ORIGINAL ARTICLE

Maternal health status in terms of utilisation of antenatal, natal and postnatal services in a Periurban setting of Islamabad — A community based survey

Sajida Naseem, Umme Kulsoom Khattak, Haider Ghazanfar, Awais Irfan

Abstract

Objective: To determine the maternal health status in terms of antenatal, natal and postnatal care.

Methods: This cross-sectional study was conducted at Shifa College of Medicine, Islamabad, Pakistan, from August 2015 to February 2016, and comprised married women living in Nurpur Shahan, a peri-urban community..A systemic random sampling method was used to raise the study sample. Only members of the household aged18 to 45 years and permanent residents of that area were selected. SPSS 21 was used to analyse the collected data.

Results: There were 1,275 participants in the study with an overall mean age of 31.6±8 years. The mean age of marriage was 19±3.6 years while the mean age of first childbirth was 20.8±3.6 years. Besides, 950(74.5%) participants had undergone an antenatal check-up. Moreover, 685(53.7%) underwent delivery in a hospital, 433(34%) had postnatal check-up, and 432(33.9%) were using contraception. Participants who had undergone hospital delivery were 18.7 times more likely to have taken prenatal care and 6.9 times more likely to utilise postnatal care compared to participants who had not utilised antenatal care ($p<0.001$).

Conclusion: Most of the participants did not give significant importance to postnatal care.

Keywords: Maternal health, Mortality, Morbidity, Prenatal care, Postnatal care. (JPMA 67: 1186; 2017)

Introduction

Everyday approximately 830 women die from preventable causes related to pregnancy and childbirth.[1] According to International Classification of Diseases (ICD)-10 version: 2016, maternal death is defined as a "death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes".[2] Maternal mortality rate is defined as the number of maternal deaths during a given time period per 100,000 live births during the same time period. Improving maternal health is one of the eight Millennium Development Goals (MDGs) adopted by the countries in 2000. According to the World Health Organisation (WHO), maternal health refers to the "health of women during pregnancy, childbirth and the post-partum period".[1]

Maternal mortality rate of Pakistan dropped from 306/100,000 to 178/100,000 over the course of 15 years which was approximately equal to 58.16%. Although significant, it was far behind the MDGs Goal 5a, which was to reduce the maternal mortality ratio by three-quarters between the year 1990 and 2015.[3] MDGs Goal 5b was to achieve, by 2015, universal access to reproductive health. The paramount concern at the moment is to significantly decrease the maternal mortality rate. Proper antenatal, natal and postnatal care can turn the tides in favour as they have shown to play a critical role in curtailing the maternal mortality rate. Only half of pregnant women worldwide receive the recommended amount of antenatal care. The situation is even more deplorable in developing countries. According to a study, 65% women in developing countries received antenatal care as compared to 97% in developed countries.[4] Living in the rural area has been significantly associated with inadequate use of antenatal care facilities as compared to living in the urban area.[5] This is further worsened by the abysmal condition of public healthcare centres in rural and peri-urban areas. Although studies have been conducted on the usage of maternal care facilities in urban areas there is a dearth of studies on assessing the usage of these facilities in peri-urban communities. The current study was planned to determine the maternal health status in terms of antenatal, natal and postnatal care in the periurban community of Islamabad.

Subjects and Methods

This community-based, cross-sectional study was conducted at Shifa College of Medicine, Islamabad, Pakistan, from August 2015 to February 2016, and comprised married women living in Nurpur Shahan, a peri-urban community. A self-designed questionnaire (Annexure) was used to collect data. Systematic random sampling method was used to select the participants.

Shifa College of Medicine, Islamabad, Pakistan.
Correspondence: Haider Ghazanfar. Email: Haidergh@gmail.com

ANNEXURE

Questionnaire:

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Name: _____ Age: _____

Locality: _____ City: _____

Number of Family Member: _____

Number of Earning Family Member: _____

Month Family Income (Rs): _____

a) Less than or equal to 5000 Rupees
b) Greater than 5,000 but less than or equal to 10,000
c) Greater than 10,000 but less than or equal to 15,000
d) Greater than 15,000 but less than or equal to 20,000
e) Greater than 20,000 but less than or equal to 40,000
f) Greater than 40,000

Age	Male	Female
Under 1 year		
≤ 1 years to ≤ 5 years		
≤ 6 years to ≤ 14 years		
≤ 15 years to ≤ 24 years		
≤ 25 years to ≤ 50 years		
>50 years		

1. Age at Marriage:
2. Age at birth of the first child:
3. Number of Marriages (Self):
4. Number of Marriages (Husband):
5. Number of Children:
6. How many more children would you like to have?
7. Number of Miscarriages:

Pre-Natal:

1. Did you take prenatal care?
A) Yes B) No
2. Where did you take prenatal care from?
A) Hospital B) Other (Specify: _____)
3. Prenatal care was done by?
A) Doctor B) Other (Specify_____)
4. Number of antenatal visits: _____
5. Were there any complications during Pregnancy?
A) Yes (Specify_____) B) No
6. Were you given any tetanus injection during pregnancy?
A) Yes B) No
7. Did you take multivitamins/iron supplement during pregnancy?
A) Yes B) No

Natal:

1. Place of Delivery:
A) Hospital B) Home
2. Mode of Delivery:
A) Vaginal Birth B) lower (uterine) segment Caesarean section
3. Were there any maternal complication during delivery:
A) Yes (Specify_____) B) No
4. Were there any complication to baby during delivery:
A) Yes (Specify_____) B) No

Continued >>>>>

Post-Natal:

1. Was Vitamin K injection given to baby at birth:
A) Yes B) No
2. Was BCG vaccine given to the baby:
A) Yes B) No
3. Was Breastfeeding technique taught to you by your healthcare provider:
A) Yes B) No
4. Were you counseled about family planning:
A) Yes B) No
5. Did your child complete the immunization schedule:
A) Yes B) No
6. Did you suffer from low mood after delivery:
A) Yes B) No
7. If Yes for how long did you suffer from low mood after delivery: _____
8. Did you get yourself and your child checked after delivery (post-natal care)?
A) Yes B) No
9. Where did you seek post-natal care from?
A) Hospital B)Other (Specify:_____)
10. Were there any post-partum complication?
A) Yes (Please Specify_____) B) No
11. Did you ever use contraception:
A) Yes B) No
12. If yes to the above question; which method was used: _____

Thank You

The peri-urban community had a rotary clinic, where the women went to seek antenatal, natal and postnatal services. The nearest government hospital was approximately 15km away from the community. There were no professional midwives or traditional birth attendants (TBAs) called a dai present in the community. The starting point was the first household on the first street. In each street, the first household was selected followed by the 3rd and then the 5th and so on. If a household member refused to give consent, we moved to the next household. Informed consent was obtained from all the participants. Only members of the household between the ages of 18 and 45 years and permanents residents of that area were included. Unmarried women and residents who had moved into the community in the past 6 months were excluded. Maternal health was defined as "health of women during pregnancy, childbirth and the postpartum period".[1]

The questionnaire comprised 38 items and was divided into 3 domains: prenatal, natal and postnatal care (Annexure). The postpartum period or postnatal period was defined as "the period beginning immediately after the birth of a child and extending for about six weeks".[1] Cronbach's alpha was measured to assess the internal consistency of the different domains of the questionnaire. Cronbach's alpha value was found to be 0.73, 0.78 and 0.69 for antenatal, natal and postnatal domains, respectively. McNemar's test was applied to assess the

test-retest reliability (p>0.05).

All the study personals were trained in interviewing skills, the content of the questionnaire, data quality, and ethical conduct of human research. Using the WHO sample size calculator, keeping confidence level 95%, anticipated population proportion 65%[4] and absolute precision required 3%, the sample size calculated was 1,200. Approval for this study was obtained from the institutional review board. SPSS 21 was used to analyse the data.

Results

Of the 1,275 participants, 700(54.9%) were aged between 18 and 30 years while 575(45.1%) between 31 and45 years. The overall mean age was 31.6±8 years (range: 18 to 45 years). The median number of family members in each household was 7 (Interquartile range (IQR) = 5-9) while the median number of earning family members was 1 (IQR= 1-2). The mean age of marriage was found to be 19± 3.6 years while the mean age of first childbirth was found to be 20.8±3.6. Also, 387(30.4%) participants got married before the age of 18 years. Besides, 393(30.8%) participants were uneducated while 882(69.2%) were educated. The median number of children was 3 (IQR=2-4). The median number of antenatal visits done in the participant's last pregnancy was 4 (IQR=0-7).

Furthermore, 950(74.5%) participants had had antenatal check-up. Moroever, 848(66.5%) got themselves checked from doctors. 225(17.6%) participants had a complication during their present pregnancy, and 828(64.9%) participants received tetanus injection during pregnancy.

In addition, 685(53.7%) participants underwent delivery in a hospital, 582(45.6%) participants underwent delivery at home while 8(0.63%) participants underwent deliveries in a nursing home. Besides, 1,125(88.2%) patients had spontaneous vaginal delivery, 97(7.6%) participants developed a complication during delivery while babies of 168(13.2%) participants developed complications during delivery.

Postpartum check-up was done by 433(34%) participants despite the presence of postnatal follow-up plan system in the community health centre. The breastfeeding technique was taught to 596(46.7%) participants. The majority of the participants, i. e. 1,026(80.5%), got their children vaccinated at birth. About 116(9.1%) participants developed low mood after delivery. The mean duration of low mood was 5.5±4.8 months. Moreover, 167(13.1%) participants developed postpartum complication.

Besides, 432(33.9%) participants were using contraception. Of them, 172(40%) participants had taken postpartum care. Patients who had taken postpartum care were1.475 times more likely to use contraception as compared to people who had not taken any postpartum care (p=0.002). Of those who were using contraception, 112(25.9%) participants used oral contraceptive pill (OCP), 83(19.2%) used injections, 66(15.2%) had undergone surgical intervention while 171(39.5%) were using a barrier method.

Participants who were educated were 18.3 times more likely to utilise prenatal care and 3.88 times more likely to utilise postnatal care as compared to uneducated patients (p<0.001). No association was found between the age of the participants and the utilisation of antenatal and postnatal care (p>0.05). Participants who had availed antenatal care were 6.9 times more likely to utilise postnatal care as compared to participants who had not utilised antenatal care (p<0.001). Participants who had taken antenatal care were 18.7 times more likely to undergo delivery in a hospital as compared to participants who had not taken antenatal care (p<0.001) (Table-1).

Table-1: Impact of educational status on utilization of antenatal and postnatal care.

		Educational Status		
		Educated	Uneducated	p-value
Antenatal care	Yes	806	144	<0.001
	No	76	249	
Postnatal care	Yes	371	62	<0.001
	No	511	331	

Table-2: Comparison of antenatal care utilisation in various studies.

	Research- Year	Antenatal care Utilisation
	Our Study	74.50%
National Studies	Attock-2015[23]	57.90%
	Karachi-2008[24]	51.00%
	Balochistan-2015[16]	47.00%
International Studies	United States of America-2011[22]	84.80%
	Bangladesh 2011[22]	64.60%
	Nepal 2011[22]	84.90%
	Peru 2012[22]	98.40%

Table-3: Comparison of post-natal care utilisation in various studies.

	Research-Year	Postnatal care Utilisation
	Our Study	34.00%
National Studies	Attock-2015[23]	44.10%
	Islamabad-2012[27]	30%
International Studies	India-2010[25]	33.96%
	Nigeria-2016[28]	37%

Discussion

Early marriages are a persistent problem in Pakistan.[6] About 387(30.4%) participants in our study got married before the age of 18 years. According to a study, 47.8% of currently married women aged 15-24 years in Pakistan were married before the age of 18 years.[7] Dowry, forced migration, fear, poverty, social pressures, sense of protection, religion, politics, financial relationships and civil law are a few causes of early marriages. Child brides are disempowered and depend on their husband. They are often deprived of their fundamental rights to education, health and safety. They are more prone to develop complications associated with pregnancy and childbirth as they are not physically and emotionally ready to become a mother.[7] According to different studies, the risk of maternal mortality is highest for adolescent girls under 15 years.[8,9] Apart from preventing the world from achieving the 5th MDG, early marriage prevents the achievement of 6th MDG. As early marriages prevent the girls from complete schooling, they can't play a part in bringing their family out of poverty. About 61.9% of Pakistani females married as children had no formal education and majority resided in rural areas.[10] This can be one of the reasons behind the higher maternal mortality rates in rural and poorer communities.

Direct consequences of pregnancy and childbirth are the most common cause of maternal death in developing countries.[11] About 90% of such deaths can be avoided where facilities and appropriate interventions are available.[12] Studies done in developing countries have concluded that women have insufficient knowledge of danger signs of pregnancy.[13,14] Regular antenatal check is a key component of health care strategies to decrease maternal mortality. It helps in identifying high-risk pregnancy.[15] Antenatal care also helps in promoting the use of the skilled attendance at birth and provides a chance to provide counselling about breastfeeding, immunisation, early postnatal care and family planning. In our study, majority of the participants came regularly for their antenatal visits. The mean number of antenatal visits done in the participant's last pregnancy was 4.24 which is equivalent to the minimum number of a visit required by the WHO. In a study conducted in Balochistan, the mean number of antenatal care visits was found to be 3.01.[16]

Although 74.5% got their antenatal check, only 53.7% underwent delivery in the hospital. Delivery with the assistance of skilled attendants significantly reduces the perinatal morbidity and mortality. In developing countries, cultural, social and economic factors play a major role in influencing women's decision to give birth at home.[17] According to other studies, onset of labour at night, rapid labour, distance from a health facility, rainy season, poor attitudes from health workers, the ease at remaining at home were related to the women delivering at home.[18,19] According to our study, participants who had taken antenatal care were 18.73 times more likely to undergo delivery in a hospital as compared to participants who had not taken antenatal care ($p<0.001$). Improving access to a health facility is one of the aims of the new Sustainable Development Goals (SDGs). Village midwife may or may not be adequately qualified for this. There is a dire need to train the TBAs as a significant portion of women prefer to deliver at home. TBAs command a culturally-assigned level of respect and are more easily accessible to the community.[20,21] Hence, their service is indispensable. Capacity building programmes for TBAs should be initiated, especially in rural areas where a significant portion of women prefer birth at home. Training TBA can have a significant impact in reducing the maternal mortality and can act as a bridge between the health system and the community. As TBAs are members of the community, they can play a pivotal role in spreading awareness about maternal and neonatal care. Comparison of our result with other studies[16,22-25] was done in relation to antenatal care (Table-2).

In the current study, only about 34% of the participants utilised post-natal care. This could be due to either lack of resources, transport, or lack of awareness regarding this issue. Postnatal care is an essential component of preventing maternal deaths. The Indo-Pak subcontinent has a low awareness regarding this essential part of maternal health, as the majority of mothers do not receive post-partum care, and this is reflected in our study, where only 33.9% of mothers who had one child or more got a post-partum check-up.[26] A similar study done in rural Islamabad areas reinforces our findings; they found only 30% of mothers seek postnatal care.[27] Postnatal care is the most neglected of maternal health components, and that is indeed due to lack of awareness.[27]

Postnatal utilisation was also compared with various studies[23,26-28] (Table-3). It is interesting to note that the statistics regarding prenatal check-up are much better than postnatal care. Our study found that 74.5% of mothers with one or more children got prenatal checkups. This suggests that mothers do not give as much credit to postnatal care as they do to antenatal care and steps may be taken to increase awareness in mothers to encourage follow-ups post-natal. Increasing awareness can be done by a variety of methods. The simplest way is to endorse postnatal visits to practitioners during prenatal visits.[27] The concept of post-natal care can be strengthened by repetitively informing the mothers

during each prenatal visit. This will ensure the education of mothers without using many extra resources. In our study participants who had taken antenatal care were 6.957 times more likely to utilise postnatal care as compared to participants who had not utilised antenatal care ($p<0.001$).

Lady health workers can also be utilised. Establishment of educational facilities and proper education and training of lady health workers and deployment to various villages around the country will help in spreading awareness. The government can offer jobs to unemployed women in the villages, as lady health workers, and this will have a three-fold benefit. Firstly, this will decrease unemployment and poverty. Second, it will help gender equality by offering women education and reduce the stereotype that males are the only earners of the household. Finally, choosing a member of the community to act as the relay between healthcare professionals and the residents of the village will inculcate a sense of trust between the parties, and help to ensure all goals are being met.

The importance of contraceptive use cannot be stressed enough. Use of family planning counselling can significantly reduce the number of maternal and child deaths.[29] According to our study, despite family planning counselling, only 43% women used any form of contraception. This indicates that not enough emphasis is being given on contraceptive use. We can achieve awareness in the public by making and distributing pamphlets, by continuous counselling of mothers on their pre- and post-natal visits, and by promoting the use of contraceptives through lady health workers.

Very little attention has been paid to monitoring progress and evaluating maternal and child health programmes. Policy decisions and programme planning are often carried out without latest data and evaluation. The real challenges are to find effective ways to deliver services, particularly to those who are vulnerable, hard to reach, marginalised and excluded.[30] Political support is imperative for maternal health programmes to be effective at both national and provincial levels.

Another key issue is the gap between need and demand that exists in terms of skill and geographical availability of human resources at local, national and international levels.[30] There is a need to identify the challenges and loopholes in the current programmes so that the programme can be streamlined and smooth implementation of the programme can be ensured at grass-roots level. We need to challenge our policy-makers and programme managers to refocus programme content and to shift focus from spending the budget on the development of new technologies towards the development of primary health care that ensure a continuum of care and account for birth and death.

Conclusion

There is a need to find more effective ways to deliver services, especially to those who are vulnerable, and to focus on post-natal care as most of the participants in our study did not give significant importance to it.

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