



6-2016

Birthing Centres in Nepal: Recent Developments, Obstacles and Opportunities

Preeti K. Mahato

Bournemouth University, Bournemouth, UK, pmahato@bournemouth.ac.uk

Edwin van Teijlingen

Bournemouth University, Bournemouth, UK, evteijlingen@bournemouth.ac.uk

Padam Simkhada

Liverpool John Moores University, Liverpool, UK, P.P.Simkhada@ljmu.ac.uk

Catherine Angell

Bournemouth University, Bournemouth, UK, cangell@bournemouth.ac.uk

Follow this and additional works at: <http://ecommons.aku.edu/jam>

 Part of the [Nursing Midwifery Commons](#)

Recommended Citation

Mahato, P K, Teijlingen, E v, Simkhada, P, & Angell, C. Birthing Centres in Nepal: Recent Developments, Obstacles and Opportunities. *Journal of Asian Midwives*. 2016;3(1):18–30.

Birthing Centres in Nepal: Recent Developments, Obstacles and Opportunities

¹Preeti K Mahato, ²Edwin van Teijlingen, ³Padam Simkhada, ⁴Catherine Angell

1. **Corresponding Author:** Bournemouth University, Bournemouth, UK, pmahato@bournemouth.ac.uk
 2. Bournemouth University, Bournemouth, UK & Manmohan Memorial Institute of Health Sciences, Tribhuwan University, Nepal, evteijlingen@bournemouth.ac.uk
 3. Liverpool John Moores University, Liverpool, UK & Manmohan Memorial Institute of Health Sciences, Tribhuwan University, Nepal, P.P.Simkhada@ljmu.ac.uk
 4. Bournemouth University, Bournemouth, UK, cangell@bournemouth.ac.uk
-

Abstract

Background: Establishing and promoting birthing centers (BCs) can be one strategy to increase access to emergency obstetric care and skilled attendants at birth, to avert many maternal deaths. BCs are a component of local health service delivery, whereby midwives (or health care professionals with midwifery competencies) provide maternity services to generally healthy women with uncomplicated pregnancies, mostly in the community setting.

Methods: A literature review was carried out involving searches and appraisals of relevant literature on birthing centers in Nepal, South Asia, and other similar settings.

Findings//Conclusion: In Nepal, midwife-led care in BCs was found to be appropriate for pregnant women, with no complications, for giving birth. BCs have the potential to improve both (a) the institutional delivery rate and (b) the proportion of births that benefit from the presence of a skilled birth attendant (SBA). However, accessibility, socio-demographic characteristics, and cultural factors act as barriers to pregnant women attending birthing centres and hospital facilities. Moreover, there is an increasing trend of bypassing BCs to give birth in hospitals. The increase in facility-based births requires more monitoring of the quality of care provided.

Keywords: Birthing centres, midwives, skilled birth attendant, quality of care, South Asia

Introduction

The new Sustainable Development Goals (SDG), which have replaced the Millennium Development Goals (MDG) under the leadership of the United Nations have, identified 17 goals. Within these SDG 3 states *Ensure Healthy lives and promote well-being for all at all ages* and section 3.1: includes a target for the maternal mortality ratio (MMR). This is specifically targeted in section 3.1: “by 2030 reduce the global maternal mortality ratio to less than 70 per 100,000 live births”.¹

An estimated 287,000 maternal deaths occurred worldwide, in 2010, with the low-income countries accounting for 99% of all maternal deaths; and the majority occurred in sub-Saharan Africa (162,000) and Southern Asia (82,000).² Skilled care during labour and childbirth, along with prompt management of complications, can, not only prevent about 50% of newborn mortality and 45% of intra-partum stillbirths, but it can also prevent thousands of maternal deaths.³ Midwives, and others with midwifery skills, can provide some of the most effective maternal and newborn health interventions, including elements of basic emergency obstetric and neonatal care (BEmONC) and comprehensive emergency obstetric and neonatal care (CEmONC).⁴

Midwifery practice is described as “skilled, knowledgeable, and compassionate care for childbearing women, newborn, infants, and families across the continuum throughout pre-pregnancy, pregnancy, birth, post-partum and the early weeks of life. Core characteristics include optimising normal biological, psychological, social, and cultural processes of reproduction and early life; timely prevention and management of complications; consultation with and referral to other services; respect for women’s individual circumstances and views; and working in partnership with women to strengthen women’s own capabilities to care for themselves and their families”.⁴ The State of World’s Midwifery report states that midwives are competent to deliver 87% of the estimated need in 73 countries when they are educated and regulated to international standards.⁵ Additionally, although many deaths are caused due to complications of pregnancy², timely referral to EmONC facilities and prompt treatment has the potential to save the lives of mothers and babies.⁶ Still, the majority of the women in low-income countries, including Nepal, continue to deliver at home or in a community setting, without skilled birth attendants and without an available facility-based service that gives access to EmONC, should a complication arise.^{5,7,8}

The comprehensive primary health care approach stresses the importance of having a supportive environment, along with preventive and curative interventions, to improve health outcomes. The primary health care centres can provide the essential services for mothers, neonates and children through an integrated package based around facilities outreach, and community and family care.^{7, 9, 10} This is relevant as most BCs are co-located with or next to a health post in rural Nepal. Moreover, in order to be effective, a continuum of care would need to be available and linked to other levels of care where needed.⁹ Thus, the primary health care centre intrapartum-care strategy has been proposed as the best approach to reduce maternal mortality. This strategy is delivered at a primary health care centre which provides essential obstetric care, with prompt recognition and referral to CEmONC services for complications. This strategy of intrapartum-care is considered adequate for most births and fits well with Nepal's district health systems.¹¹

The WHO estimates for 2010 show the MMR of Nepal to be 170 per 100,000 live births, which demonstrates a substantial decline from 364 per 100,000 in 1996 (Nepal Family Health Survey) and the 2006 estimate of 209 per 100,000 live births (Nepal Demographic and Health Survey).² According to the Nepal Demographic and Health Survey (NDHS), the proportion of births assisted by a SBA, which includes either a doctor, nurse, or midwife, was 36%, and the total percentage of all births taking place in a health facility was 35%; both these levels which far below the levels necessary to meet the MDG targets.¹² The establishment of BCs, which act as initial institutional contact points for births at a local health facility, is an example of a strategy for addressing the issues of low level of health facility births and births assisted by a SBA.

Methods

This literature review was conducted for two main reasons: 1) to provide an overview of the situation of birthing centres in Nepal and 2) to demonstrate how birthing centres can impact upon the quality of maternity care in Nepal. The literature review based on BCs was conducted using the following electronic databases: MEDLINE Complete, Science Direct, Science Citation Index, CINAHL Complete, Google Scholar, Social Sciences Citation Index, PsycINFO, and British Library EThOS. The key search terms were maternal mortality, maternal health, birthing centre/centres, health facilities, developing countries, low income countries, and South Asian countries. The inclusion criteria were: peer-reviewed papers in English; any study or policy-report on birthing centres in Nepal; and research in birthing

centres in South Asia. The exclusion criteria included papers which were non- English, studies in high income countries, and those studies whose full text could not be found.

Background

Nepal's First Long Term Health Plan (1975-1990) considered the need for the provision of consistent and functional health services.¹³ During the late 1980s and 1990s, when maternal health was prioritized by the Government of Nepal, PHC was progressively extended into more rural areas.¹⁴ Nepal's National Health Policy 1991 created the primary health care structures to reach each of the nearly 4,000 Village Development Committees (VDC), the smallest geographical administrative unit of Nepal. This allowed modern health facilities and trained health care providers to be available in rural areas and villages.¹³ The 1991 Policy aimed to establish a sub health post in each VDC, and to create a primary health care centre in each of the 205 electoral constituencies, or to upgrade an existing health post to a primary health care centre with one medical doctor and three beds.¹⁵ One of the main objectives of the five year plan that existed from 1992-1997 was to extend maternal child health and family planning to the sub-district level.

The Second Long Term Health Plan covers the period of 1997-2017 and emphasizes the provision of comprehensive basic health services for the majority of the rural population. This plan established district, zonal, regional, and central hospitals, with an emphasis on the referral mechanism.¹⁶ This plan also introduced the Essential Health Care Package to improve the health status of the most vulnerable populations, such as women, children, and the underprivileged in society.

Nepal's National Safe Motherhood Programme started in 1997, with the goal of reducing maternal and neonatal mortality and morbidity, by addressing avoidable factors related to complications of pregnancy and childbirth. This programme has made significant progress in the development of policies and protocols, the most important one being a policy on skilled birth attendants (SBA), endorsed by the Ministry of Health and Population, in 2006.¹⁷ This policy identifies the importance of an SBA at each birth and also embodies the Government's commitment to prepare SBAs, including doctors, nurses, and midwives, across the country.¹⁷ The Safe Motherhood and Neonatal Health Long Term Plan (2006-2017) included a strategy for strengthening and expanding the number of births conducted by SBAs, having basic and comprehensive obstetric care services at all levels, and establishing a functional referral system.¹⁷

The Maternity Incentive Scheme, later called the Safe Delivery Incentive Programme (SDIP), started in 2005, in districts with a low human development index. It provided incentive payments to women to get them to attend health facilities, and increased the number of health workers and SBAs. During this period, the Nepal Demographic and Health Survey 2006 reported delivery at health facilities to be 18%, and delivery assisted by a skilled attendant as 19%.¹⁸

The policy of providing free deliveries nationwide, the ‘Aama Surakcha Programme’, started in January 2009 to promote deliveries at health institutions attended by trained health professionals.¹⁹ The current health policy includes ensuring the availability of quality health services as a basic right of every citizen, free of cost, as a part of universal health coverage. One of the strategies of this policy is to appoint one doctor and one nurse, along with other paramedic staff, in each VDC, and to appoint one nurse-midwife in each ward of VDC.²⁰

Findings

The findings of this literature review are organised under three sub headings: describing the birthing centre characteristics, the state of birthing centres in Nepal, and the obstacles that they are facing.

Birthing centre characteristics

The literature on birthing centres demonstrates that they are, or can be, a component of health service delivery at the local level, and are designed to provide care for normal uncomplicated births. A birthing centre can function either inside or outside the hospital setting. If located outside the hospital setting it needs to have access to a hospital providing EmONC, with a referral time of no more than an hour.²¹ BCs offer a midwifery-led model of care, where midwives (or similar SBAs) provide maternity services to healthy women with uncomplicated or low risk pregnancies.²² Studies show that when compared to hospital care for low risk women, BCs can reduce unnecessary interventions with no significant difference in maternal mortality and morbidity.²²⁻²⁴ Research in many countries suggests that women experience positive childbirth assistance in BCs.²⁵

Birthing centres in Nepal

The initial contact points for basic health services in the Nepalese health system are sub health posts, which offer community-based outreach clinics and monitor the activities of

female community health volunteers (FCHVs). The next level of care is the health posts, which offer all the same services provided in the sub health posts, and additionally, offer a birthing centre.¹⁷ The third level of care is provided by the primary health care centres, which act as the linkage between a community and a referral hospital. It has been difficult to retain doctors in primary health care centres in Nepal, but with a cadre of adequately trained staff in birthing centres it has been possible to provide basic essential obstetric care services in an effective way.²⁶

In Nepal, essential obstetric care services are available at three levels: i) basic obstetric care available at health posts and sub health posts, for stabilizing patients with obstetric first aid, making an appropriate referral, and arranging transport; ii) BEmONC is available at primary health care centres, to prevent and treat haemorrhage, puerperal sepsis, eclampsia, and infection, and to manage prolonged labour; and iii) CEmONC is available at hospitals (regional, zonal, and district) to manage all the above plus caesarean sections, and to provide anaesthesia and blood transfusion.²⁷

The Family Health Division records 1134 birthing centres in health posts, sub health posts, and primary health care centres in July 2014.²⁸ There has been an increase in BCs offering 24-hour birth service, along with increased availability of BEmONC and CEmONC sites.^{19,28} The presence of a skilled birth attendant at delivery doubled from 19% in 2006 to 36% in 2011, but is still far from meeting the 60% target by 2015¹² because there is shortage of skilled professionals, especially midwives.^{26, 29} The State of the World's Midwifery shows that in 2012 almost 200,000 of the 606,000 total births in Nepal were unattended by an SBA, almost all of them in the rural areas where 84% of the total population lives.³⁰

Obstacles to service provision by birthing centres

In Nepal, this review found midwife-led care to be as safe as consultant-led care, and the BC model was found to be appropriate for low risk deliveries³¹; this is similar to findings from Brazil.²¹ However, the review found that there was an increasing trend of bypassing BCs to give birth at hospitals, which provide the medical model of care.^{32, 33} The review also found that the uptake of services available at BCs depended not only on increasing the number of SBAs, but also on enabling factors, such as having effective training, appropriate infrastructure, on-going professional development for staff, supportive supervision, sufficient

supplies and equipment, support from community other health workers, and finally having an effective referral mechanism.³⁴

A rapid assessment of ‘Aama Surakchha Programme’ in six districts showed a high demand for maternity services in hospitals, despite a high bed occupancy rate, ranging from 80-145%. Conversely, the same assessment showed BCs to be substantially underutilized; indicating ineffective use of available services at BCs, which if utilised effectively would help reduce overcrowding in the hospitals.¹⁷ One of the growing drivers behind overcrowding, as this study also reported, is the growing trend of caesarean sections (CS) performed in the referral hospitals.¹⁷ The necessity of this increasing CS rate has been questioned by some.²⁹

Several factors also seemed to impact BC utilization. The social and ethnic position of women appeared to determine the uptake of essential obstetric care and EmONC services, with women of low caste and from ethnic minorities seen to be underutilizing the services at birthing institutions as compared to women of higher status.^{26, 35} Secondly, socio-demographic and socio-cultural factors, still prevalent in the Nepalese society, also act as barriers to pregnant women attending BCs.^{35, 37-39} Women are dependent on their husbands and family for making decisions about where to give birth. Moreover, they may lack material resources and are often illiterate.^{35, 37} Another important factor identified in Nepal as affecting the uptake of intrapartum services is accessibility to a birthing facility³⁵⁻³⁷; this needs further attention in order to promote more facility births.

Shortage of human resources, especially in the rural areas of Nepal, has been shown to be a major constraint in providing maternal health services, implying a need for strong human resource planning with incentives for skilled staff to remain in government service.⁴⁰ Preventing avoidable maternal and newborn deaths and debilitating morbidities requires regular monitoring of the quality of care of maternal and neonatal health services in public facilities, including BCs^{41, 42}, if women are expected to continue attending these facilities.

Conclusion

Within maternity services, ‘quality of care’ is generally defined as “A minimum level of care to all pregnant women and their newborn babies (prenatal care, safe delivery, postnatal care and newborn care). It includes identification of complications, referral to emergency services, and a higher level of care for women having especial needs”.²⁷ This definition not only

includes quality of care as provided by the health institutions but also quality of care as experienced by the women and their family. Moreover, availability of 24-hour essential obstetric care services is considered a vital component of quality care. To ensure that women's needs are met, however, it is equally important to monitor their perception of the midwifery and obstetric care provided at health facilities.²⁷

Studies on the quality of care of maternity services in Nepal have been mostly quantitative^{31, 35, 46, 47}, whilst a few qualitative studies have addressed the perspective of health care providers' only.³⁴ One particular study assessing the quality of birthing centres in Nepal focussed on clinical rather than social findings and studied the quality of care from the perspective of health care workers only.²⁸ There is, thus, a need for doing qualitative research to support the findings from quantitative research, which not only takes into account the perspective of health care providers but also that of the women who use the services.

Studies on skilled birth attendance in South Asia showed an increase in facility-based deliveries, mostly in private facilities in India and Bangladesh.⁴³ Although skilled birth attendance increased for Bangladesh, India, and Pakistan, the proportion of births attended by doctors increased faster than the proportion of births attended by a midwife, auxiliary midwife or nurse midwife.^{43, 44} Attendance by doctors is often viewed as better care in low income countries.⁴³ In Bangladesh, the national programme focussed on upgrading EmONC facilities rather than training and deploying midwives, which limited the growth of skilled birth attendance⁴⁵; this, ultimately, could limit the role of birthing centres in the country. Learning from the experience of Bangladesh, Nepal should keep an eye on this growing trend of upgrading EmONC facilities, which could lead to underutilization of BCs.

Recommendations

Birthing centres have the potential to be a part of the solution to Nepal's low levels of: (a) institutional delivery and (b) skilled attendance at birth. However, access in a country such as Nepal will always be a barrier due to the large rural (and poor) proportion of its population. Even with one birthing centre in each VDC not every woman will have easy access geographically. Moreover, there will remain cultural and socio-economic barriers to certain pregnant women attending birthing centres.^{33, 38, 39}

There is thus, a need for conducting qualitative, in depth studies, focusing on the perspective of health care providers and the women who use these services, including the

pregnant women attending BCs. Most of the studies done on the quality of care in maternal services in Nepal so far have been quantitative in nature.

References

1. Sustainable Development Knowledge Platform. Sustainable Development Goals. 2015. Available from <https://sustainabledevelopment.un.org/index.php?menu=1300>.
2. WHO, UNICEF. Trends in maternal mortality: 1990 to 2010: WHO, UNICEF, UNFPA and The World Bank estimates. Geneva: WHO, UNICEF, UNFPA and The World Bank; 2012.
3. WHO. Every Newborn: An action plan to end preventable deaths. Geneva: WHO; 2014. Available from http://apps.who.int/iris/bitstream/10665/127938/1/9789241507448_eng.pdf?ua=1.
4. Renfrew MJ, McFadden A, Bastos HM, Campbell J, Channon AA, Cheung NF et al. Midwifery and quality care: findings from a new evidence-informed framework for maternal and newborn care. *Lancet*. 2014;384(9948):1129-45.
5. UNFPA. The state of the World's Midwifery 2014: A Universal Pathway. A Woman's Right to Health. United Nations Population Fund, 2014.
6. WHO. Monitoring Emergency Obstetric Care: A Handbook. Geneva: World Health Organization, 2009.
7. UNICEF. The state of the world's children 2009: maternal and newborn health. New York: United Nations Children's Fund; 2008.
8. Montagu D, Yamey G, Visconti A, Harding A, Yoong J. Where do poor women in developing countries give birth? A multi-country analysis of demographic and health survey data. *Plos One*. 2011;6(2):e17155.
9. Kerber KJ, de Graft-Johnson JE, Bhutta ZA, Okong P, Starrs A, Lawn JE. Continuum of care for maternal, newborn, and child health: from slogan to service delivery. *The Lancet*. 2007;370(9595):1358-69.
10. WHO. The World Health Report 2005. Make every mother and child count. Geneva: World Health Organization, 2005.
11. Campbell OMR, Graham WJ. Strategies for reducing maternal mortality: getting on with what works. *The Lancet*. 2006;368(9543):1284-99.

12. Ministry of Health and Population, New Era, ICF International Inc. Nepal Demographic and Health Survey 2011. Kathmandu: Ministry of Health and Population, New ERA and Macro International Inc; 2012.
13. Dixit H. The quest for health. Kathmandu: Educational Enterprise (P) Ltd; 1999.
14. Engel J, Glennie J, Adhikari SR, Bhattarai SW, Prasai DP, Samuels F. Nepal's story: understanding improvements in maternal health. Development Progress Case Study, London: Overseas Development Institute. 2013.
15. Ministry of Health and Population. National Health Policy 1991. Government of Nepal, Ministry of Health and Population; 2014. Available from: <http://www.mohp.gov.np/index.php/publication-1/policy>.
16. Ministry of Health and Population. Second Long Term Health Plan 1997-2017. Perspective Plan for Health Sector Development. Government of Nepal, Ministry of Health and Population; 2007. Available from: <http://www.mohp.gov.np/index.php/publication-1/policy>.
17. Ministry of Health and Population. Annual Report of Department of Health Services (2012/2013). Kathmandu: Government of Nepal, Ministry of Health and Population; 2013.
18. Ministry of Health and Population, New ERA, Macro International Inc. Nepal Demographic and Health Survey 2006. Kathmandu: Ministry of Health and Population, New ERA and Macro International Inc.; 2007.
19. Witter S, Khadka S, Nath H, Tiwari S. The national free delivery policy in Nepal: early evidence of its effects on health facilities. *Health Policy & Planning*. 2011; 26(suppl 2):ii84-ii91.
20. Ministry of Health and Population. National Health Policy 2071. Government of Nepal, Ministry of Health and Population; 2014. Available from: <http://www.mohp.gov.np/index.php/publication-1/policy>.
21. Schneck CA, Riesco MLG, Bonadio IC, Diniz CSG, de Oliveira SMJV. Maternal and neonatal outcomes at an alongside birth center and at a hospital. *Revista de Saúde Pública*. 2012;46(1):77-86.
22. Sandall J, Hatem M, Devane D, Soltani H, Gates S. Discussions of findings from a Cochrane review of midwife-led versus other models of care for childbearing women: continuity, normality and safety. *Midwifery*. 2009;25(1):8-13.
23. Hodnett ED, Downe S, Walsh D. Alternative versus conventional institutional settings for birth. *The Cochrane Library*. 2012;8.

24. Rooks JP. The Midwifery Model of Care. *Journal of Nurse-Midwifery*. 1999;44(4):370-4.
25. Jamas MT, Hoga LAK, Reberte LM. Women's narratives on care received in a birthing center. *Cadernos De Saúde Pública*. 2013;29(12):2436-46.
26. Rath AD, Basnett I, Cole M, Subedi HN, Thomas D, Murray SF. Improving emergency obstetric care in a context of very high maternal mortality: the Nepal Safer Motherhood Project 1997–2004. *Reproductive Health Matters*. 2007;15(30):72-80.
27. Family Health Division. *Monitoring Quality of Care in Maternity Services*. Kathmandu, Ministry of Health; 2004.
28. Family Health Division, Department of Health Services. *Results from Assessing Birthing Centers in Nepal*. Kathmandu: Ministry of Health and Population; 2014.
29. Bogren M, Bajracharya K, Berg M, Erlandsson K, Ireland J, Simkhada P, et al. Nepal needs midwifery. *Journal of Manmohan Memorial Institute of Health Sciences (JMMIHS)*. 2013;1(2):41-4.
30. International Confederation of Midwives, WHO, UNFPA. *State of the World's Midwifery report for 2014: 'A universal pathway. A woman's right to health'*. International Confederation of Midwives, WHO & UNFPA; 2014.
31. Rana TG, Rashmi R, Binod B, Manju K, Osrin D. Comparison of midwifery-led and consultant-led maternity care for low risk deliveries in Nepal. *Health Policy & Planning*. 2003;18(3):330-7.
32. Karkee R, Lee AH, Binns CW. Bypassing birth centres for childbirth: an analysis of data from a community-based prospective cohort study in Nepal. *Health Policy & Planning*. 2015;30(1):1-7.
33. Brunson J. Confronting maternal mortality, controlling birth in Nepal: The gendered politics of receiving biomedical care at birth. *Social Science & Medicine*. 2010;71:1719-27.
34. Morgan A, Soto EJ, Bhandari G, Kermode M. Provider perspectives on the enabling environment required for skilled birth attendance: a qualitative study in western Nepal. *Tropical Medicine & International Health*. 2014;19(12):1457-65.
35. Shah R, Rehfuess EA, Maskey MK, Fischer R, Bhandari PB, Delius M. Factors affecting institutional delivery in rural Chitwan District of Nepal: a community-based cross-sectional study. *BMC Pregnancy & Childbirth*. 2015;15(1):27.

36. Karkee R, Lee AH, Khanal V. Need factors for utilisation of institutional delivery services in Nepal: an analysis from Nepal Demographic and Health Survey, 2011. *BMJ Open*. 2014;4(3):1.
37. Baral YR, Lyons K, Skinner J, van Teijlingen ER. Determinants of skilled birth attendants for delivery in Nepal. *Kathmandu University Medical Journal (KUMJ)*. 2010;8(31):325-32.
38. Rogers W, Baral YR, Sharma S, Stephens J. Customs and beliefs surrounding newborn babies in rural areas, In: *The Dynamics of Health in Nepal*, ed. Wasti SP, Simkhada PP, van Teijlingen E, editors. Kathmandu, Nepal: Social Science Baha and Himal Books; 2015, pp 16-33.
39. Simkhada B, Porter M, van Teijlingen E. The role of mothers-in-law in antenatal care decision-making in Nepal: a qualitative study. *BMC Pregnancy & Childbirth*. 2010;10(1):34.
40. Barker CE, Bird CE, Pradhan A, Shakya G. Support to the Safe Motherhood Programme in Nepal: An Integrated Approach. *Reproductive Health Matters*. 2007;15(30):81-90.
41. Pradhan Y, Upreti SR, KC NP, KC A, Khadka N, Syed U, et al. Newborn survival in Nepal: a decade of change and future implications. *Health Policy & Planning*. 2012;27(suppl 3):iii57-iii71.
42. MoHP Nepal, PMNCH, WHO, World Bank, AHPSR and participants in the Nepal multistakeholder policy review. *Success Factors for Women's and Children's Health: Nepal*. Geneva: World Health Organization; 2014.
43. Pomeroy AM, Koblinsky M, Alva S. Who gives birth in private facilities in Asia? A look at six countries. *Health Policy & Planning*. 2014;29(suppl_1):i38-i47.
44. Van Lerberghe W, Matthews Z, Achadi E, Ancona C, Campbell J, Channon A, et al. Country experience with strengthening of health systems and deployment of midwives in countries with high maternal mortality. *The Lancet*. 2014;384(9949):1215-25.
45. Collin SM, Anwar I, Ronsmans C. A decade of inequality in maternity care: antenatal care, professional attendance at delivery, and caesarean section in Bangladesh (1991-2004). *International Journal for Equity in Health*. 2007;6:9.

46. Karkee R, Lee AH, Pokharel PK. Women's perception of quality of maternity services: a longitudinal survey in Nepal. *BMC Pregnancy & Childbirth*. 2014;14(1):1-15.
47. Rana T, Chataut B, Shakya G, Nanda G, Pratt A, Sakai S. Strengthening emergency obstetric care in Nepal: the women's right to life and health project (WRLHP). *International Journal of Gynecology & Obstetrics*. 2007;98(3):271-7.