health care centre and sub centres (Bhatia and Cleland, 1995; Celik and Hotchkiss, 2000; Kamal, 2009; Das et al., 2018). The economic status of the household and education were found to be the most important factors associated with the utilization of antenatal care and skilled attendant at delivery care (Jat et al., 2011). Skilled attendance at birth remains another important intervention in reducing maternal mortality and complications. Studies indicate that despite the ready availability of skilled birth attendances in developing countries, expectant mothers continue to use traditional birth attendants (Yanagisawa et al., 2006). Utilization of skilled birth attendance depends on several factors such as adequate antenatal care (Navaneetham and Dharmalingam, 2002), obstetric complications, quality of care, and proximity to a healthy facility (Gabrysch and Campbell, 2009), educational attainment (WHO, 2008), and economic accessibility (Jat et al., 2011). A recent review on inequalities in maternity care has shown that the poor-rich differentials are much larger in professional delivery care as compared to antenatal and immunization. This may be due to lack of availability and accessibility of services and cultural factors that favour home-based delivery care (Houwelling et al., 2007). Timely provision of postnatal care to women and children would also reduce maternal and child mortality WHO, 2014). A study reveals that women postnatal care utilization is associated with utilization of antenatal care and delivery at a health facility (Tarekegn et al., 2014). Considering the importance of maternal health care, the present study was undertaken to assess the health-seeking behaviour and access of married Pnar women to maternal health care services in Nartiang village and also to analyse and determine the socio-demographic factors which influence the utilization of maternal health care services.

MATERIALS AND METHODS

The present study was carried out among the ever married Pnar women of Nartiang village, West Jaintia Hills District, Meghalaya, India. Meghalaya is a home to a predominant tribal population consisting of three major tribal groups, namely, the Khasi, the Jaintia (Pnar) and the Garo and are among the few surviving matrilineal communities in the world. These

three indigenous tribal groups follow a strong matrilineal kinship system and are also known to have one of the strongest matrilineal systems in the world. Individuals trace their kinship identity to a particular lineage and clan. Traditionally the right of possession of family property and lineage land is vested on women. The Pnar inhabit Jaintia Hills District on the eastern part of the state of Meghalaya. Nartiang is one of the oldest village in West Jaintia Hills District and it is famous for two things-the stone monoliths and the Durga temple. The Pnar of Nartiang village follow a unique tribal tradition where two diverse traditions, the indigenous Pnar culture and tradition (Niam-Tre) blend with the Hinduism. It is also interesting to note that all rites of passages from birth to death are performed in accordance with Pnar tribal traditions they inherited from their forefathers.

The data for the present study was collected from 429 ever-married women in the reproductive age of 15-49 years with the help of structured interview scheduled. Information on antenatal care, delivery characteristics, postnatal care, family planning methods and various socio-demographic factors such as age, age at marriage, number of live births, mother education, father education and income groups were collected by filling up the schedule. The quantitative data were entered, sorted and analyze by using statistical package for social sciences. First descriptive analyzes were carried out for each of the variables. In order to examine the factors influencing the utilization of reproductive health care services, a binary regression analysis has been carried out, with use of antenatal care check-ups, institutional delivery and postnatal care check-ups as the dependent variables and set of independent variables have been employed.

RESULTS

Table 1 shows the characteristics of antenatal care (ANC) of the women during pregnancy. It may be mentioned that ANC characteristics reported in this study are based on those received by mothers from both private and government ANC services. Majority of the women i.e., 86.71% have attended antenatal check-up and around 13.29% didn't attend any ANC check-ups during pregnancy. Around 59.67% had attended ANC check-ups for at least 3 times where majority of the women i.e., 52.68% registered their first ANC visits during the second trimesters of pregnancy. As regards to the nature of ANC services, about 85.55% of the women have received iron and folic acid tablets and 44.76% have received at least two doses of tetanus and toxoid injections during their visits to private and government ANC centres.

Table 1. Characteristics of antenatal care (ANC) of the women (aged 15-49 years) during their pregnancy (based on the last pregnancy for the non-pregnant women during the survey)

Characteristics	No. of women	%
1. Attending ANC check up during pregnancy		
Visit for ANC check up	372	86.71
No ANC check up	57	13.29
2. Place of visit for check up		
Hospital	36	8.39
Health centre	327	76.22
Private Clinic	9	2.10
No check up	57	13.29

3. Number of ANC visits during pregnancy		
≤3 times	256	59.67
>3 times	116	27.04
No	57	13.29
4. Stage of pregnancy at first ANC visit		
First Trimester	92	21.45
Second Trimester	226	52.68
Third Trimester	54	12.59
No	57	13.29
5. Receipt of Iron & Folic Acid Tablet		
Yes	367	85.55
No	62	14.45
6. Doses of Tetanus Toxoid injection		
0	58	13.52
1	179	41.72
2	192	44.76

Table 2 shows that delivery characteristics and post natal care of the women after delivery. Majority of the women i.e., 63.33% underwent home delivery whereas only 36.67% underwent institutional delivery. Around 54.29% of the delivery has been assisted by the traditional birth attendance, where they use the bamboo split to cut the umbilical cord after delivery. About 98.57% of the women have normal delivery whereas only 1.43% have caesarean. Majority of the women (i.e., 98.57%) have no delivery complication. With regards to postnatal care services, only 10% of the women have attended postnatal check-ups.

It was also found that the main reasons given by the women for not attending institutional delivery and postnatal check-ups were apparently healthy during their last delivery (25.71%); trust on traditional birth attendance (17.86%), better services at home (9.52%) and giving more importance to household work (10.24%).

Table 2. Delivery characteristics and postnatal care (PNC) of the women (aged 15-49 years) after delivery

Characteristics	No. of women (N=420)	%
1. Place of delivery		
Institutional	154	36.67
Home	266	63.33
2. Assistance during delivery		
Doctor and/or Nurse	192	45.71
Traditional birth attendance/ Elderly ladies	228	54.29
3. Type of delivery		
Normal	414	98.57
Caesarean section	6	1.43
4. Delivery complication		

Yes	6	1.43
No	414	98.57
5. Instrument used		
Blade	192	45.71
Bamboo splits	228	54.29
6. Attending Post-natal check-up after delivery		
Yes	42	10.00
No	378	90.00

Table 3 shows the binary logistic regression of antenatal care, place of delivery and postnatal care with socio-demographic factors. It is found that the odds of having more than 3 times ANC visits was higher among the women of age groups ≤ 23 years than the women of age groups 24-33, 34-43 and ≥ 44 years with the odds ratio of 0.94, 0.64 and 0.32 respectively. It is also found that the odds of having institutional delivery was higher among the women of the age groups ≤ 23 years than the women with age groups 24-33, 34-43 and ≥ 44 years with the odds ratio of 0.32, 0.22 and 0.08 respectively. Women in the younger age groups have the higher chances of utilizing post natal care services as compare to women in the other age groups of 24-33, 34-43 and ≥ 44 years. The regression analysis shows that there is significant association ($p < 0.05$) between age of the mother with antenatal care visit, institutional delivery and postnatal care. Women with the higher age at marriage i.e., ≥ 21 year have 1.01, 3.21 and 1.61 times higher chance of utilizing more than three antenatal care visits, institutional delivery and postnatal care services as compare to the women with age at marriage of ≤ 18 and 19-20 years. However, age at marriage shows no significant association with antenatal care and postnatal care services except for institutional delivery. The regression analysis shows that the number of live births is significantly associated with antenatal care visits and institutional delivery except for postnatal care. The odds of utilizing maternal health care services decrease as number of live births increases.

With respect to education level, it is found that as the level of education advances from illiterate to primary, secondary and higher secondary and above, the chances of utilizing antenatal care increased by 2.63, 3.56 and 11.99 times respectively. The similar pattern is also observed in the utilization of institutional delivery and postnatal care services, as the level of education advances the odds of services utilization also increases. The regression analysis shows that there is significant association between educational level of the mother with antenatal care visits, institutional delivery and postnatal care services. With respect to father education, the odd of having more than 3 ANC visits is 2.98 times higher among those who have completed secondary education as compared to illiterate. It is also found that, the odds of having institutional delivery was 1.66 times and postnatal check-ups was 3.63 times higher among those who completed higher secondary and above as compared to those who are illiterate. The regression analysis reveals that father's education is significantly associated ($p < 0.05$) with antenatal care visits and postnatal care except for institutional delivery. The table further shows that the odds of having more than three antenatal care visits is 1.14 times more among women belonging to higher income groups as compared to women in the lower income groups. The odds of having institutional delivery is 1.25 times higher among the women

belonging to middle income groups as compared to the women in the low income groups. Women belonging to the high income groups have higher odds i.e., 1.60 times of attending postnatal care check-ups as compared to the women in the low income groups. However, the regression analysis shows that there is no significant association ($p>0.05$) between income groups and antenatal care visit, institutional delivery and postnatal care services.

Table 3: Binary Logistic Regression of antenatal care, delivery characteristics and postnatal care with socio-demographic variables

Background Characteristics	ANC visits	Institutional delivery	PNC visits
	OR (95% C.I.)	OR (95% C.I.)	OR (95% C.I.)
Age (in years)			
≤23 [®]	1.00*	1.00**	1.00*
24-33	0.94 (0.52-1.68)	0.32 (0.17-0.59)	0.48 (0.21-1.07)
34-43	0.64 (0.33-1.24)	0.22 (0.12-0.43)	0.57 (0.24-1.34)
≥44	0.32 (0.13-0.79)	0.08 (0.04-0.19)	0.05 (0.01-0.42)
Age at marriage (years)			
≤18 [®]	1.00	1.00**	1.00
19-20	0.86 (0.51-1.45)	1.84 (1.14-2.96)	0.75 (0.33-1.72)
≥21	1.01 (0.59-1.73)	3.21 (1.93-5.33)	1.61 (0.77-3.36)
Live births			
1 [®]	1.00**	1.00**	1.00
2-3	0.76 (0.44-1.32)	0.28 (0.16-0.49)	0.91 (0.42-1.99)
>3	0.40 (0.23-0.71)	0.15 (0.08-0.25)	0.48 (0.22-1.09)
Mother's Education			
Illiterate [®]	1.00**	1.00**	1.00**
Primary	2.63 (1.25-5.53)	1.94 (1.08-3.47)	2.05 (0.56-7.49)
Secondary	3.56 (1.81-7.02)	2.92 (1.73-4.93)	6.15 (2.07-18.23)
Higher secondary & above	11.99 (5.16-27.89)	3.64 (1.78-7.45)	6.81 (1.94-23.89)
Father's Education			
Illiterate [®]	1.00**	1.00	1.00*
Primary	0.92 (0.45-1.91)	1.36 (0.74-2.49)	1.59 (0.55-4.60)
Secondary	2.98 (1.54-5.79)	0.89 (0.48-1.67)	3.14 (1.21-8.16)
Higher secondary & above	2.77 (1.28-6.01)	1.66 (0.79-3.46)	3.63 (1.26-10.49)
Income groups			
LIG [®]	1.00	1.00	1.00
MIG	0.87 (0.50-1.49)	1.25 (0.78-2.03)	0.67 (0.28-1.64)
HIG	1.14 (0.66-1.95)	1.02 (0.62-1.66)	1.60 (0.78-3.27)

*significant at $p<0.05$

**significant at $p<0.01$

Table 4 shows the awareness and adoption of family planning methods among the married women of Nartiang village. It is found that 90.68% of the women are aware about the family planning methods and only 9.32% are unaware. It is also observed that though 90.68% of the married women had knowledge about one or more than one methods of family planning but only 16.78% of the ever married women are adopting the family planning methods. It is often observed that the percentage of adoption of family planning is not accordingly to the

knowledge of family planning. There exist a disparity between the knowledge and adoption of family planning methods. Majority of the women i.e., 10.49% in the present study population preferred oral contraceptive pills. Female sterilization is permanent method for women who are sure that they don't want more children and it was reported by 2.33% of the women. Intrauterine Device is reported by 1.17% in the present study population and the user of condom is reported by 0.47%. Among the women who are not adopting any of the family planning methods, about 23.78% reported that they fear of side effect, 20.28% of them are either separated or widowed, 13.52% lack knowledge, 12.35% want children, 7.69% find it not necessary to use and 5.59% of them are pregnant.

Table 4. Awareness and adoption of family planning methods among the married women in Nartiang village

Characteristics	No. of women	Percentage
Awareness of family planning methods		
Yes	389	90.68
No	40	9.32
Adoption of family planning methods		
Adopter	72	16.78
Non-adopter	357	83.22
Various methods of family planning methods used		
Condoms	2	0.47
Injection	10	2.33
Intra-uterine device (IUD)	5	1.17
Oral contraceptive pills	45	10.49
Female sterilization	10	2.33
Sources of family planning methods		
Hospital	8	1.86
Clinic	11	2.56
Health centre	53	12.35
Reason for not adopting Family Planning		
Currently pregnant	24	5.59
Divorced/Separated/Widowed	87	20.28
Fear of side effect	102	23.78
Lack of knowledge	58	13.52
Not necessary	33	7.69
Want children	53	12.35

DISCUSSION

There is a widely held belief that proper care during pregnancy, delivery and after delivery has a positive effect on the health of both mother and child. Considering the important of health care service, the present study was undertaken to assess the health-seeking behaviour and access of married Pnar women to maternal health care services in Nartiang village, West

Jaintia Hills District, Meghalaya. It was observed that 86.71% of the women had received at least one antenatal check-up during their last pregnancy; where majority i.e., 52.68% registered their first antenatal care check-ups by second trimester during pregnancy. Around 59.67% of the women had at least three antenatal care check-ups and 85.55% had received iron folic acid tablet during their pregnancy. It was also observed that 36.67% of the women had institutional deliveries and 63.33% had home deliveries, while according to NFHS-4, 79% deliveries in India and 51% in Meghalaya were conducted in a health facility or institution. The present findings corroborate the result of another study in Meghalaya where majority of the women i.e., 53.5% attended their first antenatal care check-ups only by the second trimester and majority of the women i.e., 57.5% underwent home delivery (Nongdhar et al., 2019). The main reasons for inadequate utilization of institutional deliveries in the present study were long distance from the health facilities, time constraint and the limited availability of health care provider in the village, where the health infrastructure is inadequate. Furthermore, social factors, traditional attitudes and cultural beliefs surrounding pregnancy and childbirths prompt women to choose traditional birth attendance over medical health care services. This finding corroborates the results of other studies (Joshi et al., 2016; Nongdhar et al., 2019).

The finding of the present study reveals that there exist differences in the utilization of maternal health care services by socio-demographic factors. It is found that younger women are more likely to use antenatal care, safe delivery and postnatal care services compared to those who are older. It is possibly that the younger women might have an enhanced knowledge of available health care services and place more value upon modern medicine as compare to their older counterparts. Number of children ever born to women and utilization of selected maternal health care services were inversely related in the study population. Utilization of maternal health care services significantly decline with the increasing number of children ever born. This finding substantiates the result of other studies which documents that older women with more number of live births are less likely to use health care services (Digambar and Sahoo, 2011; Prusty et al., 2015; Mahapatro, 2012). Education of women was found as a strong predictor of maternal health care utilization. Women with higher education were more likely to have more than three antenatal care check-ups than the women with less education. In case of utilizing skilled attendance at birth, women who have completed higher secondary and above education were about three times more likely to receive delivery care services than illiterate women (OR=3.64). The reason might be that educated women are more aware of the benefit of utilizing health care services. Several studies have reveals that women's education showed a positive association with antenatal care check-ups and institutional deliveries (Navaneetham and Dharmalingam, 2002; Pallikadavath et al., 2004; Gupta et al., 2010). The result from logistic regression analyses confirmed the importance of women's education on the utilization of maternal health care services in the present study. Education was found to be significant associated with maternal health care utilization during pregnancy as well as at the time of delivery and post delivery, corroborating with the findings of other studies (Prusty et al., 2015; Mahapatro, 2012). Income was also found to have a positive effect on the health care seeking behaviour as women with higher income were more likely to have more antenatal care check-ups and preferred institutional deliveries than the lower income groups. Similar observations were made in the other studies (IIPS and ICF, 2017; Gupta et al., 2010). However, logistic regression analysis reveals that income groups do not show any significant influence on

utilization of maternal health care services. This finding substantiates the results of other study which document that a mere increase in per capita income showed little effect on health seeking behaviour of the rural population. Since the health care services under the study population are public services, income may not be a major factor which influences women from seeking health care services (Navaneetham and Dharmalingam, 2002).

With regard to family planning methods, majority of the women i.e., 90.68% are aware about family planning methods and only 9.32% are not aware. However, only 16.78% of the married women were adopting any one of the modern family planning methods and majority i.e., 83.22% were not using any of the family planning methods. Similar finding was also observed in a study among the women in Mawkyrwat Block, Meghalaya, whereby 96.9% of the respondents were not using family planning methods (Nongdhar et al., 2019). The most common family planning methods used by the currently married women in Nartiang village is oral contraceptive pills (10.49%) which is similar to the NFHS-4 report in Meghalaya (IIPS and ICF, 2017).

CONCLUSION

From the foregoing discussion, it may be concluded that although majority of women received antenatal check-ups during their pregnancy, however institutional deliveries, post natal care and adoption of family planning methods are found to be very poor in the study population. Perhaps, conservative thoughts still prevent mothers from seeking trained health professional's help and compel them for traditional methods during delivery; particularly when there are no complications. Furthermore, difficult access to health care personnel and facilities was amongst the main reasons for preferring traditional birth attendances and home delivery. It also reflects that health services in Nartiang are availed by many women during pregnancy than during delivery and points to the important role played by traditional birth attendants. Besides, the recommended need of a minimum of three antenatal check-ups, the coverage of other two interventions, namely two tetanus toxoid injections and full course of iron and folic acid supplementation is incomplete among the women. Those women who were in the age groups ≤ 23 years; age at marriage ≥ 21 years; those who have only one live births, higher educated (higher secondary and above) and those belonging to high income groups are more likely to utilized antenatal care, institutional delivery and postnatal care check-ups. However, among the socio-demographic factors included in the regression analysis, age and education of women were found as the important factors which influence the utilization of maternal health care services among the women in the study population.

On the basis of the results of the present study, it may be suggested that there is a need to make women of Nartiang more aware of the benefits and necessity of antenatal check-ups, iron and folic acid supplements, professional medical care during pregnancy and delivery, full immunization of children, postnatal care after delivery and family planning methods, by giving proper and adequate information regarding these interventions. Efforts should be made to continuously sensitize women about the importance of utilizing the maternal health care services so as to improve the well being of the mothers and children. The provision and maintenance of health care infrastructure by the local government will improve access to health care services, especially for community living in the remote areas.

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