

ORIGINAL ARTICLE

Perceived Barriers in Accessing the Reproductive Health Care Services in Odisha

Madhulika Sahoo¹, Meena Som², Jalandhar Pradhan³

¹Research Scholar, Department of Humanities and Social Sciences, National Institute of Technology, Rourkela, 769008, Sundargarh, Odisha; ²Health Specialist, UNICEF, Hyderabad, 500034, Andhra Pradesh; ³Assistant Professor, Department of Humanities and Social Sciences, National Institute of Technology, Rourkela, 769008, Sundargarh, Odisha.

Abstract	Introduction	Methodology	Results	Conclusion	References	Citation	Tables / TABs
--------------------------	------------------------------	-----------------------------	-------------------------	----------------------------	----------------------------	--------------------------	-------------------------------

Corresponding Author

Address for Correspondence: Department of Humanities and Social Sciences, National Institute of Technology, Rourkela, Odisha-769008
E Mail ID: madhulika.sahoo@hotmail.co.uk



Citation

Sahoo M, Som M, Pradhan J. Perceived Barriers in Accessing the Reproductive Health Care Services in Odisha. Indian J Comm Health. 2017; 29, 3: 229-238.

Source of Funding: Nil **Conflict of Interest:** None declared

Article Cycle

Received: 04/07/2017; **Revision:** 15/08/2017; **Accepted:** 28/08/2017; **Published:** 30/09/2017

This work is licensed under a [Creative Commons Attribution 4.0 International License](https://creativecommons.org/licenses/by/4.0/).

Abstract

Background: The utilization of Reproductive, Maternal, and Newborn and Child health (RMNCH) services is often influenced by the socio-cultural, financial, access, political barriers acting at the community, family and individual level. Yet, very little attention has been given, either by policy makers or researchers for minimizing their effect.

Aim and objective: To examine the demand and supply side barriers in accessing the maternity services and to understand the perception on maternal healthcare services. **Material & Methods:** The study was carried out in four districts of Odisha state, with a well representative sample of 1194 women, who delivered a child in last 2 years. Quantitative and qualitative study design was followed to collect the data. **Results:** The supply side barriers such as physical access and facilities were faced by the service providers. The demand side barriers such as socio-cultural, financial and access barriers were faced by the service receivers in order to avail the services.

Conclusions: In order to overcome the barriers faced by the women of Odisha it is important to improve the access to services so that they get them easily. Some of the imperative actions such as strengthening community mobilization through inter-personal communication, dialogue with the key influencers in the community as well as continuous engagement with and sensitization of the service providers.

Keywords

RMNCH; Women; Barriers; Socio-Cultural; Financial; Odisha

Introduction

One of the significant targets of Sustainable Development Goals (SDGs) is to improve the maternal and child health under goal 3 i.e. ensuring healthy lives and promoting wellbeing for all. In developing regions like sub-Saharan Africa and South Asia pregnancy and childbirth related deaths are comparatively higher than the developed countries

(4). In these countries the risk of pregnancy-related issues and other health consequences after child birth is even higher. In order to ensure greater impact through the Reproductive Child Health (RCH) programme it is important to understand the financial, socio-cultural, communication and political barriers in accessing these services. Nevertheless, the evidences from barrier studies on reproductive healthcare suggest that, demand as well as supply

side barriers are important factors in deterring patients from accessing adequate services for reproductive healthcare. These barriers are likely to be more detrimental for the poor and other vulnerable groups, where the costs for accessing the services, lack of information and cultural barriers affect them from benefiting the free reproductive health care services provided by the government.

The debate on Reproductive health in India came in 1950s then after the country for the first time introduced the family planning program in 1952 on its first five year plan (1,2). The Reproductive health was lawfully defined in the United Nations report in the International Conference on Population and Development (ICPD), Cairo 1994 in its program of action paragraph 7.2 'Reproductive Health is a state of complete physical, mental and social well-being and not merely the absence of disease and infirmity, in all matters related to the reproductive system and to its functions and processes' (3). Improving the maternal and child health is the central to the achievement of the Sustainable Development Goals (SDGs) 3 having a target of ensuring healthy lives and promoting wellbeing for all. In developing regions like sub-Saharan Africa and South Asia pregnancy and childbirth related deaths are comparatively higher than the developed countries (4). In these countries the risk of pregnancy-related issues and other health consequences after child birth is even higher. In order to ensure greater impact through the Reproductive Child Health (RCH) programme it is important to understand the financial, socio-cultural, communication and political barriers in accessing these services. Nevertheless, the evidences from barrier studies on reproductive healthcare suggest that, demand as well as supply side barriers are important factors in deterring patients from accessing adequate services for reproductive healthcare. These barriers are likely to be more detrimental for the poor and other vulnerable groups, where the costs for accessing the services, lack of information and cultural barriers affect them from benefiting the free reproductive health care services provided by the government. A study conducted by British Broadcasting Corporation (BBC) Media in Bangladesh, Ethiopia, India and South Sudan shows that, India has low awareness regarding government schemes, inappropriate household practices, negative social norms, and lack of access to basic health information and low self-efficacy which limits the impact of many

Reproductive Maternal Newborn Child Health (RMNCH) programmes (5). People from least developed countries face financial, socio-cultural, communication and political barriers in accessing the reproductive healthcare services. In northwestern Nigeria, mothers are unaware about the services under the RMNCH program, unapproachable facility, unaffordable and unavailability of quality care causing high maternal mortality rate (6).

Studies in India found out economic and social factors associated barriers in accessing the RMNCH services (7,8). Economic factors such as income and access to food and shelter were the major barriers. Social factors include social status, gender discrimination, perceived power, self-esteem, social support and isolation that affected many women from accessing the services. Other studies have discussed the demand side barriers that influence the poor utilization of basic healthcare services, like social, cultural and traditional practices, lack of knowledge and financial constraints (9,10).

Aims & Objectives

To examine the demand and supply side barriers faced by women in Odisha to access the RMNCH services provided by Government.

Material & Methods

Study Type: Descriptive research, **Study Population:** The study was carried out in the year 2014-15 in four districts namely Kalahandi, Mayurbhanj, Boudh and Puri of Odisha, India with a well representative sample of 1194 women, who had delivered in the last 2 years.

The study was designed to identify the social and normative barriers women faced, to access the RMNCH services at the state level estimates, where a key indicator (% of mothers who did not avail financial assistance for delivery under JSY) was used to get the desired sample size. As per the recent Annual Health Survey, about 38% of women did not avail financial assistance under JSY scheme in Odisha. The appropriate sample size has been estimated using the following formula:

$$N = \frac{\text{deff} \times \left[Z_{1-\alpha} \sqrt{2 \cdot P(1-P)} + Z_{1-\beta} \sqrt{P_1(1-P_1) + P_2(1-P_2)} \right]^2}{(P_2 - P_1)^2}$$

Where, in this instance,

Design effect (deff) is 2,

$P = (P_1 + P_2)/2$

P_1 – % of mother, who did not avail financial assistance for delivery under JSY (38%),

P_2 – % of mother who did not avail financial assistance for delivery under JSY (expected to be 30%),

$Z_{1-\alpha}$ (where α = Type 1 error) is 1.64, and

$Z_{1-\beta}$ (where β = statistical power to detect an increase – or a one-sided change) is 0.84.

Using the above formula, the required sample size would be 1099. However, it was proposed to consider a sample of 1200, in order to minimize any error that might occur due to a non-response rate, but the achieved sample was 1194.

Sample technique: In the first stage, a quantitative study design was used to select the required number of sample, in selected sample districts of Odisha. In the second stage, the districts were selected by calculating Composite Index of reproductive and child health using the following four indicators i.e. full ANC coverage, institutional delivery, children fully immunized and using any modern method of contraception data from Annual Health Survey, 2011-12. Based on the composite index score, the districts were classified into four groups using equal interval scale such as Group 1, Group 2, Group 3 and Group 4, ranging from less performing districts, to higher performing districts. Subsequently, one district was selected randomly from each group. In the second stage, the Primary Sampling Units (PSUs) were selected using systematic and stratified random sampling method on the basis of rural and urban household size. In the third stage, the respondents were selected of the women who have delivered children in last two years.

Composite Index = $(V_i - V_{\min}) / (V_{\max} - V_{\min}) \times 100$

Where, V_i = Value of specific indicators in a particular district

V_{\max} = Maximum value of that indicator across districts

V_{\min} = Minimum value of that indicator across districts

Data Collection tools: Both quantitative and qualitative methods were used to collect the data. Survey questionnaires were designed to collect the quantitative data. Qualitative data on demand and supply side barriers in accessing the RMNCH services was collected using the Focused Group Discussion (FGD), Case study method and in-depth interview (IDI). The FGD questionnaire was pretested and validated. The FGDs were conducted among the Accredited Social Health Activists (ASHA) to understand the demand side barriers. Total of four FGD's were conducted, one FGD in each district.

About 5-6 ASHAs working in the selected villages from the block were invited for the FGD. The objective of the study was explained to them and with due consent from the ASHAs, the FGDs were conducted by asking questions such as '*do you face communication barrier in delivering services? What kinds of barriers were faced in terms management and supply of medicine? What are the other barriers they faced while delivering services to the women.*' Total 8 IDI were conducted with the Anganwadi Workers (AWW), from two different villages of each district with the help of unstructured interview guide, which had open ended questions on barriers faced in providing the services and women receiving the services. Case studies were collected from the respondents facing multiple barriers such as transportation, cost and socio-cultural barriers in accessing to the reproductive healthcare services. Structured interviews were used to collect the quantitative data using pretested questionnaire with the following independent variables socio-economic, demographic, Antenatal Care (ANC), Postnatal Care (PNC), Delivery care, RMNCH service utilization and perception on RMNCH services from the respondents to examine the several aspects of the service delivery.

Consent: Oral consent was taken from each of the respondents before conducting the interview. Confidentiality and privacy of the respondents was maintained

Ethical Approval: Sought from ethical board of National Institute of Technology (NIT), Rourkela

Data Analysis: The quantitative data was analysed using Statistical Package for Social Sciences (SPSS) software version 20. The perceptions of the women were tested using Chi-square test. Content analysis method was followed to analyse the qualitative data.

Results

Socio-economic and demographic characteristics of women respondents

Total 1194 women respondents were interviewed and maximum were in the age group of 20-24 (40.2%) and 25-29 (39.9%) years ([Table 1](#)).

Socio-demographic characteristics of the women respondents as shown in [Table 1](#) indicates that education status is low among the respondents as only 10.5 % had completed high school and only 7.1 % studied in the college and university

About 86.3% of women had undergone institutional delivery and 13.7% had home delivery ([Table 2](#)).

More than 90% of the families preferred government health facilities for the delivery care. About 38% respondents reported that they had travelled a distance of 5 kms distance for delivery, about (15.2%) of respondents had travelled 10 km and about 9.4% had travelled for 15km for delivery. However, about 59.4% of expectant mothers had travelled for an hour and 30 minutes and about 22.7% had taken 30-60 minutes to reach the facility for delivery. Total 80% women responded were found to be accompanied by ASHA for the institutional delivery. Of the women not accompanied by ASHA, about 47.6% said that they would not feel comfortable informing ASHA, because of the money demanded by them to accompany the respondents to the hospital, 17.6% said ASHA was out of station at the time of delivery and 11% did not see ASHA. It was revealed that about 38.1% of women were motivated by ASHA for the institutional delivery and 26.6% were motivated by their husbands.

The study tried to capture the perception of women respondents about the service and costs of the local health care, the choices of health care institutions and personal perception from their experiences (Table-3).

The result indicates that the women who cannot afford preferable health care (31.7%), cost of transportation (44.8%) and superstitious belief on health care services (23.2%) are the most significant. The study found out that both demand and supply side barriers play an important role in the difficulty in accessing the maternity services. The supply side barriers which were faced are physical barriers faced by the service providers due to lack of proper roads and the absence of transportation to the interior villages. Results indicate two types of demand side barriers i.e. cost barriers, firstly in terms of cost of transportation and secondly at the hospital and other extra expenses like food, medicine (Table 4). The socio-cultural barriers are predominantly found in the tribal villages in the study areas, which prevented women from consuming prescribed medicines and following ANC and PNC advice of the front-line workers. The significance values of the cost of transportation and superstitious belief on health care services also indicate similar results.

Supply side barriers:

The service providers in the difficult to reach areas face access and language barriers. In addition, the shortage of staff to attend the critical cases and

proper training on the new maternity services that made them all the more difficult to provide services to the women living in the interior villages. The ASHA workers faced a number of constraints in providing timely services to the pregnant women, especially at night, because of the almost non-existent or bad condition of the connecting roads. This barrier led to home deliveries instead of institutional deliveries. The ASHAs were disrespected by the staff at the health facilities, even though they are considered an integral part of health service delivery system. On the other hand, the recipients lost the faith that they had harboured in the ASHA during the period of pregnancy, when they learnt to look forward to cashless healthcare and added benefits for both the child and the mother.

Demand side barriers:

Cost of transportation and bad roads to the health facility were pointed out as the major barriers to accessibility, about 50% women in rural areas stated that cost of transportation is the key barrier faced by most women respondents for the ANC checkup and delivery. Areas where the Janani Express could not reach on time, the villagers would hire a vehicle to reach the hospital which would cost a lot of money. A respondent said that the lack of money is a constraint, which affected the institutional delivery process in the village. For many, financial constraints including direct and indirect costs were the reason for not hiring local transport to visit the local health facilities and availing the medicines for the treatment. *"I don't go to the hospital. The hospital is very far away from here, it costs me around Rs. 100 for going there once. Moreover, there is no facility in the hospital."* said a 29 year old married woman.

Socio-cultural barriers are mostly found in the tribal pockets in the study areas. It was found, that in some villages the women were stopped from taking IFA tablets by their families, citing a superstitious reason, that the foetus would be overweight if they consumed these tablets. According to a 62 year old mother-in-law in Kalahandi, *'we do not give iron tablets to the women who are pregnant, as the baby becomes overweight.'* Such superstitious beliefs influenced some tribal women into not consuming iron tablets and instead relying on traditional food items. The social practice of relying on the advice of the mother-in-law and *Traditional Brith Attendant (TBA)*, rather than on the ASHA or AWW, was a major reason for home deliveries. About 25% women in rural areas said their family members are not

supportive and believe in superstitious practices. In some tribal families the women were found to be unaware of the importance of colostrum feeding and even if aware, were not allowed by the TBA and mother-in-law to feed the colostrum to the newly born. *The tribal community in Kalahandi district believed that “colostrum was the milk that had been in the breast for nine months and was impure through storage. It was therefore unhealthy for the baby and was to be offered to mother earth for her blessing showered on the child” said 50 year old TBA.* As said by the ASHAs in the FGD, *‘the doctor and nurse do not allow us to stay with the women after delivery. They say we make unnecessary noise in the hospital but the fact is that we speak for the rights of the women’.*

As stated by an Anganwadi worker in the in-depth interview on facing language barriers with the villagers *“I am unable to communicate effectively with the villagers and deliver information on maternal health in their local dialect delivering information and lack of family planning measures led to couples having more than two children, rendering them ineligible for benefits under the MAMATA scheme”.*

Case study on Socio cultural barrier, Khamankhunti village, Kalahandi district

A village named Khamankhunti, dominated by the Khond tribal population, relied primarily on traditional practices for delivery care and many practiced ‘jhada phunka’, (invocation and related practices), to keep away diseases and negative energy from and towards the newly born children. Soon after delivery, the babies were given a bath and both mother and child were required to follow certain restrictions for twenty one days, and live in isolation. The new mother was considered impure till she got rid of her placental waste, over a period of almost a month, which was considered a cultural taboo. Most women practice their own delivery of the child, severing the umbilical cord with a sharp stone or khapuri (earthen tile). They disregard the AWW and the importance of medical lessons in complications during childbirth and feeding thereafter, as many had successfully delivered and mothered about five or six children. The religious belief that the Almighty has been blessing them with children, leads them to ignore family planning programmes. Here female sterilization was looked upon as an evil practice. An old woman of the village said that female sterilization in their area was

uncommon because the traditional belief was to restrict such women considered then impure, from entering the premises of their temples or to offer prayer to their deities. They largely denounce any kind of contraception and sterilization practices. This kind of a socio cultural curtain in the villages and posed a stiff barrier to maternal healthcare services, with purposeful ignorance towards information and awareness.

Discussion

Studies in developing countries have found that the location and distance to facilities cost are often observed to be negatively impact service utilization. Findings from countries like Vietnam, Zimbabwe, Uganda, India, Thailand and Philippines reported financial barriers in transportation and distance for the reason to choose delivery at home (4,11,12,13,14,15). The perceived quality of care of the private facility and better experience of the neighbours were influential factor for the women in choosing the facility for delivery care (16). Another study in South Sudan (17) stated similar results of poor roads, transportation expenses, and demand for payment at the health facilities affecting utilization. Studies have highlighted socio cultural barriers like high burden of domestic chores, negative influence of husbands, misperceptions about the need for antenatal care services by the in-laws and quality of services plays a role in creating barriers for utilizing the services. The lack of publicity and visibility of the maternity services both to service providers and receivers remain a major barrier in accessing the services (18,19). Our study has highlighted the decision taken by mother-in-law and TBA for ANC and PNC that has prohibited women following medical instructions given by the health workers. Similar findings were found in the studies done in Senegal, South Africa, Ethiopia and South Asian countries where mother-in law dominates decisions on child birth and care related to pregnancy (20,21,22). However, the Supply side barriers such as unavailability of sufficient number of health care staff and services prevent women from utilizing ANC and delivery services (23). It is essential to address the demand and supply side barriers concurrently to have positive effect on usage of maternity services. Especially, to increase the health service uptake by the poor it is also necessary to improve the service delivery capacity of health providers to cope with the increased demand

(24,25). Study by Ensor and Cooper suggest that while barriers are plentiful, there is a dearth of evidence on ways to reduce them. The National Health Mission (NHM) in India on maternal healthcare strategies have attempted to address potential barriers to improve maternal health outcomes, women's use of maternal health services is often prejudiced by apparent cultural, economic and health system factors working at the community, family and individual levels (5,6,26).

Conclusion

The study identified the supply and demand side barriers and suggests measures for improvement of the health care services. The network of health facilities and the health system cannot provide services in isolation and are to be looked through the lens of overall development of the area. The basic issues like road connectivity, electricity and running water supply are very important for the health facilities to function appropriately. In the absence of proper road connectivity and transport, the service providers like frontline workers and paramedical staff are unable to reach the community. The pregnant women also face difficulty in reaching the health facilities. The frontline workers need to be oriented about sensitivity towards the local cultural traditions and the preferences of the tribal communities. Further, there is a need to invest in the strengthening of health system such as providing adequate human resources, improving capacities and mainly to ensure informal payments are not charged so that quality services can be provided at the health facilities. This would help to gain faith in the government services. Hence, to improve access to health services there is need to address the demand side barriers like transportation and awareness levels. Further, supply side barriers like poor quality of services, insensitive behavior towards the clients seeking services and charging informal payments for services need to be addressed.

Recommendation

The study will help the policy makers and government to address the supply as well as demand side barriers in low or no access of the maternity services. The perception of the women in this study will facilitate to improve the services.

Limitation of the study

Due to time limitation, the demand side barrier cost was not collected. The study covered only four

districts of Odisha due to paucity of the time for the research.

Relevance of the study

Looking at various factors that hindrance in accessing the maternity services, there is need for prioritizing and plan of action to improve the quality of care and services.

Authors Contribution

The original concept and design for this work was conceived by MD and JP. MD led the intervention development process supported by MS and JP. MS and MD drafted the article and JP critically reviewed the final version for publication. MD and MS have read and approved the final version

Acknowledgement

The authors would like to thank the respondents, field investigators, health service providers, National Health Mission (NHM) officers and the UNICEF staffs for contributing in the study.

References

1. Sarah, H. (ed.). Reproductive health in India history, politics, controversies. Orient Longman Private Limited, New Delhi, 2006pp. 22-48.
2. Khanna, R. MDG 5 in India: Whither reproductive and sexual rights?. Society for Health Alternatives India. 2013.UN women ECLAC, Maxico. Available at: <http://www.unwomen.org/~media/headquarters/attachments/sections/csw/58/ep1-renu-khanna%20pdf.pdf> (last accessed August 2017)
3. International Conference on Population and Development (ICPD).ICPD program of action para 7.2. 1994. Available at <http://www.un.org/popin/icpd/conference/offeng/poa.html> (Last accessed on August 2017).
4. Filippi V, Ronsmans C, Campbell OM, Graham WJ, Mills A, Borghi J, Koblinsky M, Osrin D. Maternal health in poor countries: the broader context and a call for action. *Lancet*. 2006 Oct 28;368(9546):1535-41. Review. PubMed PMID: 17071287.[PubMed].
5. Smethurst, L. Improving maternal health services in four countries: insights and lessons learned, BBC media action. Working paper issue 06. 2013. Available from http://downloads.bbc.co.uk/mediaaction/pdf/maternal_health_research_working_paper_Feb2014.pdf (Last accessed March 2017)
6. Idris SH, Sambo MN, Ibrahim MS. Barriers to utilisation of maternal health services in a semi-urban community in northern Nigeria: The clients' perspective. *Niger Med J*. 2013 Jan;54(1):27-32. doi: 10.4103/0300-1652.108890. PubMed PMID: 23661896; PubMed Central PMCID: PMC3644741.[PubMed]
7. Kumar, A., and Das, M. Towards Equity in Health: A Study of Barriers in Accessing RCH Services in Uttar Pradesh. Futures Group International, India (ITAP). 2010. Available from http://pdf.usaid.gov/pdf_docs/pnadz624.pdf (Last accessed March 2016)

8. Bhatia, M. R., and Gorter, A. C. Improving access to reproductive and child health services in developing countries: are competitive voucher schemes an option? *Journal of International Development*. , 2007 March 19: 975–981.
9. Griffiths P, Stephenson R. Understanding users' perspectives of barriers to maternal health care use in Maharashtra, India. *J Biosoc Sci*. 2001 Jul;33(3):339-59. PubMed PMID: 11446398. [\[PubMed\]](#)
10. Ensor T, Cooper S. Overcoming barriers to health service access: influencing the demand side. *Health Policy Plan*. 2004 Mar;19(2):69-79. Review. PubMed PMID: 14982885. [\[PubMed\]](#).
11. Ensore, T. Health sector reform in Asian transition countries: study on social sector issues in Asian transition economies. 1996. York: University of York, for the Asian Development Bank.
12. Fawcus S, Mbizvo M, Lindmark G, Nyström L. A community-based investigation of avoidable factors for maternal mortality in Zimbabwe. *Stud Fam Plann*. 1996 Nov-Dec;27(6):319-27. PubMed PMID: 8986030. [\[PubMed\]](#).
13. Amooti-Kaguna B, Nuwaha F. Factors influencing choice of delivery sites in Rakai district of Uganda. *Soc Sci Med*. 2000 Jan;50(2):203-13. PubMed PMID: 10619690. [\[PubMed\]](#).
14. Raghupathy S. Education and the use of maternal health care in Thailand. *Soc Sci Med*. 1996 Aug;43(4):459-71. PubMed PMID: 8844947. [\[PubMed\]](#).
15. Schwartz, J.B, Akin, J.S. and Popkin, B. M. Economic determinants of demand for modern infant-delivery in low-income countries: the case of the Philippines. In: Mills A, Lee K (eds). *Health economics research in developing countries*. 1993. Oxford and New York: Oxford Medical Publications
16. Gazi, R., Sultana, M., Kabir, H. and Saha, N.C. Accessibility, Availability and Perceived Quality of Reproductive Health Services in Selected Urban Areas of Bangladesh: User and Non Users' Perspectives, *Reproductive system and sexual disorder* 2015: Vol 4 (3)
17. Wilunda, C., Scanagatta, C., Putoto, G., Takahashi, R., Montalbetti, F., Segafredo, G., et al. Barriers to Institutional Childbirth in Rumbek North County, South Sudan: A Qualitative Study. *PLoS ONE*. 2016 11(12)
18. Agampodi, S.B, Agampodi, T.C and UKD P. Adolescents perception of reproductive health care services in Sri Lanka, *BMC Health Service Research*, Bio Med Central Ltd. 2008 898
19. Riaz, A., Zaidi, S. and Khowaja, A.R. Perceived barriers to utilizing maternal and neonatal health services in contracted-out versus government-managed health facilities in the rural districts of Pakistan. *International Journal of Health Policy and Management*. 2015 4: 279–284.
20. Post, M. Preventing maternal mortality through emergency obstetric care. 1997. Washington, DC: SARA Project, Academy for Educational Development.
21. Quisumbing, A.R, and Maluccio, J.A. Intra household allocation and gender relations: new empirical evidence from four developing countries. 1999. Working Paper 2. Washington, DC: World Bank
22. Piet-Pelon, N.J., Rob, U., and Khan, M.E. Men in Bangladesh, India and Pakistan: reproductive health issues. 1999 Dhaka: Karshaf Publishers
23. Pandey, N. Perceived Barriers to Utilisation of Maternal Health and Child Health Services: Qualitative Insights from Rural Uttar Pradesh, India. 2011. Available from <http://paa2011.princeton.edu/abstracts/111751> (Last accessed on May 2017)
24. O'Donnell, O. Access to health care in developing countries: breaking down demand side barriers. *Cadernos de Sau'de Pu'blica*. 2007 23: 2820–34.
25. De Brouwere, V., Richard, F. and Witter, S. Access to maternal and prenatal health services: lessons from successful and less successful examples of improving access to safe delivery and care of the newborn. *Tropical Medicine and International Health*. 2010 15 (8)
26. Ram, F. and Singh, A. Is antenatal care effective in improving maternal health in rural Uttar Pradesh? Evidence from a district level household survey'. *Journal of Biosocial Science*. 2006 38(4): 433–48.

Tables

TABLE 1 SOCIO-DEMOGRAPHIC CHARACTERISTICS OF THE WOMEN RESPONDENTS

Socio-economic variables	%	N
Age Group (in years)		
<19	2.6	31
20-24	40.2	480
25-29	39.9	476
30+	17.3	207
Total	100.0	1194
Education		
No formal schooling	26.3	314
Primary school completed	23.4	279
Secondary school completed	18.2	217
Less than primary school	13.7	164
High school completed	10.5	125
College/pre-University/University completed.	7.9	95
Total	100.0	1194
Occupation		

Not working (household work)	81.3	971
Not working for pay (agricultural field)	8.5	102
Daily wage labourer	5.2	62
Self employed	2.4	29
Government employee	1.2	14
Non-government employee	0.8	9
Employer	0.6	7
Total	100.0	1194

TABLE 2 STATUS OF DELIVERY CARE

Variables	%	N
Place of Delivery		
Home	13.7	164
Institutional	86.3	1030
Total	100.0	1194
Types of Institution		
PHC/CHC (G)	48.4	499
Government District Hospital	42.8	441
Other	1.0	10
Private Hospital	7.0	62
Other	1.8	18
Total	100	1030
Distance travelled (in KM)		
1-5	38.1	393
6-10	15.2	157
11-15	9.4	97
16-20	6.9	71
21-25	7.7	79
26-30	6.6	68
31-35	2.3	24
36-40	2.5	25
41-45	2.9	30
46-50	2.2	23
50+	6.2	63
Total	100	1030
Time taken to reach the facility (in min)		
1-30	59.4	612
31-60	22.7	234
61-90	7.1	73
90+	10.8	111
Total	100	1030
Accompanied by ASHA for institutional delivery		
Accompanied by ASHA	79.6	820
Not accompanied by ASHA	20.4	210
Total	100	1030
Reason for not assisted by ASHA		
Did not inform ASHA	47.6	100
ASHA out of station	17.6	37
Did not see ASHA	11.0	23
ASHA did not respond	9.0	19
Went for private treatment	7.6	16
Lack of knowledge	7.2	15
Total	100	210

Person motivated for choosing health care facility		
ASHA	38.1	392
Husband	26.6	274
Anganwadi worker	11.7	121
ANM	8.9	92
Doctor	5.7	59
Mother in law	4.3	44
Self	2.8	29
Others	1.9	19
Total	100.0	1030

TABLE 3 PERCEPTION OF RESPONDENTS REGARDING SERVICE ACCESSIBILITY

Perceptions of services and costs	Rural	Urban	Total	Chi-square	Significance
Types of perception					
a. Public clinics provide services we need	81.9	88.1	83.2	5.23	*
b. Public health services in my area easy to reach	68.5	79.8	70.8	12.1	***
c. Public health services in my area not affordable	42.6	31.7	40.4	9.55	**
d. Public health services in my area of acceptable quality	83.5	85.6	83.9	.63	
e. Public health services in my area maintain cleanliness	83.7	81.5	83.2	.68	
f. Public health services in my area is well equipped and has medications	79.4	79.0	79.3	.17	
g. Health workers treat and communicate with patient well	88.2	88.5	88.3	.012	
h. There is adequate community information and outreach for health	72.3	70.0	71.9	.54	
i. District hospitals should charge for health services	14.5	21.0	15.8	6.09	*
j. Pregnant women and children under 2 years should not be charged for health services at clinic and hospitals	78.4	69.5	76.6	8.55	**
k. Private care cost but provides better quality care	73.8	82.3	75.5	7.54	**
l. Communities should contribute to health care	83.2	91.8	84.9	11.16	**
m. The costs of health care are stopping women and children from using services	63.6	63.0	63.5	0.36	
n. I get late services and no referral by doctor	29.2	25.9	28.6	1.03	
o. registration process is complex	17.9	17.3	17.8	0.46	
p. Time of service provision is appropriate for reaching the hospital	62.6	70.0	64.1	4.59	*
Choice of health care institutions					
a. Long waiting period	37.2	32.1	36.2	2.20	
b. I avoid care I am shy	25.2	26.3	25.5	.12	
c. I prefer a female health care provider for examination	58.5	56.8	58.1	.22	
d. I find staff motivated to provide services	72.8	79.0	74.0	3.9	*
e. Money/gifts for providers improve services	48.4	50.6	48.8	.39	
f. I fear examination hence I avoid care	27.7	21.0	26.3	4.43	*
g. I cannot afford health care at institution I prefer	34.9	18.9	31.7	22.8	***
h. I cannot get time off from work to get healthcare services	18.8	11.1	17.3	8.06	**
i. Cost of transportation is key factor	49.2	27.6	44.8	36.6	***
j. Confidentiality is very important	59.4	54.3	58.4	2.06	
k. In past, I was treated badly by health care provider	8.1	10.7	8.6	1.66	
l. I feel they don't give enough information	14.7	14.4	14.7	.16	
m. I don't trust the medical facilities	12.9	11.1	12.6	.58	
Personal Perception					
a. I find non-integration of availing the services	27.4	24.3	26.8	.98	
b. I feel local political influences behind lack of access to health services	31.5	30.5	31.3	.10	

c. I feel my low status is the cause of lack of opportunity to get services (exclusion from services)	46.4	30.9	43.2	18.9	***
d. I feel low self-esteem and am unable to assert to avail the health care services	38.3	15.2	33.6	46.0	***
e. My family and friends are not supportive to help me avail the health care services	24.8	16.9	23.2	6.85	**
f. I go for traditional treatment	23.9	21.4	23.4	.66	
g. My family has superstitious belief on health care services	24.4	18.5	23.2	3.75	*
h. In my family elderly decide the place for antenatal, natal and postnatal care	71.6	56.8	68.6	19.7	***
i. Family has cultural taboos regarding antenatal, natal and postnatal care	14.0	14.4	14.1	.02	
j. Community doesn't allow for such services	13.0	13.6	13.1	.05	

p*<0.10 *p*<0.05 ****p*<0.01

TABLE 4 SUPPLY AND DEMAND SIDE BARRIERS TO UTILIZE THE HEALTH CARE SERVICES

Types of barrier	Example of barriers
Demand side barriers	
1. Indirect and direct consumer costs <ul style="list-style-type: none"> • Distance cost travel to facilities • Opportunity cost to the hospital cleaners and care takers • Medicine cost • Food cost 	Long distance travel to the health facilities. Cost incurred during normal and C-section delivery in the health facilities Bribe to seek the healthcare benefits
2. Family decision about ANC and PNC	Control over decision making regarding the treatment
3. Community and cultural preferences, attitudes and norms	Imposition of cultural practices to seek health care for women outside home, community resistance to using modern medical care to assist pregnancy, influence political parties, feeling of social exclusion
Supply side barriers	
1. Quality services	High cost of services, informal payments to staff, long wait for the registration and examination by the medical staff
2. Input prices and input availability	Absenteeism, staff not attracted to the area, Scarcity of supplies and medicine, weak cold chain
3. Technology	Inability to treat disease with the available technology
4. Management	Poor quality of management, lack of training and information about the health care benefits, lack of management systems

Sources: Ensor and Cooper, 2004