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Situation of maternal health in Bhutan 2018

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ABSTRACT

Bhutan has opened up to modernization in 1961s and since then good progress has been made in social sectors. Providing free health service and education has the top priority from the beginning to this day. With humble starting from almost bare grounds, the situation of maternal health has improved. Until the start of the Safe Motherhood program in 1994, health programs were not streamlined. The maternal mortality ratio (MMR) was 380 per 100000 livebirths in 1994. A lot of efforts with different programs have been implemented by the reproductive health program of Ministry of Health to improve maternal health. Main challenge has been with health human resource from the very beginning and it still stands to this day as number one challenge. With the inputs of various programs to improve maternal health and development in non-health sectors, the MMR has come down to 89 per 100000 livebirths in 2017.

Keywords: Maternal health; Maternal mortality.

INTRODUCTION

The first national health survey in Bhutan was done in 1984 and it was found that the maternal mortality ration (MMR) from that survey was 770/per 100,000 live births[1]. After introduction of the safe motherhood initiative in 1987, the Health Department, Ministry of Health and Education, established the safe motherhood programme as a component of the reproductive health and population programme during the seventh five year plan (1992-1997). UNFPA and UNICEF were the two main donors for this programme. UNFPA supported on the population and family planning aspects, while UNICEF focused on safe motherhood, with overlaps in the support areas of essential obstetric care (EOC) and Information Education Communication (IEC). WHO provided the technical assistance. The safe motherhood programme, as a major component of primary health care, was started in 1994. This was the beginning of organized activities addressing the maternal health in Bhutan. Up to 1998, there was only one national gynaecologist who was supported by few UN volunteers working in few hospitals in Bhutan. However due to lack of human resource and logistics, not much progress was made till towards end of 1999.

In 1999, comprehensive and basic emergency obstetric care (EmOC) centres were identified in the country through the women's right to life and health project (Bill and Melinda Foundation Project implemented by UNICEF and Columbia University USA) establishing and strengthening of EmOC services. This EmOC Project ran from 1999 to 2004. In 2000, we had only 7 Comprehensive EmOC centres offering caesarean facilities spread across the country.

Under this project, many activities to strengthen the maternity service nationwide were done. Delivery rooms were renovated, patient toilets were built in BHUs next to delivery rooms, fans in warm places and heaters in cold places were provided in delivery rooms in hospitals and BHUs. Old operation theatres were renovated, and few new theatres were built in hospitals located at strategic locations. Supply systems including operation theatre equipment's, drugs and essential supplies were standardized and supplied on regular basis up to BHUs to save mothers.

Human resource developments including competency based training (CBT) were done for many categories of health staffs involved in managing maternity care including delivery. First editions of midwifery standard guidelines and guideline on emergency obstetric Protocols were written, and field staffs were trained on using them. Numerous short trainings and workshops were conducted covering health staff nationwide on EmOC service upgradation. Six general medical officers with MBBS were sent in different phases to India, Pakistan and Bangladesh for training in comprehensive EmOC training to learn instrumental and caesarean section deliveries with durations varying from six months to one year. However, only two could contribute to running the Com-EmOC centres in Tsirang and Tsimalakha Hospitals. This EmOC doctor service collapsed as a new policy was introduced not allowing EmOC trained to take up career in Obstetrics and Gynaecology by then the Hon'ble Health Minister. To fill up acute shortage of anaesthesiologist, the Ministry of Health has adopted new policy to allow nurses to be trained in anaesthesiology in Bangkok. Training of nurse anaesthetist is one of the success stories from the EmOC program

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with having produced adequate numbers of nurse anaesthetists giving service not only to EmOC but to all other surgical services in whole country even today.

Formal blood banks were established in referral hospitals and transfusion services were extended to all district hospitals and blood grouping facilities were provided till BHUs to get donors. By end of 2004 we could add only 1 extra comprehensive EmOC centre making a total of 8 comprehensive EmOC, one more facility than in 2000. To this day in 2018, we still have only 6 comprehensive EmOC centres, two less than in 2004. This has been due to difficulty in human resource developments with no in-country training institutes and difficulty in getting training seat in outside countries.

Beyond 2004, the EmOC program was picked up by reproductive health (RH) Program as one main stream activity. Other small parallel efforts include the setting up of the perinatal medicine unit now known as maternal fetal medicine unit (Royal Government of Bhutan and Magee Family Project) which was started in Jigme Dorji Wangchuck National Referral Hospital (JDWNRH) from 2006 to 2012. Perinatal medicine project strengthened the obstetric ultrasonography service in JDWNRH in particular and brought in huge improvements in upscaling of the obstetric ultrasound service in all hospitals of Bhutan. The first two long term trainings in ultrasonography (2 years diploma in medical ultrasound in India) and 3 months short course in obstetric ultrasound for all ultrasound technicians in Bhutan were funded by Magee Project. Training of one obstetrician was also funded through this project. Henceforth, the Department of radio-diagnosis of JDWNRH has picked up the ultrasonography training service and to this day over 90% of our mothers have ultrasound dating before 20 weeks.

Until end of 2005, prevention of mother to child transmission of HIV (PMTCT) cases were managed at random and in secrecy with single dose Nevirapine medication in labour. But by early 2006 PMTCT program was introduced by the RH Program and all PMTCT cases have been managed to this day in a systemic manner including decentralization of care up to dzongkhag hospitals and BHUs. In addition, overall patient referral system in Bhutan has been strengthened by introduction of the global positioning system (GPS) based ambulance services and with establishment of the health help centre (HHC) with 24 hours toll free call with 112 number to be used in emergency by all.

To reduce the preventable postpartum haemorrhage as a cause of maternal mortality, the RH Program has facilitated the development of national standard guideline on postpartum haemorrhage since 2009. In same year the national midwifery standard guideline was updated to 3rd edition with introduction of minimum of 8 antenatal visit system. Many short-term trainings on the use of these guidelines by the health staff in the field has been conducted all over the country.

We also cannot ignore the benefits of improved coverage from the wide spread mobile phone communications services which was introduced in 2003. This has helped communities living in faraway corners separated by difficult terrains by asking for timely help. Increasing female literacy rate from 33% in 2003[2] to 59% in 2017[3] has huge invisible contribution towards improvement of maternal health in Bhutan. Since 2015, the air ambulance system by hiring from Royal Bhutan helicopter service limited has been introduced as back up for land ambulance system to be used in an emergency situation. The reflections from the overall both direct and indirect investments for improvement of maternal health have brought out huge visible improvements.

THE PRESENT SITUATION OF MATERNAL HEALTH

Due to various reasons given by mothers as lack of helpers to look after children and cattle, lack of confidence in hospital, lack of transport service and money, many mothers had given birth home based on findings from a unpublished report of community assessment of maternal health needs in 2005. With gradual improvements in creating patiently friendly policy and health facilities, the number of women delivering at home has reduced from 86.1% in 1994[1] to 3% in 2017[3] as given in Figure 1.

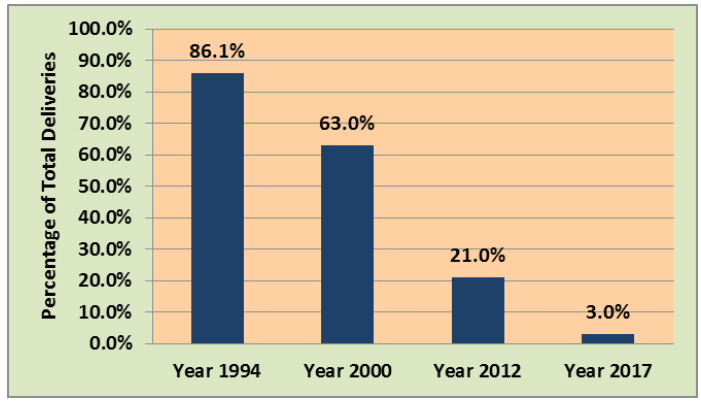

Figure 1. Home Delivery rate in Bhutan

Antenatal visits has increased from 18.9% with at least one visit in 2000[1] to 90.9% with more than 4 visits 2017[3] as reflected in Figure 2. Minimum recommended visit by the reproductive health program in Bhutan is 8 antenatal visits in each pregnancy since 2009.

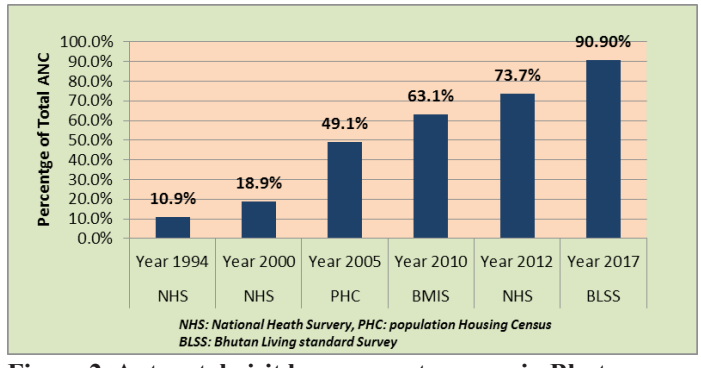

Figure 2. Antenatal visit by pregnant women in Bhutan

It has taken time for people to come to health facilities for Institutional delivery, due to lack of road access and transport in the recent past. With improved road network and transport system, a rising trend has been seen for delivery taking place at health facilities. This figure has increased from 10.40% in 1994[1] to 93.6% in 2017[3] as given in Figure 3.

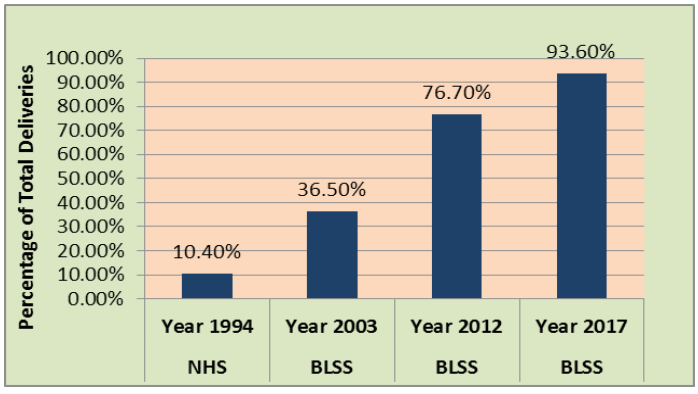

Figure 3. Institutional delivery in Bhutan

With a strong coverage on our immunization, the postnatal care (PNC) is also picking up seen to be slowly increasing across the country. The national midwifery guideline recommends minimum of 4 PNC visits for everyone. From the last survey, our PNC has reached 86.9%[3].

MATERNAL MORTALITY

Maternal death is defined as the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes[4].

Unorganized form of verbal autopsy on maternal death investigation (MDI) was there before 2000 and this MDI was revitalized in 2001, to identify the common causes of maternal and neonatal deaths, to classify whether deaths were preventable or not, to recognize social, cultural and economic behaviours leading to maternal and neonatal death, to classify the maternal and neonatal within three delays, to strengthen monitoring and supervision of maternal and neonatal care services in the country and to draw recommendations for interventions to prevent similar incidents in the future. Since then regular reporting and formal annual review of maternal deaths was started since 2001. The MDI has been upgraded to maternal neonatal death surveillance and response (MDSR) by the reproductive health program as a key intervention for reducing maternal and neonatal mortalities since 2013 as recommended by WHO and partners since 2013[5]. Findings from annual maternal death investigation review reports shows gradual decline in number of mothers dying every year. This is due to continued good policy and active intervention by the RH program. Figure 4 shows year-wise maternal death in Bhutan 2001-2017 (*n*= 233).

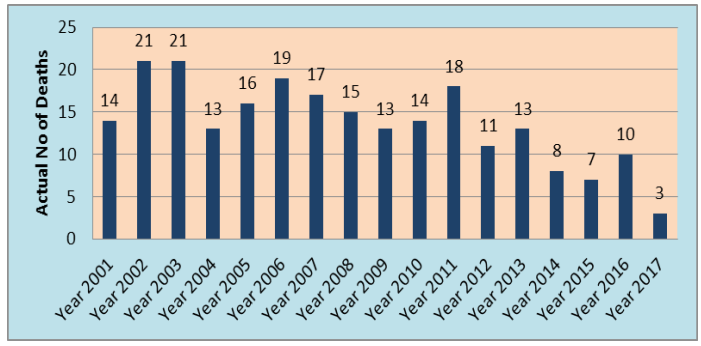

Figure 4. Annual number of maternal deaths reported in Bhutan

As a mechanism to recognize the factors and recommend appropriate remedial measures, the MoH has endorsed the maternal death to be notifiable event from January 2017. Annual review of maternal deaths are mainly aimed to determine the prevalence as well as the causes of maternal deaths and make recommendations for interventions.

The causes of maternal death in Bhutan is not different from other regions. The number one cause of maternal death is primary postpartum haemorrhage (PPH) as 43% of the total deaths as given in Figure 5. Second cause is medical conditions. Due to good antenatal care visits, pre-eclampsia and obstructed labour are far down the list.

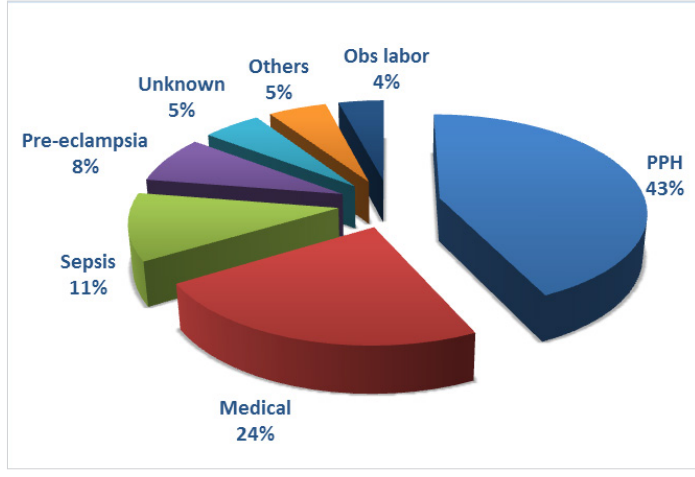

Figure 5. Cause of maternal death from 2001 to 20017 in Bhutan (*n*=233)

The analysis of the causes of maternal deaths in Bhutan is based on the three delay model as given in Figure 6. There is decline in Delay 1 and Delay 2 due to good improvements in non-health sectors such as increasing literacy rate and improved communications systems. However, the main challenge is now with third delay (not receiving the appropriate treatment in time at the health facility) due to human resource shortages and logistic deficiencies including medicines and equipment.

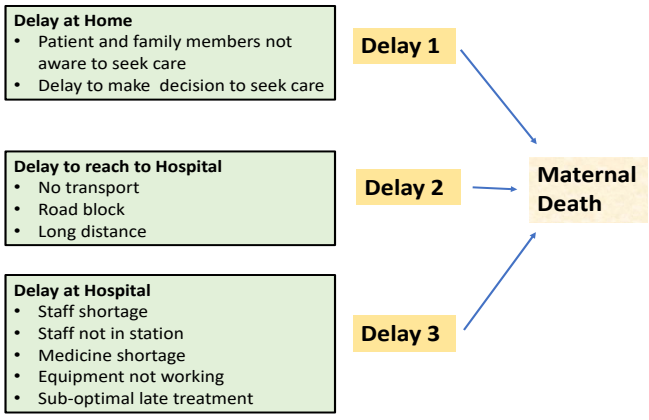

Figure 6. Three delay model as cause of maternal mortality

There is a new trend in Bhutan, which is our fourth delay (deliberately not seeking care for social reasons). Some reasons of the fourth delay are pregnancy occurring out of wedlock and underage pregnancy where due to fear of being known by others, they deliberately don't come for ANC and to deliver in health facilities.

The overall cumulative efforts of the RH program in improving the maternal health has gradually resulted in reduction of maternal mortality ratio (MMR) for Bhutan. There has been good progress in decline of MMR with 770 per 100000 livebirths in 1984[1] to 89 per 100000 livebirths in 2017[3]. Bhutan is one of the nine countries to have achieved the millennium development goal 5 in 2015 to reduce global maternal mortality by three-quarters between 1990 and 2015[6].We still have lot of work to reduce the preventable causes of maternal health. The increasing challenge is non-communicable diseases (NCD) as diabetes mellitus and hypertension cases are rising in pregnancy which adds to morbidity.

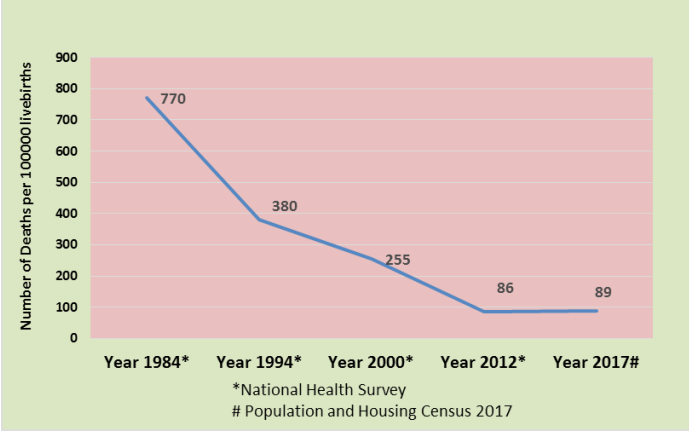

Figure 7. Trend of MMR for Bhutan

MAIN CHALLENGES

The main challenge is shortage of gynaecologists to run Com-EmOC centres. As RH program is mostly funded by donor/ partners, when priority for donors/partners change, the funding support also changes, and this remains a main issue related to sustainability. At the field level, inadequate female health staff at the BHUs is an ongoing problem. Human behavioural change is taking long time for women to seek early health care.

WAY FOREWORD

The RH program has introduced online web-based mother and child health (MCH) tracking system. It has been rolled out to more than 50 health facilities and it is planned to cover nationwide by 2020. Tracking of every pregnant mother is very important. Second focus is improving the quality of service at the health facility. This includes training of trainers for the national standard guideline on PPH management including PPH drill and midwifery guideline for field health staff. Point of care quality improvement for mother and child health are being expanded to cover all Com-EmONC. Preconception package counselling and folate supplementation program has been developed and will be implemented soon. Support for training of gynaecologists is being provided to increase the main human resource. Based on human resource pool opening of new Com-EmONC centres in strategic location is being planned.

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