Review Article

Status of Newborn Health in Nepal

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Abstract

While child and under five mortality are reduced significantly, neonatal mortality is stagnant for the decades, with increased proportion of neonatal mortality to child mortality. Considering this facts, Nepal Government, Ministry of Health and Population, has given top priority to newborn health. Similarly, simple, cost effective, globally proven interventions are included in essential newborn care practices. Newborn care services are scaled up from home and community level to advanced tertiary level. However, some constraints like inadequate coverage, lack of skilled human resources and other resources, inadequate health seeking behaviuor, prevalence of traditional practices especially in rural areas are some challenges for the newborn survival in Nepal.

Introduction

An analysis of the neonatal mortality rate (NMR) found that of the 8.2 million under-five child deaths per year globally, more than 40% (about 3.3 million) occur during the neonatal period (WHO, 2011). In another study done in 2011 revealed that globally, as many children die during the first week of life as during the period from age 1 to 4 years. Reductions in global neonatal mortality have averaged 2.0% annually since the Millennium Development Goals (MDG) baseline in 1990, which is much slower than corresponding reductions in maternal mortality (2.6%) or in child mortality (1–59 months of age) (3.4%) (Bryce, Victora, & Black, 2013). Almost all of these neonatal deaths (99%) occur in low-income and middle-income countries, with the three main causes of death being infections (22%), asphyxia (25%), and low birth weight (34%) and other causes(Nair & Theodoratou, 2011).

In Nepal, 35000 under five children die each year, and almost two-thirds of these deaths occur in the neonatal period. National survey data suggested neonatal deaths now constitute 61% of under-five deaths. According to NDHS 2011, neonatal mortality is 33/1000 live birth, which is stagnant from 2006 AD. (Ministry of Health & Population Government of Nepal 2011) Over the decade from 2000 to 2010, Nepal's neonatal mortality rate reduced by 3.6% per year, which is faster than the global (2.0%) and regional (Southern Asia: average 2.0%) but slower than national annual progress for mortality of children aged 1–59 months (7.7%) and maternal mortality (7.5 %). The NMR was nearly double in rural areas and mountainous zones of Nepal.

The vast majority (78 - 90%) of intrapartum-related neonatal deaths occur early that is within the first 48 hours and almost all (97%–98%) within the first week of life (Lee, et al., 2008). Most of the burden (99%) occurs in low- and middle-income countrie s. Each year, the deaths of 2 million babies are linked to complications during birth and the burden is inequitably carried by the poor. So the time of birth and the immediate postnatal period are crucial as the times of greatest risk for pregnant women and babies (Lawn, Lee, & Kinney, 2009).

In Nepal, the three main causes of neonatal mortality are complications of preterm birth, severe infections and intrapartum-related asphyxia (90% of all newborn deaths) (Pradhan, 2012). Some underlying factors for increased mortality are inadequate cov-

erage of basic prenatal, natal and postnatal healthcare, a range of socio-economic and cultural factors, such as inability to pay for transportation and services, poor knowledge and attitudes in relation to healthcare, and various forms of gender bias, which are the common problems of developing countries. Some harmful cultural practices related to newborn care are also prevalent such as newborn bathing immediately after birth, prelacteal feeding, restriction and isolation of mother and newborn up to name giving ceremony considering that they are polluted. This kind of restriction may prevent access to care during critical period (Paudel, Shrestha, Siebeck, & and Rehfuess, 2013).

Newborn Care Practices

To reduce the burden of morbidity and mortality in newborns, the evidence-based cost effective newborn interventionshave been identified and implemented globally. These practices are identified and endorsed in policies and program by government of Nepal also. Some of the key interventions include immediate drying and stimulation at birth; resuscitation for birth asphyxia, immediate and exclusive breastfeeding,chlorhexidine umbilical cord care, and kangaroo mother care. Similarly, The Lancet's series on neonatal survival suggested that between 41% and 72% of neonatal deaths could be prevented if 16 simple, cost-effective interventions were delivered before, during and after birth with universal coverage (Bhutta, Das, Bahl, Lawn, Salam, & et.al, 2014). These interventions are components of essential newborn care practices and are implemented through behavior change communication; community mobilization and improved antenatal, intrapartum, and postnatal care practices; and community-based case management of illness.

The package of essential newborn care includes antenatal care for the mother and health promotion during pregnancy, birth and emergency preparedness, seeking skilled care at birth, obstetric care including resuscitation provision for newborns at birth, treatment of maternal infections during pregnancy, ensuring a clean birth, care of the umbilical cord and immediate, exclusive breast-feeding, keeping the newborn warm,delayed bathing and so forth. Additional care include thermal care through skin-to-skin contact with the mother and feedingto low-birth-weight (LBW) babies, antibiotics for infection and so forth (WHO, 2011)and (Sprague, Dunn, Harrold, Walker, Kelly, & Smith, 2009). Other interventions include care of small and ill newborns in first and second level facilities, antenatal corticosteroids for preterm labor and care for preterm infants.Care of small and ill newborn babiesis possible without intensive care, through kangaroo mother care, prevention or management of neonatal sepsis, neonatal jaundice, and intrapartum hypoxia (Bhutta, Das, Bahl, Lawn, Salam, & et.al, 2014).

According to the Nepal DHS 2011 report only 50.1% of pregnant women had at least four antenatal visits as recommended by the National Safe Motherhood Program. Even amongst those who receive antenatal care many are not educated on subjects like diet, cessation of smoking and drinking, or signs of pregnancy compli cations, leading to neonatal complications. In Nepal, majorities of deliveries (63%) take place at home and little attention is paid to hygiene during delivery. New borns are taken to health facilities only in the complications are present, causing a delay in obtaining critical care. In Nepal only 37% deliveries are attended by a skilled birth attendant, including doctors, nurses, or midwives. The rest have deliveries conducted by those who cannot provide basic resuscitation in asphyxia or manage newborn complications which can increase neonatal mortality. They may not have knowledge and practice basic newborn care like wiping and keeping warm after birth, clean cord cutting practice, breast feeding within one hour and so forth (Joshi, Sharma, & Teijlingen, 2013).

Policies and Programs

In Nepal, increased attention and priority of the nation for newborn survival facilitated development and changes in policies, programs and information systems related to maternal, neonatal and child health. Nepal was the first low-income country to develop a national neonatal health strategy (NNHS). As a first step, the Ministry of Health (MOH) developed the National Neonatal Health Strategy in 2004 AD. Strategy focused to improve the health and survival of newborn babies in Nepal (Family Health Division, 2004).It has prioritized globally proven, cost-effective, evidence-based interventions while considering the capacity of the community and other

levels of the health system. As well as these programs are integrated with maternal and child health services in the wider health systems. Strategies are implemented for rapid expansion of community care combined with an increase in facility births for improved and accelerated impact for improving both maternal and neonatal health. The strategy outlined the level of newborn care and services to be provided from household level to tertiary hospitals, and particularly emphasized interventions that could be delivered in communities where most births occurred (Pradhan, 2012).

The Nepal Health Sector Plan I (2004-2009) and plan II (2010-2015) provide guidance for more focus on a community-based programs and strengthening of referral sites, integrating newborn interventions with child health and maternal health programs, strengthening the district management capacity for effective implementation of program and engaging the private sector for more holistic programming. Similarly, The National Safe Motherhood and Neonatal Long Term Plan 2006-2017 plans to strengthen and expand delivery by skilled birth attendant, basic and comprehensive obstetric care services (including family planning) at all levels through development of infrastructure, protocols, strengthening human resource capacity and referral management system from communities to district hospitals for obstetric emergencies and high-risk pregnancies (KC, Bhandari, & Pradhan, 2011).

The Ministry of Health and Population defines the sector wise policy and programs while the Family Health Division and Child Health Division are the technical leads for delivering maternal, newborn and child health and nutrition services and programs are supported by different partner organizations. The district public health office is responsible for implementation of newborn care at the district level. This includes planning, managing supplies, and providing financing for implementation of programs in district. Furthermore, the district hospital links both to higher referral-level health facilities of the health system, and with primary health care centers and peripheral health facilities under the district system (KC, Bhandari, & Pradhan, 2011).

For the development of skilled manpower, Essential Newborn Care are added to the pre-service medical and nursing education curricula in initially and then later incorporated into curricula for health assistants, auxiliary nurse midwives and community health workers. The skilled birth attendant curriculum was revised in 2010 with collaboration of Save the Children Fund to include essential newborn care. In-service training curricula for the FCHVs also added community based neonatal care program (CB-NCP) in 2007 AD.

Community based service provision has progressed more rapidly, with training of FCHVs and a more reliable supply of drugs and equipment. In 2007, a comprehensive community-based package for newborn health (CB-NCP) was developed, tested and implemented in 10 pilot districts in 2009 with seven components. Preliminary findings from pilot areas showed increased skilled attendance at delivery, received counseling to mother by FCHV during pregnancy and reported receiving a postnatal check for their newbornssignificantly (Pradhan, 2012). Considering the effectiveness of CB-NCP program in community level, program was expanded to 41 districts by the end of fiscal year 2070/71. Since 2015, program is merged with CB-IMCI program and now it is named as community Based Integrated Management of Newborn and Childhood Illness (CB-IMNCI). Now, community based newborn care components are also covered by CB-IMNCI.

The government and partners developed a number of policy changes to increase access and utilization of facility care. Financial incentives were used widely to encourage utilization of health services, reduce financial barriers, and improve health outcomes in poor populations. The Safe Delivery Incentive Program was started in 2005 and from 2009, government implemented Aama Suraksha Program removing all user fees for delivery in public and some private facilities. A review of financial platforms to improve basic and emergency obstetric care showed that maternal voucher schemes improved the use of a range of maternal and newborn health services and outcomes, including increased institutional births, use of antenatal care and higher skilled birth attendance (Bhutta, Das, Bahl, Lawn, Salam, & et.al, 2014).

The Government of Nepal, particularly the MoHP, provided leadership for newborn survival as well as

coordinated with the supporting partner for effective implementation. Global as well as local cost-effective evidences related to new born survival are endorsed in national neonatal health policy such as clean birth kits, Application of Chlorhexidine in umbilical stump, community based management of pneumonia, the development of CB-NCP program etc. The Health Management Information System (HMIS) expanded their list of core indicators to include early postnatal care, skilled birth attendance among home deliveries, and early initiation of breastfeeding.

Challenges and Problems

Despite existing evidence-based interventions and strong policies to successfully manage major causes of newborn morbidity and mortality, there are various challenges and problems too. A major challenge to achieve expected improvement in newborn heath is promoting demand for healthcare and meeting this demand through interventions delivered at family and community levels. There is an unbalanced distribution of health personnel, the more skilled concentrated in urban areas, and inaccessible to rural populations where it is most needed. Even the government hospitals in urban areas of Nepal are inadequately equipped, discouraging families from using such services. Due to factors in health care system like low remuneration, heavy workloads, poor infrastructure and working conditions, and factors outside health care system like lack of security, crime and repressive social environments, health care professionals do not want to work in rural areas of Nepal. Therefore, female community health volunteers (FCHV) are frontline workers for all community-based programs in Nepal and also play a crucial role in delivering newborn interventions under the CB NCP. Most women in villages do not get adequate facilities for adequate antenatal, delivery and neonatal care at health post or sub-health post and expectant mothers are often reluctant to deliver at a health facility.

Neonatal mortality varies greatly by economic status and, to a lesser extent, by maternal education, caste and ethnicity and geographical location. Newborn care practices are influenced by traditional cultural practices and as we know some of the traditional practices are harmful and unscientific also. In most families, the decision regarding seeking health care are made by husbands or older females, which prevents women from seeking care for their own health or their newborns. There is limited awareness of available and required health services also. Mothers might not be able to follow recommended newborn care practices due to existing family and social pressures. Furthermore, issues related to health worker behavior, gender-friendliness health services and perceived quality of care affect service utilization and compliance.

Area for Improvement

Strengthening of health care system including care providers is necessary to improve maternal and neonatal health care services further. It is important to support community-based strategies, including women's groups and the community health workers for preventive, promotive care and in delivering basic care in primary care settings. The design of programs and their delivery need to pay attention to implementing interventions in socio-culturally acceptable ways, for disadvantaged group and in difficult terrains. Similarly, government needs to consider program to motivate and retain care providers in remote areas with attractive working and salary conditions. With priority to preventive and curative intervention, emergency and critical care facilities (Neonatal Intensive Care Units) should also be developed proportionately. As well as, improvement of the quality of care in referral facilities through evidence-based interventions should also be considered. Program should maximize use of available financial and personnel resources and, promote integration across neonatal health programs with other maternal child health program. Neonatal and maternal mortality are closely linked, and the risk of dying from neonatal conditions can be reduced with quality care provided during pregnancy and childbirth.

Community awareness through behavior change communication, family community involvement in maternal child health is crucial for long term improvement in neonatal as well as maternal and child health. Women education and empowerment, avoidance of gender bias has also positive role in improving neonatal health.

Conclusion

Considerable reduction in neonatal mortality is essential to improve overall child health status beyond Millennium Development goal. Although maternal and child health status have improved satisfactorily, newborn health status is not much satisfactory. There are many simple, proven cost effective interventions to promote newborns survival, however coverage of those services are still low. Although Nepal has strong policy and programs, significant progress has not been achieved due to several factors like difficult geography, ignorance, shortage of skilled health worker, limited resources and so-forth.

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