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UNDERSTANDING USERS' PERSPECTIVES OF BARRIERS TO MATERNAL HEALTH CARE USE IN MAHARASHTRA, INDIA

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Summary. This paper uses data collected using in-depth, semi-structured interviews to examine utilization of maternal health care services among two rural and urban populations of Pune and Mumbai in Maharashtra, India. The study aims to identify key social, economic and cultural factors influencing women's decisions to use maternal health care and the places used for child delivery, whilst considering the accessibility of facilities available in the local area. Socioeconomic status was not found to be a barrier to service use when women perceived the benefits of the service to outweigh the cost, and when the service was within reasonable distance of the respondent's place of residence. A large number of women perceived private services to be superior to those provided by the government, although cost often meant they were unable to use them. The provision of services did not ensure that women used them; they had to first perceive them to be beneficial to their health and that of their unborn child. Respondents identified the poor quality of services offered at government institutions to be a motivating factor for delivering at home. Thus further investigation is needed into the quality of services provided by government facilities in the area. A number of respondents who had received antenatal care went on to deliver in the home environment without a trained birth attendant. Further research is needed to establish the types of care provided during an antenatal consultation to establish the feasibility of using these visits to encourage women, particularly those with high-risk pregnancies, to be linked to a trained attendant for delivery.

Introduction

This paper examines the utilization of maternal health care services among two rural and urban populations of Maharashtra in India. Data were collected using in-depth, semi-structured interviews, concentrating on the use of antenatal care and the choice of place of delivery for childbirth as outcomes.

Maharashtra is the most urbanized state in India. The National Family Health Survey (NFHS) 1992/3 (International Institute for Population Sciences, 1994a, b) reported that 83% of births in Maharashtra received some form of antenatal care, and that 56.5% of the respondents delivered at home compared with 43.5% at health institutions, so the home is still the most favoured place for childbirth in Maharashtra. The Maharashtra NFHS 1992/3 shows that even the women who do obtain antenatal care receive too few checkups, which are initiated too late in the pregnancy. Sixty per cent of women are not attaining the basic recommended four antenatal care visits during their pregnancy (Park & Park, 1989). In addition, at least half of the women do not receive antenatal care until the second trimester of pregnancy and approximately half of these do not attend before the third trimester.

The Indian government has prioritized the improvement of maternal and child health (MCH) services. In 1993, The Ministry of Health and Family Welfare introduced the Family Survival and Safe Motherhood Programme, which aims to provide a minimum of three antenatal checkups to all pregnant women, with universal coverage of tetanus toxoid immunization and iron/folic acid supplements. These antenatal checkups are designed to provide women with advice on dietary intakes and rest requirements, and encourage those with high-risk pregnancies to give birth in institutional facilities (World Bank, 1996). The success of such policies can be measured by the level of maternal health care utilization among the target population, as assessed by the NFHS 1992/3. Although the NFHS 1992/3 provides national- and state-level estimates of the utilization of maternal health care, it does not provide information on the decision-making behaviour that precedes the use of health services. The objective of this study was, therefore, to identify the key social, economic and cultural factors that influence women's decisions to use maternal health care, whilst considering the accessibility of facilities available in the local area in Maharashtra.

Background

The World Health Organization (1996) estimates that 585,000 maternal deaths occur every year worldwide. Thaddeus & Maine (1994) state that 75% of these are due to direct obstetric causes and with quality care at the appropriate time they could be avoided. The Population Reference Bureau (1998) reported India's maternal mortality ratio to be 570 per 100,000 live births in 1996. Kapil (1990), cited in Jejeebhoy & Rao (1995), found that for every maternal mortality that occurred in India there were twenty cases of morbidity associated with pregnancy and childbirth.

The International Conference on Population and Development (ICPD) plus 5 (1999) meeting set an agenda for governments, non-governmental organizations, donors and the international community to take responsibility for establishing access to emergency and necessary obstetric care, maternal health services, a trained delivery assistant, and successful referral and postpartum care in countries such as India where the maternal mortality rate remains extremely high (International Institute for Sustainable Development, 1999). With India accounting for approximately 19% of the world's births at the end of the twentieth century (Jejeebhoy & Rao, 1995), there is

clearly a need to ensure that these policy goals are met. To achieve this there needs to be a better understanding of the factors that facilitate the use of maternal health care services in India.

The role of antenatal care in reducing maternal mortality and morbidity

There is much debate amongst maternal health researchers regarding the effectiveness of antenatal care in reducing maternal and perinatal mortality and morbidity, particularly in developing country settings. There are many examples of studies that have shown an association between use of antenatal care and positive maternal outcomes (Anandalakshmy *et al.*, 1993; Goldenberg, Patterson & Freese, 1992; Anandalakshmy, Talwar & Buckshee, 1997; Royal College of Obstetricians and Gynaecologists, 1979; Swenson *et al.*, 1993). Although associations have been observed between antenatal care use and positive health outcomes, it is unclear whether this relationship is a causal one. There are numerous confounding factors that predispose women who make the decision to seek antenatal care to be different from those who do not use the service (Villar & Bergsjø, 1997). Many of the studies that have found an association between antenatal care and reduced maternal mortality do not identify the exact components of the service that have been effective in reducing maternal mortality (McDonagh, 1996).

Various researchers have also shown that there is little in the current provision of antenatal care that can reduce the risk of maternal mortality in the majority of developing country settings (Maine, 1991; Rooney, 1992; Sundari, 1992; Acharya, 1995; Munjanja, Lindmark & Nyström, 1996; McDonagh, 1996; Piper, Mitchel & Ray 1996; Villar & Bergsjø, 1997; Bergsjø & Villar, 1997). However, several of these studies recognize the potential for the provision of antenatal care services to be improved. There is agreement that antenatal care can help identify high-risk pregnancies, although there is a need for a good referral system with adequate facilities to deal with the pregnancy complications that arise (Villar & Bergsjø, 1997; Bergsjø & Villar, 1997; McDonagh, 1996; Acharya, 1995; Giri, 1995; Sundari, 1992). Other potential benefits of antenatal care are counselling on nutrition and healthy pregnancy/delivery behaviour (Bergsjø & Villar, 1997; McDonagh, 1996; Nylander & Adekunle, 1990), nutrition supplementation for poorly nourished women (Bergsjø & Villar, 1997; Villar & Bergsjø 1997), preparing women and family members for signs of problems in pregnancy and delivery (Mothercare Matters, 1998; Villar & Bergsjø, 1997; Sundari, 1992), and helping women to select a trained birth attendant or institution to deliver in (McDonagh, 1996). However, there are a number of factors in developing countries that have the potential to stop these aspects of antenatal care from being successful. Providers have to be trained to offer these services and both the client and the provider need to have the time necessary for a full consultation for the care to be effective.

Even studies that have found antenatal care to be largely ineffective agree that it has been successful in providing tetanus toxoid immunizations (see, for example, Acharya, 1995, and Bergsjø & Villar, 1997), iron/folate supplements and malaria prophylaxis in developing countries (McDonagh, 1996). In fact one of the functions of antenatal services in developing countries can be to provide general health care checks to a population of women who might otherwise have little contact with health care services (Bergsjø & Villar, 1997).

The role of place of delivery in reducing maternal mortality and morbidity

The place of delivery, unlike the use of antenatal care, has consistently been found to be associated with reduced maternal mortality if adequate facilities are provided in a timely manner (International Institute for Sustainable Development, 1999; Giri, 1995; Tsu, 1994; Villar & Bergsjø, 1997; Acharya, 1995; Thaddeus & Maine, 1994; Rodriguez *et al*., 1985). However, in developing country settings there are a number of factors that can inhibit the positive effects of place of delivery. First, delivery should be assisted by trained health workers who are able to recognize the signs of complications and act appropriately when a problem arises (International Institute for Sustainable Development, 1999; Mothercare Matters, 1998). Referral facilities should be available to deal with obstetric emergencies once they have been identified (Giri, 1995; Mothercare Matters, 1998; International Institute for Sustainable Development, 1999; Villar & Bergsjø, 1997; Acharya, 1995; Thaddeus & Maine, 1994), and on arrival at the referral facility patients should be seen promptly and appropriate decisions made to avoid further complications or even death (Sundari, 1992; Thaddeus & Maine, 1994). In addition, there needs to be a transport system to get women to the facility quickly in order for the service to be effective (Giri, 1995; Sundari, 1992; Thaddeus & Maine, 1994).

The aim of this paper is to provide improved knowledge of the factors acting as facilitators and barriers to service use, and women's perceptions of the benefits of these services, for groups of women living in the areas surrounding Pune and Mumbai in Maharashtra.

Framework

Thaddeus & Maine (1994, p. 1093) proposed a framework for the factors affecting delays in accessing medical care at the onset of an obstetric complication. They suggested a model that considers the factors affecting utilization and outcome, which include socioeconomic and cultural factors, accessibility of facilities and the quality or perceived quality of care provided by the facility. These factors were reported to have an impact on three possible phases of delay in seeking care: the actual decision to seek care in the first phase, identifying and reaching the facility in the second phase, and receiving adequate and appropriate treatment at the health facility in the third phase. In this study respondents were interviewed to ascertain the key factors affecting utilization and outcome for two of these phases: deciding to seek care and identifying and reaching the medical facility.

In addition, another framework for the use of maternal health care developed by WHO (1991) was used. This model suggests that there are predisposing factors such as the socioeconomic status, cultural environment, demographic factors and status of the woman which act through mediators such as the woman's knowledge and available information, her cognitive dispositions, perceptions of appropriate and inappropriate health care behaviours and issues related to the health service including access, quality, costs and whether there is a health worker in the community to influence use of antenatal care. The ideas presented in both of these frameworks were drawn upon to produce the question guide for interviews.

Methods

Qualitative data were collected by local research assistants by means of in-depth, semi-structured case study interviews with women from Mumbai and Pune and surrounding rural areas in Maharashtra. The case study method (Bhadwaj, 1989; Yin, 1994; Patton, 1990) in this context provides an opportunity to explore the factors influencing the utilization of maternal health care services, and an assessment of how characteristics of the individual, the household and the community may interact to influence the utilization of maternal health care.

Data were collected via a semi-structured interview guide, consisting of open and closed questions. The use of a formal written interview guide allowed the collection of reliable comparable data from respondents, whilst still allowing them to express beliefs and opinions in their own terms (Bernard, 1994; Patton, 1990). The guide collected full birth histories and details of the antenatal and delivery care received for the last pregnancy for each respondent. Additional questions were prepared based upon the conceptual frameworks presented by WHO (1991) and Thaddeus & Maine (1994).

The data were collected in two fieldwork visits: data from Pune and the Taleghar, Girawali and Mhalunge villages were collected between January and March 1997, whilst data from Mumbai and Sikhwai village were collected between January and March 1998. In total, 45 in-depth interviews were conducted, stratified according to urban/rural residence: rural ($n=19$) and urban ($n=26$). The target population for the research were women with two children under the age of ten, one of which was aged under five, to allow sufficient information to be collected on the use of maternal health care during pregnancy without recall problems.

Respondents were recruited using a 'snowball' technique, a method most suited to reaching specific target populations (Singh, 1991). Using local health care workers, community leaders and charity workers, respondents who met the criteria for interviewing were identified. Once interviewed, these women were asked to identify other women with similar characteristics (in terms of their recent births) who would be available for interview. This form of sampling is not random, and thus may involve some element of bias, with the recruitment of respondents dependent upon their identification by others with similar characteristics.

Study settings

Respondents were selected from areas with similar socioeconomic characteristics in order to maintain consistency throughout the study and to provide a sample indicative of the urban and rural poor of Maharashtra. In Mumbai, respondents were selected from a slum pocket in Vashi, sector seventeen of the area of Mumbai known locally as New Bombay. Vashi has been a focus of recent in-migration from rural areas, and the slum consists primarily of recent migrants living in semi-*pucca* housing. Health care services are provided by the *Seth* charity organization, which provides family planning and antenatal care clinics, although it does not provide facilities for child delivery. There is one government and a number of private hospitals offering childbirth facilities approximately half an hour drive from the area.

In Pune respondents were selected from two slums: Erandwana and Kalewadi, to the south-east of the city. Erandwana is a relatively small and established slum, with semi-*pucca* housing and formal sanitation facilities. Health services are provided by a government dispensary with a doctor, approximately five minutes walk from the slum. This service provides antenatal care. Government delivery services are fifteen minutes from the slum. In contrast, Kalewadi is a new and growing slum predominantly formed of *kaccha* housing, with informal sanitation facilities. There are no government health facilities in this slum, and residents rely upon private health care in the local area, which provides antenatal and child delivery facilities.

Sakhwai village has a population of approximately 300 and lies 200 km north of Mumbai. The village contains the Ramakrishna Mission, a charity-funded rural health and welfare centre, which provides health services for people from the village and the surrounding Khanavide district. Services are provided free of charge, but the mission is only able to provide service one day per week (Sunday) due to the costs of keeping the centre open. The service does not provide antenatal care or facilities for childbirth. The nearest government-operated hospital is in Madvi, which is over one hour drive from Sakhwai.

The Taleghar, Girawali and Mhalunge villages lie in the north-east of the Pune district. The three villages differ in the health care services available. Taleghar is located approximately 120 km from Pune high in the hills and has a population of approximately 900 and a public health centre that serves a population of 14,000 people in the surrounding areas. The health centre has facilities for a few in-patients and a doctor and nurse available 7 days a week to provide antenatal and delivery services. The village is serviced by good roads with a bus service to the city. Girawali is situated in the hills approximately 75 km from Pune, with a population of approximately 400. The road to this village is less well maintained, although the villagers reported that it was passable even in the monsoon. A bus service passes along the road to Pune daily. The village has a sub-centre health post, with a resident nurse and a doctor who visits the village several times per week, although there are no in-patient facilities. The nurse provides antenatal care and is available to assist with deliveries or refer women to the public health centre for delivery. The health centre is approximately an hour's walk or a fifteen minute drive from the village. In contrast, Mhalunge is a remote village in the hills located 90 km from Pune and served by a dirt road. There is a nearby larger village with a public health centre, which is a forty minute walk from the village in the dry season, although during the monsoon the walk becomes very difficult and takes several hours. The village has no permanent health care facilities, although a government health worker from the nearby larger village visits once a week and provides antenatal services.

Results

A content analysis of the interviews was undertaken and a coding scheme evolved, which represented the major themes emerging from the data (Patton, 1990). The information collected from the respondents in the interviews was considered utilizing the two frameworks that were used to design the initial question guide (WHO, 1991; Thaddeus & Maine, 1994) to perform a cross-case analysis of the data (Patton, 1990).

Table 1. Antenatal care utilization and places of delivery among urban sample

Location	Received antenatal care	Timing of antenatal care	Number of visits	Source of antenatal care	Place of delivery
Vashi	Yes	1st Trimester	3	Government	Private
Vashi	Yes	1st Trimester	3	Government	Private
Vashi	Yes	1st Trimester	3	Government	Private
Vashi	Yes	1st Trimester	4	Government	Private
Vashi	Yes	1st Trimester	4	Government	Government
Vashi	Yes	1st Trimester	3	Government	Government
Vashi	Yes	3rd Trimester	2	Government	Government
Vashi	Yes	3rd Trimester	2	Government	Government
Vashi	Yes	3rd Trimester	2	Government	Home
Vashi	Yes	3rd Trimester	2	Government	Home
Vashi	Yes	3rd Trimester	2	Private	Home
Vashi	Yes	3rd Trimester	2	Private	Home
Vashi	Yes	3rd Trimester	2	Private	Home
Vashi	Yes	3rd Trimester	1	Private	Home
Vashi	Yes	3rd Trimester	1	Private	Home
Vashi	Yes	3rd Trimester	1	Private	Home
Vashi	Yes	3rd Trimester	1	Private	Home
Vashi	No	—	—	—	Home
Vashi	No	—	—	—	Home
Vashi	No	—	—	—	Home
Erandwana	Yes	1st Trimester	1	*Ayurvedic*	Private
Erandwana	Yes	1st Trimester	5	Government	Private
Erandwana	No	—	—	—	Private
Kalewadi	Yes	3rd Trimester	2	*Ayurvedic*	*Ayurvedic*
Kalewadi	Yes	1st Trimester	5	*Ayurvedic*	*Ayurvedic*
Kalewadi	Yes	2nd Trimester	5	*Ayurvedic*	*Ayurvedic*

Patterns of antenatal care utilization and places of delivery in urban areas

Table 1 presents the patterns of antenatal care utilization and places used for childbirth among the urban samples. Respondents interviewed in the two urban areas of Maharashtra displayed almost universal uptake of antenatal care services. Of the twenty women interviewed from the Vashi slum, Mumbai, only three reported receiving no antenatal care during their last pregnancy. Similarly, of the six women interviewed in urban Pune, only one did not receive antenatal care. All women who received antenatal care also reported receiving two doses of tetanus toxoid and iron/folic acid tablets. Despite the apparent universal utilization of antenatal care, there exist differences in the timing and frequency of visits among urban women. The interviews suggest that there are two distinct groups of urban antenatal care users: those who seek care early in the pregnancy and continue to make regular visits, and those who wait until late into the second trimester or even the third trimester of pregnancy to seek care. In Vashi, Mumbai, six women received antenatal care during

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the first two trimesters of pregnancy, whilst eleven women sought care during the final trimester. In general, those receiving care in the first two trimesters of pregnancy made a total of three to five antenatal care visits during their pregnancy, whilst those receiving care in the final trimester made only one to three visits.

In addition, the source from which antenatal care was sought differed between urban slums. In Vashi, Mumbai, ten women reported seeking care from government sources, and seven from private practitioners. In the Erandwana slum, Pune, government services were available, although the three women interviewed chose different places for attending antenatal care with one woman receiving no care. In contrast, in the Kalewadi slum, Pune, *ayurvedic* (traditional, non-Western) private facilities were used, as there were no government health facilities available. Therefore, although urban women displayed almost universal utilization of antenatal care, there are intra-urban differentials in the timing, frequency and type of antenatal care sought.

All of the women interviewed in the Pune slums gave birth in health institutions. Women from the urban slum of Kalewadi, Pune, gave birth in the private *ayurvedic* birthing facility in close proximity to the slum. In contrast, the women living in the Erandwana slum used the nearby local private hospital. In Vashi, Mumbai, four out of twenty respondents interviewed gave birth in a government hospital, four utilized facilities provided by a private hospital and the remaining twelve gave birth in their own homes.

Patterns of antenatal care utilization and places of delivery in rural areas

Table 2 shows the patterns of antenatal care utilization and the places used for childbirth among the rural sample. All of the women interviewed in the villages surrounding Pune had received regular antenatal care visits from the early stages of their pregnancy. The latest stage of pregnancy at which the women reported starting antenatal care was the third month. In these villages the health worker visited households to identify pregnant women and encouraged them to see her for regular antenatal checkups. All of these women had also received the required number of tetanus toxoid injections and had been given iron/folic acid tablets.

In contrast, of the ten women interviewed in the Sakhwai village, near Mumbai, only two reported receiving antenatal care during their last pregnancy. One of these women had made one visit during the eighth month of pregnancy, whilst the second woman had made two visits and was unsure of the timing of her first antenatal care visit. In the Sakhwai village no antenatal services are provided, whereas the villages surrounding Pune have well established government health services. Even the remote Mhalunge village has a qualified nurse who visits the village once a week to provide maternal and child health care services.

In general, the rural areas were characterized by a reliance upon home births, with all women interviewed in Sakhwai, near Mumbai, delivering their last child at home and five of the nine women in the villages surrounding Pune giving birth at home. In the remote village of Mhalunge all three women interviewed reported giving birth in hospitals. One of the women from the public health centre village of Taleghar near to Pune gave birth in a government health facility because she returned to her natal home in Mumbai, which was close to a government hospital.

Table 2. Antenatal care utilization and places of delivery among rural sample

Location	Received antenatal care	Timing of antenatal care	Number of visits	Source of antenatal care	Place of delivery
Sakhwai	Yes	8th month	1	Charity	Home
Sakhwai	Yes	Unsure	2	Charity	Home
Sakhwai	No	—	—	—	Home
Sakhwai	No	—	—	—	Home
Sakhwai	No	—	—	—	Home
Sakhwai	No	—	—	—	Home
Sakhwai	No	—	—	—	Home
Sakhwai	No	—	—	—	Home
Sakhwai	No	—	—	—	Home
Sakhwai	No	—	—	—	Home
Mhalunge	Yes	1st Trimester	7	Government	Private
Mhalunge	Yes	1st Trimester	7	Government	Private
Mhalunge	Yes	1st Trimester	7	Government	Government
Taleghar	Yes	1st Trimester	7	Government	Home
Taleghar	Yes	1st Trimester	7	Government	Home
Taleghar	Yes	1st Trimester	7	Government	Government
Girawali	Yes	1st Trimester	4	Government	Home
Girawali	Yes	1st Trimester	7	Government	Home
Girawali	Yes	1st Trimester	5	Government	Home

Perceptions of the benefits of service utilization

In order for an individual to utilize a service they must first believe that the service will benefit their health (Thaddeus & Maine, 1994; WHO, 1991). In both urban areas, 22 respondents who reported receiving antenatal care indicated that the perceived benefits of the service for their own health and that of their unborn child were the primary factors in their decision to seek health care:

'If you don't take good care you will get ill,' (Erandwana, Pune).

'Antenatal care gives the mother and child good health,' (Vashi, Mumbai).

Previous studies that have focused on the perceptions and motivations to use of health services reveal that care is often inadequate and insensitive, and providers fail to communicate with clients (Obermeyer & Potter, 1991), creating a misunderstanding of the benefits of the service. Respondents' comments suggest that although there is a common belief that maternal health services are beneficial to the health of the mother and child, there exists confusion as to the actual benefits of antenatal care. Upon probing as to the reasons why antenatal care was sought, a number of respondents (5/22) gave answers that suggested they were not fully aware of the ways in which antenatal care could benefit their health, with the common belief among the urban respondents in Mumbai that antenatal care prevents polio:

'Antenatal care is important as you get vaccinations to prevent diseases otherwise you might get polio,' (Vashi, Mumbai).

'The health worker advised us [to get antenatal care] so as not to have any troubles and to prevent polio,' (Vashi, Mumbai).

Thus, although urban women exhibit awareness of availability of antenatal care, and report using services because they are beneficial to health, there still exists a need to provide more information on the content and potential benefits of antenatal care.

In contrast to this perception of the potential health benefits of antenatal care amongst users, a number of women who were non-service users in urban areas (4/26) and rural areas (8/19) reported that they did not perceive antenatal care to be beneficial to their health, or the health of their unborn child. Among these women, antenatal care was viewed as a curative rather than preventative form of care. Respondents indicated that as pregnancy is a natural state there was no need to seek medical care, and that such care should only be sought if an obvious problem arises:

'It wasn't necessary to get antenatal care, there were no problems, anyway, who has the money for such things?' (Erandwana, Pune).

'Since there was no trouble, if there was a problem or something occurred, then there is a doctor nearby,' (Vashi, Mumbai).

'I never went to the antenatal care clinic. I had no problems, and I don't have the money to go,' (Sakhwai, Mumbai).

McKinlay (1975) reported that health service utilization patterns of the poor are greatly influenced by their hierarchy of needs, which give preventative services a lower priority than other services. Due to financial constraints, higher priority is given to curative services that provide immediate return for the investment. Among the non-users in the study, perception of antenatal care as preventative care, coupled with limited financial resources, results in non-use of antenatal care.

Perceptions of the benefits of health care were also important in the decision regarding the place chosen for childbirth. Respondents indicated that there are four types of place utilized for childbirth: home, private hospital, government hospital and *ayurvedic* hospital, and that the decision to give birth in each of these is influenced by a differing set of motivating factors. The interviews found that the perception of health care was an important motivating factor in the decision to give birth in a private hospital or at home, whilst the decision to give birth in either a government or *ayurvedic* hospital was associated with availability and cost of services. Private hospitals were perceived as offering a safe and trustworthy service, with respondents reporting a willingness to pay for private hospitals, which they perceived as offering a service superior to the government and *ayurvedic* hospitals. Previous studies of maternal health care utilization have found that women are willing to pay for services in the private sector in order to avoid the long waiting times that characterize public sector care (Obermeyer & Potter, 1991). In addition, respondents perceive private services to offer a superior service because of the cost associated with the care. The interviews with those who had given birth in a private hospital highlighted the importance of both perceived safety and quality of care in the choice of place of delivery:

'It is safe for Caesarean deliveries in the private hospital and I trusted him better than doctors in the other places,' (Erandwana, Pune).

'I use the private doctor for childbirth, tests in pregnancy and giving birth, the private doctor has good medicines and brings a speedy recovery,' (Erandwana, Pune).

Twelve women in the urban areas (12/26) and fifteen women in rural areas (15/19) reported delivering their last child in their own home. The interviews found that for some women antenatal care was perceived as a preventative measure, and was only utilized if a problem occurred during pregnancy, with the hierarchy of needs giving a greater priority to curative forms of care. A similar belief emerged among those women who had chosen to deliver their child at home. These women reported that childbirth would only take place in an institution if a problem occurred during labour; thus childbirth in a medical institution was perceived as a curative form of care for specific childbirth complications:

'I delivered at home since there was no trouble, if there was a problem or something occurred then there is a doctor nearby,' (Vashi, Mumbai).

'The delivery of all my children took place at home, a hospital is only used when there is a problem, otherwise if everything is OK why go to a hospital?' (Vashi, Mumbai).

Issues relating to safety and quality of care were also reported as motivating factors in the decision to give birth at home:

'It was safe in the house and the nurse was present to do the delivery. In government hospital delivery room is not there. Toilet and water facilities are not there in public health centre properly. So I felt safe to give birth in house,' (Taleghar, Pune).

Home births in Mumbai were conducted by either a relative (usually the respondent's mother) or the local *dai* (traditional midwife, untrained in modern medicine, who conducts the births in a local area in return for a small stipend). Respondents reported that the experience these people had in delivering children made them feel safe and reassured during childbirth. Also, women reported that the many years of experience in childbirth of the *dai* or their mother ensured they would receive a better quality of care at home than in a private or government hospital:

'The *dais* deliver the babies in this area, and most women prefer them to doctors, they know what they are doing,' (Vashi, Mumbai).

'I knew the lady who delivered my baby, she advised me to go to the doctor, but I asked her to do it, I felt safe with her,' (Vashi, Mumbai).

'My mother had handled the deliveries of all my five sisters and knew what to do. She is much better than the doctor,' (Vashi, Mumbai).

Previous studies of childbirth practices have shown that traditional birth attendants (*dai*) are perceived as the best form of childbirth attendant as they ensure that childbirth takes place in a familiar environment (Goodburn, Rukhsana & Chowdhury, 1995). The delivery of a child in a formal medical institution involves the movement of the woman to an unfamiliar environment, where the woman is attended by strangers in the absence of family, and the physical and moral support they can offer during childbirth (Sundari, 1992). Also, hospitals may be intolerant to cultural

practices surrounding childbirth. In contrast, the services of a *dai* are a visible part of the local community, and by utilizing the services of the *dai* women are keeping childbirth in their local environment, in which they feel more comfortable than in a hospital:

> 'I felt too shy to go to the hospital, so I had my baby here, at home,' (Vashi, Mumbai).

> 'In my village all of the deliveries of children are at home, it is best to stay at home with your family, they can help you,' (Sakhwai, Mumbai).

> 'I preferred to stay at home. Everyone in the village calls the trained *dai* for delivery,' (Taleghar, Pune).

The respondents indicated that safety, familiarity of the home environment, and the cultural norm to give birth in the home were important factors in their decision to have home births.

Distance to services

Young (1981) notes that the poor and uneducated need little convincing of the benefits of modern medicine, and that most often they do not utilize modern treatments because services are inaccessible. Previous studies on the utilization of maternal health services have demonstrated that the location of services and transportation problems in accessing services can be a barrier to their utilization (Price, 1984; Greenwood, 1987). Sundari (1992) notes that a lack of transportation to health facilities, coupled with the presence of poor roads and long distances between rural settings and regional health facilities, can often make the essential difference between life and death during a complicated labour. The findings of this study suggest that the location of the different types of health service facilities is an important factor in determining whether antenatal care is utilized in both urban and rural areas.

In Pune the provision of health services was very different between the Kalewadi and Erandwana slums. In Kalewadi, private health care facilities were provided within close proximity to the slum, mostly in the form of *ayurvedic* care, and there were no government health services in close proximity, whilst in Erandwana there were government health services available. The respondents from Kalewadi reported that the lack of government health facilities resulted in a reliance on private *ayurvedic* care:

> 'I use the services that are here, there are no government services, so what choice do I have ?' (Kalewadi, Pune).

In the Sakhwai village the health facilities are provided by the *Seth* charity which operates one day per week. To access maternal health care women must travel approximately half-an-hour by motor vehicle to reach the Madvi Hospital. The effect of this distance on the decision to seek antenatal care became apparent during the interviews:

> 'We would only go for antenatal care if there was a problem, then we would go to Madvi, that is very far off,' (Sakhwai, Mumbai).

> 'It is too far off to go for antenatal care, we don't have a hospital in our village,' (Sakhwai, Mumbai).

Distance was also highlighted as an influential factor in the decision on the type of place utilized for childbirth in both urban and rural areas. Again, in the Kalewadi slum, the distance involved in travelling to government services was a barrier to their utilization, with women reporting that they relied upon private *ayurvedic* hospitals for childbirth, although they would prefer to use government facilities if they were available. In contrast, women from the three remaining urban areas utilized a range of places for childbirth (government, *ayurvedic* and private hospitals) reflecting the greater availability of services within close proximity to these areas.

Two women reported utilizing private hospitals for childbirth in rural areas, and they resided in the remote Mhalunge village. These women indicated that the distance of the Mhalunge village from the primary health centre made them sceptical about delivering at home in the village in case complications occurred during labour. The nurse had warned them that this was a risk of delivering in the village. The third respondent from the village delivered at a government hospital near to her parent's home, meaning that distance was less of a factor in her decision. For these women, distance to the health facility acted as a stimulus to service use:

> 'I thought this would be safest for me and the child because it was my first delivery. It is good to have a doctor at the delivery and it is a cleaner environment, even though it is a long way to go,' (Mhalunge, Pune).

In contrast, the distance between the primary health centre and the Sakhwai village created reliance upon home births. Many of the women interviewed expressed a desire to give birth in the government hospital. However, some women (5/10) reported that the distance to the hospital was too far to travel during labour, and that a lack of transport facilities meant that they were restricted to home births, particularly when labour began during the night:

> 'All of my children were born at night and there is a problem with transport to the hospital, otherwise we would have gone,' (Sakhwai, Mumbai).

Influence of health workers on service utilization

The Thaddeus & Maine (1994) framework identifies the second phase of delay in seeking an institutional delivery to be identifying and reaching the medical facility. One of the roles that antenatal care can play is to have familiarized women with the facilities available for delivery and to help them recognize the signs of the need for medical assistance. This study suggests that health workers in the local community can encourage the use of antenatal care and institutional deliveries. These health workers often go to the respondents' homes and introduce them to the available local health services during their pregnancy. The two urban areas studied differed in the availability of community health workers. In both the slums of Pune there were no health workers available, but in the Vashi slum, Mumbai, the *Seth* organization actively encouraged local women to utilize the antenatal services. Health workers visited local homes and encouraged pregnant women to attend the local health services for antenatal care. The differences in the availability of health workers between the two areas became apparent in the responses provided by the interviewees.

In Mumbai a number of women (6/17) who had reported receiving antenatal care indicated that the health worker had encouraged them to seek care. The women also reported that the local health workers were the main source of maternal health information in their area, and that they trusted the information that they provided:

> 'The health workers advised me to take care, as it is important for the health of the mother and the child,' (Vashi, Mumbai).

> 'I went for antenatal care because of the health workers advice, she said it was important, and I wanted to do as she said,' (Vashi, Mumbai).

Women who received government-provided antenatal care in Vashi were more likely to deliver in an institution (8/10) compared with those receiving private or no care (0/10).

The rural areas studied also differed in the availability of community health workers. All women in the Taleghar, Girawali and Mhalunge villages reported that the perceived health benefits of using antenatal care for themselves and their unborn child had been the primary motivating factor in their decision to seek care during pregnancy. In these three villages a health worker visited households to identify pregnant women and all of the women reported that she had encouraged them to receive regular antenatal care because it is good for the health of the mother and baby. Thus, in these villages the use of antenatal care is not solely dependent upon the pregnant woman's motivation to seek care, but is strongly influenced by the provision of health care information by the community health care worker in the respondent's home. In contrast, the low level of antenatal care utilization among women in the Sikhwai village, Mumbai, occurred in an environment in which community health care workers were not visiting households to identify pregnant women. Hence, to receive maternal health care information women had to attend the health centre rather than have information brought to their homes. Only two of the ten women interviewed in this village had received antenatal care during her last pregnancy and each had initiated this decision herself.

However, antenatal care did not appear to be informing women of the importance of having a trained person present at the delivery or delivering in an institution. There was no clear association found between women receiving antenatal care during their pregnancy and their choosing to have an institutional delivery, although women who received antenatal care from a government source were slightly more likely to deliver in an institution than those who received care in the private sector. In the rural areas this was partly a function of the lack of facilities for institutional births compared with the availability of antenatal services. Additionally, the antenatal care services were often given in the women's own homes, whereas women often needed to go outside of their villages for an institutional birth with a trained person.

Cost of services

Socioeconomic factors have also been identified as being important in affecting utilization of maternal health care services (Thaddeus & Maine, 1994; WHO, 1991). Previous studies of health care utilization have shown that individual economic circumstances are an important influence on the ability to access maternal health care (Gana & Louadi, 1982). The desire to utilize a service does not necessarily translate

into service use if the financial resources are not available to pay for the service. The use of a service can incur both direct costs, in the monies needed to pay for the service and transport to reach the facility, and indirect costs, in the form of the loss of the woman from household duties. The respondents identified the costs incurred in seeking antenatal care as being a barrier to service utilization. In each of the areas studied, those women who did not receive antenatal care reported that they could not afford to seek care:

> 'It is good to go to the doctor during pregnancy, but if there is no money we can't go. I wanted to go but I didn't have the money to pay,' (Sakhwai, Mumbai).

The costs associated with private health care were highlighted as being a barrier to their utilization. The interviews suggest that there exist a number of women (3/3) in Kalewadi who want to receive antenatal care from private hospitals, due to the perception that private hospitals offer a superior service, yet are prevented from using these services due to the costs they incur. They are thus reliant on the cheaper *ayurvedic* services:

> 'I couldn't afford to go to the qualified private doctor so I went to the private *ayurvedic* place,' (Kalewadi, Pune).

The costs involved in service utilization were also important in the decision regarding the place used for childbirth. The costs associated with delivery in a private hospital were reported as a barrier to use in both urban and rural areas. In the Kalewadi slum, Pune, there are both private *ayurvedic* and private allopathic medical centres. However, the women interviewed in Kalewadi all chose to use the *ayurvedic* hospital to deliver their last child, reporting that the private allopathic hospitals were too expensive. Those women who chose to deliver in an *ayurvedic* hospital still showed a concern for safety and quality of service, yet opted for the less expensive form of institutional delivery:

> 'It was the middle of the night and there was nobody else available. I couldn't afford to go to the qualified private doctor so I went to the *ayurvedic* place,' (Kalewadi, Pune).

> 'I use the *ayurvedic* private doctor for child delivery and female problems because he is cheaper,' (Kalewadi, Pune).

In total five women in the urban areas reported delivering their last child in a government hospital. Government health services are free, and this proved to be an important factor in influencing a woman's decision to deliver her child in a government hospital. However, women indicated that they were concerned about the quality of care they received in government hospitals, and suggested that the best care would be received from a private hospital. The costs involved in delivering in a private hospital meant that the women were restricted to the free government hospitals.

In the Sakhwai village the interviews suggested that the costs involved in both using health services and travelling to the nearest health facility had created a reliance on home births. The location of the hospital in relation to the village not only posed a physical problem of distance, but also created an economic problem through the costs incurred in travelling to the local government hospital. Again, some women

(4/10) reported a preference for delivery in a medical institution yet reported that they could not afford to use the services, and were thus restricted to home births:

> 'We did not have the money to go to the hospital, so I had to deliver the child at home,' (Sakhwai, Mumbai).

> 'I don't have any money otherwise I would have gone to the hospital,' (Sakhwai, Mumbai).

The two women who had delivered in a private hospital in the Pune villages reported that the cost associated with delivering there was worth it because the village was isolated from government services, meaning that the women would be taking a risk delivering at home if complications developed. Cost was therefore a barrier that was overcome because of the perceived benefit these services would have for the health of the mother and her unborn child.

Discussion

This study has identified a number of barriers to the use of antentatal care and choice of place of delivery. Socioeconomic factors are important: women who cannot afford to travel are unable to use services that are not available locally. Additionally, respondents reported that they would use a service that they perceived to be of lower quality than private facilities, because private services were too costly. In urban areas some women reported using *ayurvedic* practitioners because they are a cheaper alternative to allopathic private doctors, whilst being perceived as better quality than government services. Government health services provided in many slums and rural areas, although free, are often characterized by over-crowding, low staff levels and a lack of basic resources to treat ailments (Kapil, 1989), and this discourages their use (Khandekar, 1993).

However, socioeconomic status was not a barrier to service use when women perceived the benefits of the service to outweigh the cost of using it, and the service was within close proximity to the respondent's place of residence. All of the women interviewed were of very low socioeconomic status. Nevertheless, several had chosen to use private hospitals for childbirth, despite the higher cost of using these facilities because they were perceived to provide a quality environment for a safe delivery. Families were willing to take out loans to use private facilities when the benefits of the service were perceived to be necessary. Hence, private services in India clearly have a role to play in providing women with access to maternal health services for antenatal care and child delivery. Potentially, private services could provide a solution to ensuring more women have access to maternal health services through providing subsidy programmes for the care. However, this will only be effective for communities where private services are provided within a short distance of residential areas.

A second important factor in the use of maternal health services identified by both frameworks (Thaddeus & Maine, 1994; WHO, 1991) and highlighted by this survey's respondents, was the cultural factor. A number of respondents had given birth in the home environment. Home births were viewed by these women as being superior to institutional deliveries, unless a problem occurred during delivery. This was partly because respondents reported locally available government services to provide poor facilities for childbirth. However, cultural factors also played an important role in this

decision. Respondents reported familiarity with the home environment and the local *dai* as an important factor in their decision to deliver at home. Some women reported that the experience that the *dai* or relative had in assisting with childbirth meant that this was the safest choice of person to assist with delivery, and was the person that made them feel most comfortable. Women reported that they felt safe and reassured delivering their child in their own home. Basu (1990) has also observed a continued reliance upon home births in India to be associated with tradition.

A third factor from the conceptual frameworks which was important in influencing use of maternal health services was the availability of services. In the rural areas, antenatal care was readily available in Pune, whereas women in the Sakhwai village had to travel to receive these services. This resulted in very different patterns of utilization of antenatal care in the two areas. All of the Pune women had used antenatal care, partly because the health worker had initiated the visits, whereas very few of the Sakhwai women had received care. However, availability of services did not guarantee institutional delivery. Women living near to government facilities did not necessarily use them for childbirth, although those who lived far away from such services gave this as a reason for non-use. Clearly, providing services alone is not enough to ensure utilization. Women also have to perceive the services to offer benefit. Consistent with the WHO (1991) framework, providing a health worker who identifies pregnant women for antenatal care has proved important in utilization of antenatal care. However, for an event such as childbirth, the timing of which is less easily predicted and when women might require help during the night, the provision of services in the community has not had the same success.

The respondents in the study have underlined a number of factors pertaining to the usefulness of antenatal care in reducing maternal mortality and morbidity. Respondents who had used the service reported that their main motivating factor for attending antenatal care was to improve their own health and that of their unborn baby. However, several of these women were not aware of exactly how it might help improve their health, citing the service to be important in preventing polio. For those who were not using antenatal care, the perception of the service as a curative rather than a preventative measure proved to be a major barrier to the uptake of antenatal care services in both urban and rural areas. Women reported that they would only seek care if an obvious problem occurred during pregnancy, and that antenatal services had little benefit for their health. In addition to this, there prevailed a sense of apathy towards the seeking of care during pregnancy, particularly apparent among those interviewed in the Sakhwai village, Mumbai. Karnatikar & Sinha (1989) also observed that apathy towards the use of modern medical services, coupled with an ignorance of the needs and advantages of maternal health care, results in low rates of service utilization in north India. It is not surprising that women are unable to report the benefits that antenatal care provide and that the women who report not using the service do so because the service has little benefit to their health.

For the respondents in this study there is no clear link between receiving antenatal care and either delivering in an institution or having a trained health care worker at the delivery. Leslie & Gupta (1989), cited in McDonagh (1996), also observed that many more women attend antenatal care than seek trained assistance at delivery.

There is a potential for antenatal care to reduce maternal mortality and morbidity by providing women with information about the benefits of having a trained person present at the delivery, especially for women living in more remote settings where the journey to the health facility could result in a life lost. Antenatal care has the potential to match women with an appropriate health worker for delivery (McDonagh, 1996). This study identified women who are prepared to deliver in institutions despite the barriers of cost and distance. Therefore, women in these populations appear to be receptive to using modern health care services, despite traditional norms of delivering at home, when there is perceived to be some benefit to using them and they are perceived to offer a culturally appropriate service. Another role antenatal care can effectively play in helping to reduce maternal mortality and morbidity is to identify clients with high-risk pregnancies, including first births, small women, patients with a history of abnormal pregnancies, ill pregnant patients, teenage mothers and women of older reproductive ages. High-risk pregnancies could be given the most encouragement to deliver in institutional facilities. However, local health workers could also be used to teach women and local birth attendants the signs that problems may be occurring with the delivery to enable women to seek care in an institution early during labour if a problem arises (Mothercare Matters, 1998, Villar & Bergsjø,1997; Bergsjø & Villar, 1997; McDonagh, 1996; Acharya, 1995; Giri, 1995; Sundari, 1992).

Conclusion

These findings suggest that the barriers to maternal health service utilization in these areas of Maharashtra are similar to those observed in other developing country environments (Thaddeus & Maine, 1994; WHO, 1991). However, socioeconomic status is not a barrier to service use when women perceive the benefits of the service to outweigh the cost of using it and the service is within reasonably close proximity to the respondent's place of residence. This is particularly important for the utilization of private services, which are perceived to be of high quality. Private services could therefore potentially have a role to play in improving access to maternal health services in Maharashtra.

There are still a number of women who do not receive antenatal care in the communities observed, and these women would benefit from the successful, relatively cheap model used in the Pune villages where a health worker visits all pregnant women to encourage them to attend antenatal care. However, providing services is not enough to ensure use, as women have to perceive them as offering some benefit. This is especially important for childbirth, where the services provided in the community have not achieved the same success in use as those provided for antenatal care. It is ironic that health services have been more successful in providing women with antenatal care than for institutional deliveries, given the higher levels of success that institutional deliveries have been shown to have in reducing maternal mortality and morbidity. However, antenatal care could be used to improve this situation by encouraging women, especially those of high risk, to deliver in an institution capable of treating complications arising during delivery. Antenatal care could also be used more effectively to link women with a trained health professional for delivery, who

would be better trained in recognizing the complications of delivery than a traditional attendant.

In this work the factors affecting use of maternal health care have been investigated from the users' perspective. Thaddeus & Maine (1994) identify a third process in their framework for delay of use of institutional delivery facilities, i.e. receiving adequate and appropriate treatment and the quality of care provided by health institutions. Ten per cent of all pregnancies develop complications (WHO, 1991), so it is important that women are provided with an institution offering services and referral facilities to cope with common problems experienced during childbirth. Several respondents identified the poor quality of services offered at government institutions to be a motivating factor for delivering at home. Thus the quality of services provided by government and private facilities in the area requires further investigation. Further research is also required to establish the types of care provided during an antenatal care consultation to establish the feasibility of using these visits to encourage women, particularly those with high-risk pregnancies, to be linked with a trained attendant for her delivery.

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