

DISTAL CAUSES FOR NEONATAL MORTALITY IN SOUTH ASIA

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ABSTRACT

Neonatal mortality in South Asian countries is rampant. Global commitment of reducing under-five mortality without improvement of neonatal survival is difficult to achieve. To explore the root causes of neonatal deaths can help to work out viable solution that can precipitate survival of a huge number of population. The main objective of this paper is to explore and identify the basic causes behind persistency of neonatal mortality in South Asian countries since decades as focusing on proximate causes were common and basic causes were unanswered which were leading to the persistent NMR. The basic causes includes, interalia, ignorance of mothers, lack of antenatal care and essential newborn care. This condition can be overcome by focusing on basic determinants like improving women's education and also by empowering women through improvement in social, cultural and economic determinant that afflict their conditions. This requires massive global, regional and inter-sectorial collaboration and partnerships.

Keywords: Ante-natal care (ANC), mother-in-law(MIL), Neo-natal, Neonatal mortality rate (NMR),

INTRODUCTION

Among the various persistent problems, neonatal mortality is one of the leading factors that kill 33 newborns per 1000 live births in South Asia (SA) (UNICEF, WHO, World Bank, & UNDP, 2011). During decades of interventions through different programs like Integrated Management of Childhood Illness (IMCI), Safe motherhood programs and Community Based Neonatal Care Package (CB-NCP), NMR has hardly changed due to the deep rooted socio-cultural and economic factors that were not factored into account while formulating the programmes for health sector. Globally, neonatal mortality has not significantly dropped for last few decades. The persistence is alarming in the developing countries. South Asian countries show similar characteristics of persistent neonatal mortality rate constituting a higher proportion of deaths in India, Nepal, Pakistan, Afghanistan and Bangladesh. Though, Sri Lanka and Maldives comparatively fare better. Global commitment of reducing under-five mortality without improvement of neonatal survival is hardly achievable. It is necessary to know various reasons that leads to unabated neonatal mortality and to devise proper

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strategies to address the lacunae in present scheme. The moment newborn comes into existence, the period is the defining moment and this ought to be considered as the linkage between mother and child. Both ought to be considered as a unit. There is a major effect on newborn survival and health coming from women's health and morbidity. Maternal nutrition and care, basic antenatal care (ANC), place and assistance during delivery and essential newborn care (ENC) are key proximate interventions that enhance neonatal survival. It is these proximate interventions that are hindered by underlying social, cultural and economic factors.

This paper will explore distal factors underlying neonatal mortality in the SA region and why NMR has been a persistent problem in those countries over past decades. An analysis of distal factors is needed since, too often there is the tendency to concentrate on proximate factors affecting neonatal morbidity and mortality, but these do not address root causal factors making neonatal survival poor in every aspect. Addressing only proximate causes will not solve the problem on a long term basis; it will only give impression of incremental improvement of neonatal survival temporarily. Focus on distal factors offer a sustainable way to get rid of persistent NMR. This paper will try to highlight the points or areas where a public health professional, government official, or national and international non-governmental organization needs to focus.

Enquiry Questions and objectives:

“What are the basic causes for neonatal deaths in South Asia?”

To meet the enquiry question above, following objective has been formulated:

“To explore the different basic causes leading to neonatal mortality in South Asia.”

METHODS

Countries studied were part of the region of South Asia using the UNICEF Region Classification, and Secondary data from eight different countries of SA were reviewed. The study design was based on documentary research using secondary data that was both qualitative and quantitative to analyze the evidences. The relevant document/papers/articles/reports that provide the information regarding enquiry questions and objectives about South Asia, produced between 1990 and 2012 in English language were included.

FINDINGS

Socio-cultural factors:

Wide ranges of socio-cultural practices are present in South Asia that result in poor neonatal outcome hindering the successful implementation of proximate interventions. It was found in a review study of home based care of newborns in Bangladesh that a woman is discouraged to eat until her stomach is full due to cultural beliefs. In some areas, pregnant women eat wheat bread only. There are restrictions on protein rich food (to prevent indigestion), prawns (to prevent skin diseases), coconut (to prevent blindness), pine apple, *boal* fish¹ and flat peas (to prevent abortion), bananas (to prevent pneumonia), duck (to prevent foetal death) etc. (Darmstadt, Syed, Patel, & Kabir, 2006). One third of Indian babies are low birth weight which can be attributed at least in part to these and other practices that cause maternal under-nutrition (Rao *et al.*, 2001).

A cross-sectional survey (N=6,785 women) conducted in three divisions of Bangladesh on maternal newborn care practices found that almost half (46 percent) attendants did not do any hygienic practices during delivery (e.g., washing hands with soap and water, boiling cord-tie and blade before cutting cord), and more than half (58 percent) of newborns were not given colostrum as their first food (Barnett *et al.*, 2006; Darmstadt *et al.*, 2006). A cross-sectional study conducted in the Makawanpur district, Nepal (N=25,702) showed most (88 percent) of women first feed their babies with breast milk, but some (12 percent) feed sugar, ghee or honey before feeding breast milk according to the culture. Colostrum was discarded in first feed (45 percent) while foremilk was discarded at subsequent feed (69 percent) (Osrin *et al.*, 2002)

Women in South Asian countries are supposed to work at home as well as in the fields. They have to fetch water, cook food, wash dishes and clothes, clean the house, and take care of every member of the family. Their socially formulated roles make them and their newborn child vulnerable at the times of pregnancy. A study conducted among 797 women in Pune, India showed that babies born to women who were not performing household activities weighed 112 grams more at birth than the babies of women who were involved in these tasks (Rao *et al.*, 2003). Women's status is often found

to be poor in South Asian countries, especially during their pregnancy and delivery period. A qualitative study (39 in-depth interviews with mothers, fathers, grandmothers of neonates and traditional birth attendants, household survey of 6090 women who gave birth recently) conducted in Sylhet district of Bangladesh found that women's movements post-partum were restricted and that they were confined to the place where they gave birth to the child and slept on a mat on floor, rather than their bedroom till *noi* ceremony during 7th or 9th day was performed. These practices leave the newborn vulnerable to cold air along with mother (*Winch et al.*, 2005). A study conducted utilizing the Nepal DHS 2006 found that the child deaths were significantly higher (6.5 percent) in male-headed than female-headed house (4.5 percent). It also showed that literate women, users of family planning methods, visitors of health facilities, and utilizer of ANC were less likely to see a child die. Moreover it signified also that women from female headed houses were 31 percent less likely to experience child death than from a male headed house (*Ramesh & Chai*, 2010).

A review study done in Pakistan concluded that health seeking behavior of women is less compared to men, because health needs of women are determined by men (*Shaikh & Hatcher*, 2005). The lower status of women prevents them from recognizing and raising their voice for their health needs. Moreover, women are not allowed to go to the health facility alone or decide what to spend on health care (*Shaikh & Hatcher*, 2005). This makes them more vulnerable day by day which has direct effect during pregnancy and child birth.

Education is one of the important factors that plays a vital role in antenatal care of women. A study conducted in Nepal Medical College teaching hospital showed that home delivery was associated with the education level of the woman and also her husband (*Tuladhar*, 2010; *Tuladhar, Kayastha, & Shrestha*, 2009). An educated mother is likely to seek ANC more than others but it becomes more effective if husbands are educated along with women (*Mullany, Becker, & Hindin*, 2007). Due to high preference and value placed on a son, gender also determines the reporting of illness, choosing a health care provider and spending money on that illness. Male child is given more preference to all these facilities than female child (*Pokhrel et al.*, 2005)

The role of the mother-in-law (MIL) is crucial in Nepal in attending of ANC by their daughter-in-law. The role of the MIL is seen more negative in the case of ANC. The pregnant women cannot decide about her ANC by herself. One of the major reasons for this is lack of education of MILs who did not go for any ANC at their time. They do not want their daughter-in-law to escape from household duties and work in the name of ANC. On the basis of their experiences, they think that ANC is useless. There is always conflict in power relations between MIL and daughter-in-law (*McPherson et al.*, 2010; *Mullany*, 2006; *Simkhada, Porter, & Van Teijlingen*, 2010).

SOCIO-ECONOMIC FACTORS

Low socio economic status is also one of the determinants for care of women, nutrition, ANC and ENC care. Most women fail to seek care in a modern health care facility for ANC and ENC due to lack of economic resources despite availability of health facility with acceptable health care provider (*Shrestha*, 2012). South Asia region consists of low income and lower middle income countries. According to the World Bank, South Asia has highest concentration of poor people, more than 500 million people in SA, living on less than \$1.25 a day (*World Bank*, 2011). This is the reason people cannot afford the maternal and child health care services even if they have access to them. In context of the subsidies provided by the public sector, the poorest quintile utilized only 10.1 percent of the net subsidy, according to a national level survey in India. The highest quintile benefited 3 times more (33.1 percent) than the lowest quintile (*Mahal, Yazbeck, Peters, & Ramana*, 2001).

A study conducted on various determinants of utilization of skilled birth attendants (SBA) in Afghanistan showed poverty as a major cause for poor utilization of SBAs. Women of highest wealth quintile had higher utilization of skilled care during delivery, and also there was lower utilization of skilled care during delivery by women who were close to health facilities that charged user fees (*Mayhew et al.*, 2008). According to Central Bureau of Statistics of Pakistan, the share of expenditure on health in 2004-05 in the lowest quintile in hospital and clinics was only seven percent as compared to that of the highest quintile (36 percent) in overall Pakistan (*Akram & Khan*, 2007). A study conducted by using Nepal DHS 2006 data of a sample of ever married women (N=4182) showed fivefold difference in the utilization of ANC between rich and the poor where 50 percent poorest women had no ANC visit (*Shrestha*, 2012). Many times women are forced to do home delivery due to economic factors even though they have planned for institutional delivery (*Tuladhar et al.*, 2009). Another study in Nepal also showed that the percent of women with adequate visits of ANC (minimum 4 times) also increased from 4 percent (low economic status) to 42 percent among high economic status

women (Sharma, 2002). All these proximate factors are hindered by economic factors and, better economic condition helps to improve the effect of proximate interventions.

A study done in India concluded that, in 2001 approximately 32.5 million people were plunged into poverty and 63.22 million were pushed below poverty line in 2004 only due to health care payments. Out-of-pocket expense on health care is a vicious cycle for poverty. This has reduced the use of health care and increased the risk of poverty.

CONCLUSIONS AND RECOMMENDATIONS

Persistence of neonatal mortality rates across the SA regions can be broken up by focusing on basic factors like social, cultural and economic determinants. This can be done only through improving women's education for empowerment. Focusing on the proximate causes doesn't work in breaking the persistency of NMR until basic determinants underneath the proximate factors are addressed. This requires a huge global, regional and inter-sectorial strategic planning, collaboration and partnerships, as it is the result of multiple factors and no single country or bilateral cooperation can effectively deal with this problem.

Notes : 1. Boal fish is a species of catfish having "Wallago" as English name, commonly found in large rivers and lakes found in Asia mainly across Bangladesh, India and Srilanka.

REFERENCES

1. Akram, M., and Khan, F. J. (2007). *Health care services and government spending in Pakistan*: Pakistan Institute of Development Economics.
2. Barnett, S., Azad, K., Barua, S., Mridha, M., Abrar, M., Rego, A., Costello, A. (2006). Maternal and newborn-care practices during pregnancy, childbirth, and the postnatal period: a comparison in three rural districts in Bangladesh. *Journal of Health, Population, and Nutrition*, **24**(4), 394.
3. Darmstadt, G. L., Syed, U., Patel, Z., & Kabir, N. (2006). Review of domiciliary newborn-care practices in Bangladesh, *Journal of Health, Population, and Nutrition*, **24**(4), 380.
4. Mahal, A., Yazbeck, A. S., Peters, D. H., & Ramana, G. (2001). *The poor and health service use in India*, Washington, DC: The World Bank.
5. Mayhew, M., Hansen, P. M., Peters, D. H., Edward, A., Singh, L. P., Dwivedi, V., Burnham, G. (2008). Determinants of skilled birth attendant utilization in Afghanistan: a cross-sectional study. *American Journal of Public Health*, **98**(10):1849-56.
6. McPherson, R. A., Tamang, J., Hodgins, S., Pathak, L. R., Silwal, R. C., Baqui, A. H., & Winch, P. J. (2010). Process evaluation of a community-based intervention promoting multiple maternal and neonatal care practices in rural Nepal, *BMC Pregnancy and Childbirth*, **10**(1): 31.
7. Mullany, B. C. (2006). Barriers to and attitudes towards promoting husbands' involvement in maternal health in Katmandu, Nepal. *Social Science & Medicine*, **62**(11), 2798-2809.
8. Mullany, B. C., Becker, S., & Hindin, M. (2007). The impact of including husbands in antenatal health education services on maternal health practices in urban Nepal: results from a randomized controlled trial. *Health Education Research*, **22**(2), 166-176.
9. Osrin, D., Tumbahangphe, K. M., Shrestha, D., Mesko, N., Shrestha, B. P., Manandhar, M. K., Costello, A. M. (2002). Cross sectional, community based study of care of newborn infants in Nepal.. *British Medical Journal*, **325**(7372): 1063-1066.
10. Pokhrel, S., Snow, R., Dong, H., Hidayat, B., Flessa, S., & Sauerborn, R. (2005). Gender role and child health care utilization in Nepal. *Health Policy*, **74**(1): 100-109.
11. Ramesh, A., & Chai, P. (2010). Household headship and child death: Evidence from Nepal. *BMC International Health and Human Rights*, 10.
12. Rao, S., Kanade, A., Margetts, B., Yajnik, C., Lubree, H., Rege, S., Fall, C. (2003). Maternal activity in relation to birth size in rural India. The Pune Maternal Nutrition Study. *European Journal of Clinical Nutrition*, **57**(4): 531-542.
13. Rao, S., Yajnik, C. S., Kanade, A., Fall, C. H. D., Margetts, B. M., Jackson, A. A., Lubree, H. (2001). Intake of micronutrient-rich foods in rural Indian mothers is associated with the size of their babies at birth: Pune Maternal

Nutrition Study. *The Journal of Nutrition*, **131**(4): 1217-1224.

14. Shaikh, B. T., & Hatcher, J. (2005). Health seeking behaviour and health service utilization in Pakistan: challenging the policy makers. *Journal of Public Health*, **27**(1): 49-54.
15. Sharma, M. B. R. (2002). Factors affecting utilization of antenatal care services in Nepal. Mahidol University.
16. Shrestha, G. (2012). Statistical Analysis of Factors Affecting Utilization of Antenatal Care in Nepal. *Nepal Journal of Science and Technology*, Vol. **12**: 268-275.
17. Tuladhar, H. (2010). Determinants of home delivery in a semi urban setting of Nepal. *Nepal Journal of Obstetrics and Gynaecology*, **4**(1): 30-37.
18. Tuladhar H, K. R., Kayastha, S., & Shrestha P, G. A. (2009). Complications of home delivery: our experience at Nepal Medical College Teaching Hospital. *Nepal Med College Journal*, **11**(3): 164-169.
19. UNICEF, WHO, World Bank, & UNDP. (2011). *Levels and Trends of Child Mortality*.
20. Winch, P. J., Alam, M. A., Akther, A., Afroz, D., Ali, N. A., Ellis, A. A., Rahman Seraji, M. H. (2005). Local understandings of vulnerability and protection during the neonatal period in Sylhet district, Bangladesh: a qualitative study. *The Lancet*, **366**(9484): 478-485.