

Maternal health services utilisation in Nepal: Progress in the new millennium?

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ABSTRACT

Aim: This review was to explore the range and pattern of maternal health services utilisation in Nepal over the past decade.

Method: It is based on Nepal demographic and health surveys 2001 and 2006, and literature reviewed from across the globe and related to the Nepalese context. Different aspects of maternal health care, i.e. antenatal care (ANC), postnatal care (PNC), delivery care, skilled birth attendance (SBA) and family planning (FP) services were reviewed.

Results: There is significant difference in utilisation of maternal health services according to the socio-economic status of women and geographical location. Several factors affect the uptake of maternal health services, including (a) the woman's age, her level of education, employment and income, wealth, location (e.g. rural/urban, ecological and development region), and number of living children in the family. The review found that educated women, those who live in urban areas and central and western regions of Nepal, who are the better-off households, are more likely to use maternal health services than others. Similarly, women who have more than three living children are less likely to use maternal health services (except for family planning services) than others.

Conclusions: It is suggested that the government should give priority to women from lower socio-economic groups in different community interventions (e.g. providing schemes for partial funding community payment or pre-payment schemes, insurance programmes, private or social insurance, through subsidies). The government should also prioritise the establishment of new health facilities in remote and less developed areas together with developing road links to major urban areas of Nepal.

Key words: Developing country, maternal health, pregnancy, South Asia, service uptake.

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INTRODUCTION

Improving maternal health is the fifth of eight Millennium Development Goals (MDGs), aiming to reduce the Maternal Mortality Ratio (MMR) by three quarters between 1990 and 2015.¹ A recent estimate shows that there are 281,500 maternal deaths worldwide every year: more than 99% of these occur in the developing world and most could be prevented.² Every year more than 4 million newborns die and another million babies are stillborn.³⁻⁵ Nearly all these deaths take place in low and middle-income countries and most could be prevented with medical care.⁶

Social scientists and public health experts declare that maternal mortality is an important, complex and neglected field of study in developing countries but this has only been recognised as a public health problem since the 1980s.^{7,8} Estimating maternal mortality levels is complicated particularly in developing countries, like Nepal, where data gathering systems are not robust.^{9,10}

Over the past two decades the high level of maternal mortality in developing countries has increasingly been recognised as an urgent public health concern. The 'Safe Motherhood' conference in Nairobi, (Kenya) in 1987,

drew attention to maternal mortality and the issue has remained on the international agenda ever since.

Nepal has a long history of traditional medicine, including: *Faith Healing, Naturopathy, Youga, Ayurved* and *Homeopathy*, but the history of modern health services in the country is not long. Modern health services were introduced in the early 1960s after the establishment of democracy: previously there were only very limited health facilities in urban areas. After the establishment of the Ministry of Health in 1956, the Government of Nepal (GoN) started a systematic development of the country's health system through a series of five year plans.¹¹

The first five year plan started in 1956 with the aim of providing employment and improving people's living standards. The third five year plan (1965-1970) launched family planning, maternal and child health projects (in 1968). By then the GoN had been working towards improving maternal health services through a series of different programmes.

It was only after the 'Safe Motherhood' conference in Nairobi in 1987, that Nepal formulated a long-term plan in

(1991) and identified safe motherhood as a priority programme to be institutionalised in the primary health sector care. In 1994 an International Conference on Population and Development (ICPD) was held and, as a signatory to the plan of action, Nepal formed a task force on safe motherhood and developed a safe motherhood plan of action (1994-1997). In 1998 a national reproductive health strategy included safe motherhood as one of the key components of the reproductive health package. Also in 1998 the results of a national 'safe motherhood and maternal mortality and morbidity' study were published. This laid the basis for the formulation of a national safe motherhood plan (2002-2017) which is working on the basis of the implementation of various interventions aiming at safe motherhood.¹²

In 1996 the Nepal Family Health Survey (NFHS) estimated Nepal's MMR at 539 per 100,000 the highest ratio in South Asia.^{13,14} The Ministry of Health in Nepal (MoHN) is committed to improving this situation. Most recently, high priority has been given to the National Safe Motherhood Programme (NSMP) within the Nepal Health Sector Strategy Plan (NHSSP). The Nepalese health sector has set a goal of meeting the five year plan/Poverty Reduction

Strategy Plan (PRSP) and MDG to reduce the MMR by 75% by 2015. The most recent demographic and health survey in Nepal estimated that MMR is now 281 per 100,000 live births which is much reduced but still one of the higher MMRs globally.¹⁵ Underutilisation of health services is one factor contributing to high maternal mortality rates, for example, 81% of births take place at home, many without skilled health providers.¹⁵ Complications during pregnancy and childbirth such as haemorrhage, sepsis, abortion complications, pre-eclampsia and eclampsia, and prolonged/obstructed labour are the leading causes of death and disability among women of reproductive age in developing countries and millions of women still lack access to adequate skilled care during the period of pregnancy and child birth.¹⁶

Methods

The main aim of this paper is to review the available literature to identify the range and pattern of maternal health service utilisation in Nepal over the last ten year. The NDHS 2001 and 2006 are the main sources used to analyse the range and pattern of maternal health service utilisation. Additionally, published and unpublished studies and reports produced between 1995 to

December 2010 and related to Nepal were searched. To identify the studies electronic data bases such as Medline, CINAL, EMBASE, Science Direct, Scopus and PubMed were searched. WHO and MoHN websites were searched and relevant references (including international papers) were also included in the review and related to the Nepalese context.

Maternal health service utilization of Nepal: an overview

Barriers to utilization of maternal health care services during pregnancy in Nepal are varied. Several studies have highlighted that geographical difficulties; diverse culture and religion, lack of transportation; lack of time due to heavy workloads and a shortfall of skilled health professionals are some of the reasons that affect the utilisation of services.^{11,17-19} Women's low social status, lack of knowledge about illness and lack of awareness about obstetric/gynaecological danger signs, lack of decision making power and inability to pay for services also play a significant role in the underutilisation of existing maternal health service.²⁰⁻²⁴

As indicated, maternal health remains a central policy concern in Nepal. A recently published National Planning

Commission (NPC) three year interim plan emphasised women's overall development, the advancement of the status of women (including improvement of women's health) and set a target for a reduction in the national MMR.²⁵ In this paper we discuss the range and pattern of maternal health service utilisation in the past and its development over the past decade in Nepal. Services are discussed and some recommendations are made for the enhancement of maternal health service utilisation based on data from the available literature.

Family Planning utilisation

The use of contraception is one of the key determinants of fertility.²⁶ Fertility is directly related to maternal morbidity and mortality.²⁷ It is documented that if the existing demand for family planning services were met maternal deaths in developing countries could be reduced by 20% or more.²⁸ Over the past decade in Nepal, the use of modern family planning methods has been increasing steadily (29% in 1996, 39% in 2001 and 48% in 2006) and fertility has dropped from 4.6 children per woman in 1996 to 3.1 in 2006.^{13, 15} So it can be assumed that the risk of life time maternal mortality of Nepali women has declined,

simply because women have fewer births than in the past.^{9, 15}

Family planning is given a high priority in maternal health policies with the aim of providing and sustaining adequate family planning services through community level health facilities in Nepal.²⁹ Findings from the NDHS 2006 show that knowledge of at least one modern contraceptive methods of family planning is universal among currently married women but there are substantial differences in the use of contraceptive methods among subgroups of currently married women. Women in urban areas are more likely to use modern contraceptive methods than rural (54% vs. 34%). Similarly, married women in the Terai (Plain) area have higher use than hill and mountain women (48%, 41% and 36% respectively). This perhaps reflects the easier access and wider availability of these methods in the Terai and urban areas. The impact of education on contraceptive use is mixed. Wealth is positively correlated with contraceptive use. The use of modern contraceptive methods between the highest and lowest quintile women are 54 % and 34% respectively.¹⁵ Married women who have three to four living children are more likely to use modern contraceptive methods (60%) than married women who have no living

children (7%), presumably because the latter may wish to have children and do not want to prevent pregnancy. The same survey reports that there is high unmet demand-25% of married women could not access contraceptive services.¹⁵

Antenatal care utilization

Antenatal care (ANC) is an important determinant of safe delivery that can afford opportunities to encourage women to deliver with a skilled attendant in a health facility.³⁰ The World Health Organization (WHO) recommends at least four ANC visits for uncomplicated pregnancies.³¹ The GoN aims to increase the percentage of pregnant women attending four antenatal visits to 80% by 2017.³² However, the uptake of WHO recommended ANC checkups in Nepal is low. The use of ANC was 9% in 1996, 14% in 2001 and 29% in 2006. Figures show that 26% of women do not receive any ANC checkups at all and only 44% of pregnant women receive ANC checkups with skilled providers.¹⁵ The 2006 survey reported that the utilization of ANC skilled care varied according to the socio-demographic status of women. Urban women are twice as likely to access ANC as rural women (52% vs. 20%). By region the ANC take-up is 8%

in Western Mountains to 33% in the Central Hills. These figures suggest that the average use of ANC is not only well below the government target of Nepal, but also below the developing countries' average of 68% globally. Regionally, the average is 54% in South Asia and 82% in East Asia.³³

Utilisation of skilled birth attendants

Care by a skilled provider before, during and after delivery is important for the reduction of maternal and neonatal mortality. In developing countries like Nepal, babies delivered at home are usually more likely to be delivered without the assistance of skilled health professionals, relative to babies delivered at a health facility.

The percentage of births assisted at delivery by SBAs has doubled in the last ten years (from 9% in 1996 to 19% in 2006). Data show that most of the increase has been observed in the last five year period (11% in 2001 to the present level of 19 %).¹⁵ Additionally, 4% of births receive assistance from a health assistant; female community health volunteers (FCHV) assist 2% of deliveries; and 19% of births are assisted by traditional birth attendants (TBA). Women receive assistance from a relative or neighbour for nearly one in two

births, while 7% of births take place without any type of assistance during delivery. While there has been an increase in the rate of utilisation of SBAs, the percentage of births assisted by unskilled persons (e.g. family members, friends and others) has not declined much (56% in 1996, 55% in 2001, and 50% in 2006). In addition, in urban area, delivery assisted by SBAs has changed little over the past ten years, remaining at around 50% of births.^{13,15,34}

The data show that 22% of young mothers (less than 20 years old) and 23% of first order birth mothers used SBAs. More than half (51%) of urban births were assisted by SBAs relative to 14% in rural areas. By ecological region women in the hill zone, central region and especially the central hill region are most likely to be attended by SBAs. Highly educated women, (SLC qualification and above) are more likely to seek SBA attendance than non-educated (71% vs. 8%). Similarly, assistance varies according to the economic status of women's households (highest quintile 58% vs. lowest 5%).¹⁵

Utilisation of Delivery Care

Proper medical attention and hygienic conditions during delivery can reduce the risk of complications and infections

that may cause the death or serious illness of the mother and the baby or both. Hence, an important component in the effort to reduce the health risks to mothers and children is to increase the proportion of babies delivered in a safe and clean environment and under the supervision of skilled health professionals.

The most recent survey in Nepal analysed delivery care by the place of delivery. Only 18% of births take place in a health facility, of whom 13% delivered their babies in a public facility and less than one percent in non-government facilities. Four out of five births (81%) take place at home in Nepal. Delivery in a health facility is more common among younger mothers, mothers of first order birth and mothers who have attended the recommended four antenatal visits in a facility. Almost half (48%) of babies in urban areas are born in a health facility, compared to 14% in rural areas of Nepal. Likewise, delivery in a health facility also varies by ecological region. The data show that the facility-based births are lowest in the mountains (6%), highest in the hills (21%), and moderately high (17%) in the Terai. Similarly, delivery in a health facility varies according to development regions with only 9% in the Far-western region, 24% in the Central region and highest in the Central hill sub

region, where two-fifths of mothers have a facility-based delivery. There is a strong association between a health facility delivery according to the mother's education and economic status. The proportion of deliveries in a health facility is only 8% among uneducated mothers, compared with 67% among mothers with SLC and higher qualifications. A similar pattern is seen in terms of wealth quintiles: delivery at a health facility is significantly lower among births to women in the lowest quintile, 4%, compared to 55% of those in the highest quintile.¹⁵ In Nepal the number of facility-based births has doubled in the past ten years, and several changes can be seen in the period 1996 to 2006 but utilization of delivery care is still minimal in most rural areas.

Utilisation of Postnatal Care

A large number of maternal and neonatal deaths occur during the 24 hours after delivery and the first two days following delivery are critical for monitoring complications arising from delivery. A post-natal care (PNC) visit is also an ideal time to educate a new mother on how to care for herself and her newborn. The Safe Motherhood Program of Nepal emphasizes the importance of PNC, recommending that all women receive at least two postnatal checkups and iron

supplementation for 45 days after delivery.³⁵

The latest survey data of Nepal show that 33% of mothers received PNC. One in five women received post-natal care within four hours of delivery, more than one in four (27%) received PNC within the first 24 hours and 4% received PNC within 1-2 days. Like other maternal health services, utilisation of PNC differs according to women's socio-economic and demographic characteristics. Mothers aged less than 20 years, first birth mothers, urban living women, women in the highest wealth quintile, and highly educated mothers are much more likely to utilise PNC within the first 24 hours than other groups. By geographical region, women living in the Terai zone, women living in the central region, and women from the central Terai and central hill sub-regions are more likely to have received postnatal care within the first 24 hours after delivery than mothers living in other regions.¹⁵

An NDHS survey in 2006 analysed the type of PNC care provider according to the mother's background characteristics. Only 27% of women received PNC from an SBA. Other PNC providers were health assistants (HA) auxiliary health workers (AHW), maternal child health

workers (MCHW) or village health workers (VHW), who were not qualified as SBAs according to WHO categories, and one in ten mothers received PNC from a TBA. First order birth mothers, mothers with SLC and higher education, wealthiest household mothers, and mothers from urban homes are more likely to have utilised PNC from an SBA than other mothers.¹⁵

The way forward

Although utilisation of maternal health service delivery has increased over the last decade the rate of utilisation of those services remains low. Evidence from several country studies suggests that several factors need to be addressed to improve maternal health service utilisation in many developing countries like Nepal. There is no fixed and quick solution for improvement in this issue within a short period but available evidence suggests that the following factors need to be considered.

1. Increase women's socio-economic status in society

Some studies on health service utilisation have identified the importance of the availability of health services in the country.³⁶⁻³⁸ However, other studies argue that the mere existence of health

services is not enough to lead to better utilization.³⁹⁻⁴⁰ Since health care is a choice of individuals, households and communities.¹⁸ All these factors can influence women's perceptions of the available alternatives and their motivation to seek care. Several studies from Nepal have shown that women who have better socio-economic and demographic situations (that is, related to level of education, employment and income, urban and region of living, easy availability of services, age of the mother, number of live births and women's household position) are more likely to utilise maternal health care services than other women.^{15,17,18,34} Thus, increasing women's socio-economic status in society may not be a single factor affecting utilisation of maternal health services but it cannot be ignored for advances in service use. Greater investment in programmes to improve women's social status and economic position could produce improved health outcomes.

2. Access: rural roads and transportation

Nepal's challenging terrain and poor communication network has meant that travel to health facilities is often difficult, especially for women living in the hill and mountain regions of Nepal. A number of factors are likely to be

contributing to low rates of utilisation of maternal health services. Poor physical access to health care services is an important barrier in Nepal. Access to the health services is limited due to difficult geographical locations, limited health infrastructure, and lack of financial resources.⁴¹ The challenges to health care provision are compounded by the fact that the majority of women live in rural and sparsely populated areas separated by large expanses of difficult terrain with poor transportation links to health facilities. Women in some remote areas have to walk for more than 12 hours to access a facility based maternity service.⁴² Low utilisation of maternity services has been noted in those areas where there are no or poor road and transportation links to the health facility. Therefore, attention needs to be paid to expansion of road links from rural areas to major urban areas of the country where the majority of health facilities are located.

3. Establishment of medical facilities in less developed region

The government of Nepal is already investing in improving the provision of health care services to rural people. As just mentioned, poor road links to the major cities is a significant deterrent to utilisation of services. Other reasons that

affect the utilisation of maternal health services include the doctor: patient ratio. The ratio of doctors in Nepal was 0.6 per 10,000 in 1992 but had quadrupled by 2008 to 0.24 per 10,000 1:15,800 in 1992 but had reached 0.24 per 1000 by 2008.⁴³ The limited availability or lack of trained health professionals is a particular problem in remote and most rural areas of Nepal. As stated, most skilled health providers and health facilities are concentrated in the urban areas and in relatively developed regions (Central and Western development regions compared to Eastern, Mid-Western and Far-Western development regions).⁴¹ Priority should therefore be given to the establishment of new health facilities in those less developed areas (where more deprived people are living) and skilled health professionals should be encouraged to work in the remote areas with sufficient rewards for their work.

4. Increase of Skilled Birth Attendance during pregnancy

Nepal is committed to achieving MDG 5 specifying a 75% reduction in maternal mortality between 1990 and 2015. Despite improvements in maternal mortality, Nepal remains a country of huge deprivation. As mentioned earlier, delivery by an SBA is an indicator of

achieving progress towards reducing maternal morbidity and mortality. The statistics of Nepal show that the use of SBAs at the time of pregnancy, during labour and after delivery varies according to different socio-economic and cultural groups of Nepal especially in rural areas where lack of SBAs is common. In many developing countries, rural postings go unfilled due to reasons of inadequate remuneration, low prestige, poor infrastructure for babies and social isolation as well as actual lack of health facilities.^{44,45} Also, the retention of SBAs in the poorest countries is now a global problem compounded by emigration.⁴⁴ So, at a local level the government should attempt to address poor distribution and posting of new medical graduates and SBAs in rural and remote areas with good rewards as incentives. Although there has been some improvement in maternal health service use among rural people in Nepal, an increase in the rate of maternal health care utilization is slow and policies lack focus. Evidence from the past ten years shows that without a clear strategic focus on skilled birth attendance and referrals services, Nepal will not be able to meet the MDG5 target on maternal mortality. There is a need to increase skilled delivery care including

ANC, PNC and EmOC within an efficient health system.

5.Address inequalities that exist in utilisation of maternal health services

Many governments have made commitments to tackle the issue of equity in health services. But making this policy operational will be difficult without access to equity of health services among different socio-economic groups.⁴⁶ Inequality in health refers to inequalities that are unjust according to social-justice theories.⁴⁷ Inequities in maternal morbidity and mortality and access to maternal health services are concerning everywhere, both between and within many developing countries of the world.⁴⁸

Data from the NDHS have shown that there were significant inequalities in the use of maternal health services utilization by household characteristics. Socio-economic inequalities in maternal health should be addressed as a central policy and programme for overall achievement of MDG-5 maternal mortality reduction. Greater attention needs to be paid to the implementation and evaluation of interventions that are efficient and that benefit the more deprived rural women including through community based intervention programmes.

Conclusion

Experience from many developing countries of Asia and Africa (e.g. Malaysia, Sri Lanka, Thailand, Tunisia) and also Jamaica, suggest that some countries are able to reduce maternal mortality through providing universal access to family planning and skilled birth attendance with back-up emergency support. Many of these countries have reduced their maternal mortality rates by more than half within a 10 year period. Data from NDHS indicate that over the past decade Nepal has achieved significant improvement in levels of maternal morbidity and mortality but they are still higher than most other developing countries.

In Nepal, the available research findings have shown that utilisation of maternal health services vary according to the socio-economic status of women. Poor rural road links and lack of access to health services are other factors that hinder the utilisation of services. Higher status women (e.g. measured by education level, wealth and urban dwelling) make better use of health services including for maternity care. Although Nepal has a range of maternal health policies together with a health delivery system aimed at improving utilisation of maternal health services,

there is still a lack of access and unmet demand (e.g. high unmet need for contraceptive services) especially in poor and remote areas of Nepal. So it is time to think and review carefully where the weaknesses lie even in an active health system with good policies to improve the maternal mortality. In order to increase maternal health service utilisation priority should be given to poor women with least access to facilities by providing sufficient support (e.g. finance, free education, health insurance, free health service and other health incentives) together with increasing reproductive health education. It is necessary to establish a dedicated national health system and policies ensuring that all women have universal access to services for increasing maternal health service utilisation in Nepal.

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Competing interest

The authors declare that there have no competing interests.

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