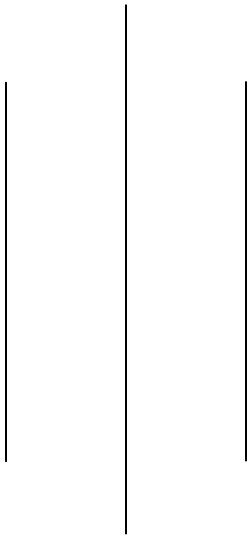
Pregnancy, Childbirth and Newborn: Neglected Issues in Mountain Communities (Profile from Nepal)



For

"Women of the Mountains"
International Conference
Utah Valley State College,
Orem, Utah, USA

By

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--- February 2007 ---

"Pregnancy is natural phenomenon and a woman's life is not complete until she becomes a mother."
Voice of rural communities of Nepal

1. Background

The Himalaya kingdom of Nepal, a landlocked country between India and China has covered 147,181 square kilometers areas of the world with 23.4 million of population (according to the 2001census). It is a country of geographic and cultural wonders, including the Himalayan peaks, ancient temples, and colorful marketplaces. Ecologically, Nepal is divided into three distinct regions: mountains (35.2%), hills (42 %), and *terai* or plains (23%).Nepal is predominantly rural, with only 14% of population living in urban areas (1). The majority of population resides in the t*erai* or plain (49%) and the hill (45%) and the remaining (6%) in the mountain. Transportation is limited in the mountains and hills because of the steep terrain but generally more developed in the plains of the te*rai* (1).

In Nepal, more than half (50.3 %) of the total population is covered by women including 52.3 % are in their reproductive age. Given the current fertility rate of 4.1 (Table 1), the Ministry of Health and Population projects that the number of births for 2006 will be about 900,000 (2)

The armed conflict has also a more direct impact on the lives of children and women in Nepal. Family structure are shaken when household are increasingly headed by women due to increased migration, when the whole or parts of the family becomes displaced, and when children move along or with family member to urban areas or India seeking security, work and education. Because of the internal and external migration vulnerability for morbidity and mortality of women and children is high.

2. Maternal and Neonatal Mortality and Morbidity: Global Context

Maternal deaths are the tip of an iceberg of poor maternal health. Maternal deaths are defined as any death that occurs during pregnancy, childbirth, or within two months after the birth or termination of pregnancy. Over 585 thousand maternal deaths are estimated to occur each year; on average, more than one woman dies every minute of a pregnancy related cause (3). Pregnancy-related complications account for 18.5% of the global burden of disease among reproductive age. The burden of reproductive ill health is especially high for women in sub-Saharan Africa (4).

Globally each year an estimated more than 4 million newborns die within the first days or weeks of life, Globally each year an estimated eight million babies are still birth or die in the first month of life and, almost all (98%) of these death occur in developing countries and altogether 10.6 million children a year die before their fifth birthday (5). Globally 40% of under five deaths occur in the neonatal period. Almost all deaths as a result of pregnancy and childbirth are avoidable. 99% occur in developing countries and two thirds in 13 countries[1].

[1] India, Nigeria, Pakistan, Democratic Republic of the Congo, Ethiopia, Tanzania, Afghanistan, Bangladesh, Angola, China, Kenya, Indonesia, Uganda.

25% of all deaths occur in India alone. These statistics raise an attention to maternal and newborn health in developing countries (6).

The causes of maternal death in developing and developed countries are broadly similar but there is a massive difference in a woman's chance of surviving from these complications (7). The difference in level of risk between developed and developing countries show (Box 1) the widest disparity in all human development indicators. High fertility rates and repeated pregnancy further increase the lifetime risk of maternal death for poor women.

Box 1: Comparative mortality risk (8).

In Mozambique 1,000 and in India 540 women per 100,000 live births will die each year. The equivalent figure in the UK is 13. Globally, the lifetime risk for women of maternal death is 1 in 74. In industrialized countries this risk is 1 in 2,800. In the least developed countries, they face a 1 in 16 chance of dying in childbirth in their lifetime

3. Maternal and Neonatal Mortality and Morbidity in Nepal

Maternal mortality in Nepal is high, which is one of the most important indicators of maternal health.

As different estimates of maternal mortality rate have come up with different figures, no single figure is acceptable to all stakeholders. The latest survey-based estimate of the maternal mortality in Nepal is 539 deaths per 100,000 live births. Every 2 hours one woman dies because of complication related with pregnancy and delivery (9) The UNFPA has ranked Nepal as the worst affected country in south Asia (10)

The direct and leading causes of maternal mortality in Nepal are postpartum hemorrhage, eclampsia, infection, obstructed labor, and complication of abortions.

It is estimated that over 32,000 children die each year in Nepal during their first month of life, with over two-third of these dying during their first week (11) Nearly the same numbers are still birth . There is considerable variation in neonatal mortality by ecological zone, with children living in the mountains faring much worse than those living in the hills or *terai* For example, the neonatal mortality rate is 64.9/1000 in mountain as follows 41.9 in hill and 49.7 in *terai*(1). This is because of facilities, accessibility and utilization of health services of three different regions. In fact more than two- third of deaths among under-five now occur during the first year of life in our country. The major causes of neonatal death are low birth weight, hypothermia, birth injuries, infections, preterm delivery and birth asphyxia, neonatal tetanus, neonatal jaundice and congenital anomalies (See glossary).

The health of the newborn child is bound to that of the mother. As new born health can not be separated from the health status of women of reproductive age, most women give birth at home, only 9% of births are delivered in health facilities compared with 89% at home[2](1). This is why; neonatal mortality and morbidity are unacceptably high. Less attention to pregnancy child birth, newborn and infant cause the increasing maternal and child mortality

[2] 2% delivered neither health institute nor home, which is on the way or working place.

Based upon the above data, pregnancy, childbirth and the new born are neglected in Nepal. The main reasons include the following

3.1 Low Status of Women and Newborns

Table 1: Status of Women in Nepal (1,10,11,12, 13)

Characteristic	Status	Characteristic	Status
Household with female ownership	5.5%	Women in policy level as decision making level	4%
Literacy Rate	35%	Women in public service	8%
No education (15-49 years of age)	72%	Judge	2%
Access to media	49 %	Knowledge about human rights of rural women	6%
Victim of domestic violence (14)	58%	Self decision on own health care	13.4%
Daily work load	18 hrs	Age at first marriage	16.6
Birth interval	32 months	Age at first birth in average	20
Knowledge of contraceptive to ever married	99.5%	Fertility Rate	4.1
Contraceptive Prevalence Rate among currently married women	39%	Unmeet need for family planning service to married couple	20%
Iron deficiency in pregnancy	75%	Delivery without health care providers	88%

The status of women is traditionally defined in terms of their marital and sexual status. Society in general views women as subordinates to men whether they are daughters, wives and mothers. Social rules regulations are intensely patriarchal and women are expected to passively comply with all decisions made by men who are the owner of the household. Women are therefore in extremely disadvantaged position in Nepali society where there is lack of social economic as well as political empowerment of women.

In spite of the state commitment to education for all, patriarchal society, subordinated role, superstition, fatalism and traditionalism lacking behind women for equal access of education. The literacy rate of women as compare with man (70%) in Nepal shows the preference of parents to marry their daughter rather than to send her to school. When girls are denied schooling, as adults they tend to have poorer health, larger families and their children face a higher risk of death.

Despite the fact that girls in Nepal are not legally entitled to marry before the age of 18 years, the median age at first marriage is 16.6 years. Though early childbearing adversely affects the health of both mother and newborns about 40% of women aged 15-19 years are married and the average age of women at first birth is 20 (10). The median birth interval in Nepal is 32 months and increase with the age of mothers, it is 26 months for the mothers aged 15-19 and

41 months for mothers aged 40 and older (5). This is why; there is still unmeet need for family planning services to married couple in spite of all women (ever married) have knowledge of contractive. The contraceptive prevalence rate of ever married women is only four out of ten (39%).

The democratic constitution of Nepal prohibits any form of discrimination on the basis of gender. However, there is negligible number (2%) of women in judiciary level and legislations based on socio-cultural norms and religious values determine these provisions fairly effectively and have discriminatory provisions against women.

The adverse effects of legal discrimination are manifold: economic dependency, domestic violence, lack of access to productive resources and expose to abuse and exploitation.

Women have major share of all non-mechanized, labour-waged and non-waged mostly in subsistence agriculture indicating feminization of agriculture. In spite of their minimum involvement in monetize sector, every one in five women do not know how their earning are spent (1)

Women are vulnerable to psychological and sexual harassment in the workplace. Discriminatory and exploitative conditions at the home as well as workplace are some of the major causes of the physical mental health problems faced by Nepalese women.

Lack of access to media is one of the barriers of exposing in any kind of knowledge and information related with women health as well as their overall development. The number of rural women who know about human rights is insignificant.

Women are poorly represented at decision making level in the policy making areas as well as civil service. This is considerable gender gaps at all level of the civil service with women holding position with policy making level. As known as gender reproductive role, pregnancy, childbirth and care are the responsibilities of women, the policy formed by majority of male has biased. The result is that there is a big financial gap between spending ($ 7.8 million) and needed ($ 40.4 million) for safe motherhood service from the government (15).

The majority of women in Nepal suffer from inadequate intake levels of both calorie and micronutrients from their own childhood. This results in a vary low average Body Mass Index (BMI) as compared to their amount of domestic responsibility and physical work burden. A low BMI among mothers causes poor lactation which leads to lowered growth rate in infants as well as increase maternal mortality because these conditions are known to increase the risk of complication during delivery, and can result in the death of both mothers and children. Anemia is a severe public health problem in Nepal and in pregnant women is likely to result in a newborn with iron depletion. More than two thirds (67%) of non pregnant and 75% of pregnant women are anemic in Nepal where as 18% of Nepalese mothers suffer from night blindness during pregnancy, a condition caused by deficiency of vitamin A. Another nutritional problem, iodine deficiency, is also present in Nepal (lack of iodized salt supplementation) (5)

Regarding health seeking practice and behaviors of the family based on the different region and ethnic group of rural areas of country, there are some traditional and cultural beliefs and practice affecting the health of newborn as well as mother adversely.

The practice of restricting and prescribing certain food items during pregnancy and the postpartum period is common, based on the view that restricting food during pregnancy helps the mother avoid a difficult delivery caused by a large baby.

Box 2 Profile of a woman at risk in Nepal (10)

She is a young woman who can not read and write. Her family leads an agrarian life style in a rural setting. As a result of lifelong malnutrition, she is stunted, underweight and anemic. She has her first baby in her teenage years, probably pre-term. She receives little or no antenatal care, and conceives her children at short intervals.

Animal shed is prepared (mostly in mountain and hill region) for the delivery by having the floor plastered with a paste made of cow dung and locally available soil which is a risk for neonatal tetanus. Traditional birth practices such as massaging laboring mother may leads still birth, birth injury or hemorrhage. Accordingly, the newborn is not treated as "personhood" and kept naked or covered by a thin piece of cloth until the placenta is delivered and the umbilical cord cut off. The new born are allowed to wear cloth up to 11 days of life. Drying of the baby before wrapping is not practice. Bathing the newborn before 24 hours of birth is common practice though. This may leads to hypothermia. The cord is cut anywhere from minutes to hours after delivery, with a variety of instruments being reported, including a new or used razor blade, a sickle, or even a piece of wood may leads to tetanus. The nursing room is usually kept by burning wood, cow dung, or charcoal and is usually not well ventilated which may leads to acute respiratory infection and pneumonia

The majority of the mother in Nepal have been breastfeeding their infants, but there are a number of problems arise, such as late initiation, discarding the colstorm, lack of exclusive breastfeeding, and too-early or too-late introduction of weaning good.

3.2. Invisibility

Lack of data is as one of the barriers to recognition of the number of the fetal- maternal deaths inhibits action to improve newborn and maternal survival. Currently both the quantity of data (coverage) and the quality of data (unreliable information on cause of death) are insufficient and unreliable. The invisibility of fetal-maternal deaths in Nepal results in a lack of interest and action, allowing the problem to remain largely unaddressed.

Reliable data are necessary not only to define a problem but also to choose appropriate interventions and evaluate their effectiveness. Difficulties with data are a major problem for newborn health programming. Even when national or local data are available, they are often not used to inform problem definition, to prioritize, or to evaluate interventions. Expensive surveillance systems are not required. Simple techniques can translate easily collected data

into useful information in order to manage health care decision-making at local and national levels.

The major invisibility in Nepal is also because of the lack of access to health service due to frequent *band*, transportation blockade and curfews. When the travel at night is restricted in security point of view it has cause of problem with access and utilization of service in community women, particularly for emergencies.

3.2.1 Barriers to data collection

The main barriers to collecting data on birth and fetal neonatal and maternal death are social cultural barrier, health system barrier and barrier specific to vital registration of perinatal events.

Social barrier

The invisibility of maternal and fetal neonatal death of Nepal is often related to social cultural beliefs and practices, including seclusion of women and newborn at home, acceptance of newborn deaths as normal, and often no perception of the newborn as a person.

In our country before naming the baby (generally 6-11 days after birth), it is not count or involved in any gathering or function during which time access formal health care is limited. Not only this, it is acceptance of fetal neonatal deaths as normal and infant deaths are more likely to be registered if the baby is bigger or if the death occurs after critical age of acceptance for a given society- an age at which the newborn is viewed as a person. If the baby dies during the period where it is not considered to have personhood, neither the birth nor the death may be reported. Strong beliefs in the spirit and fear that the baby or mother may be cursed can be very influential. Mother herself does not want to express the death of her newborn due to fear of negative attitude of society and also fear of a curse affecting future babies. This taboo may also affect discussing and recording the death.

Health System Barriers

Barriers within the health system include the lack of motivation for staff to collect data and the selective collection of data when staff believes that the baby may not survive. Even when the event is recorded, confusion about definition may be recorded on the certificates as a stillbirth, or the cause may be incorrectly entered (16). Subsequent coding of cause of death may introduce further error.
Medical perception of the viability of the baby influence whether the baby's birth and death are recorded or not. If the doctor or midwife think that the baby is unlikely to survive, the birth is less likely to be recorded

The likelihood that a birth or death will be recorded is influenced by two factors in our country; Birth weight and the age of the baby. The smaller the baby the less likely it is that the birth or death will be recorded. This is true even in many industrialized countries (17). Regarding age of the baby at death, fetal deaths are least likely to be recorded. Early neonatal deaths are less likely than infant death to be recorded. Some countries do not even record a

live birth until the baby has survived the first 24 hours, a practice that reduces the neonatal mortality rate by about 40% (4).

Registration Barrier

Because of the ineffectiveness of registration system the chances of reliability and accuracy of fertility and mortality rate is high. In Nepal, the vital registration system is not effective. Though the vital registration system has been started since 1978 AD from the government of Nepal, it is found that on till date there is only 27 % births and 4.6% deaths have registered (18). Many barriers to registration exist, such as accessibility and affordability, either in direct cost or in terms of time lost traveling to the nearest office of registration and waiting in line for a day with inconvenient way to visit due to ecological factor. However, there is irregular attendance of the staff during visit due to lack of accountability. Recording events and collecting data is often not a priority even in urban society. Most of the educated families even register their child birth only if it is needed for the admission of children or proves the relationship in the process of traveling abroad. Lack of awareness of community people about the outcome of the registration is also one of the reasons for registration barrier where as direct benefits of registration does not exist, there is lack of motivating factor for registering the birth and death event.

3.3. Inadequate Quality of Available Data

Box: Nepal Demographic and Health Survey (DHS)

DHS occurs every five years of interval, has being one of the authentic and reliable source of demographic and health information in Nepal by covering around 0.2% of total household. The mechanism of collecting information about fertility and mortality is quite systematic. A sisterhood method (respondents reporting on the survival of all their sisters) for maternal mortality and direct verbal autopsy tool (asking to women respondent (mother) about their children and cause of death) for newborn infant and child mortality is used for data collection (1).

In addition to the lack of available data the quality of existing data can be seriously compromised (Box 3) by several factors, including confusion in definition and terminology, poor recording of birth weight and difficulties in attributing a cause of death in the newborn period.

There is confusion to not only community people but also the key informant about the definition and terminology for the perinatal and the neonatal period. Due to this, the recorded data is not reliable which make problem for taking it seriously.

Recording birth weight is important and very useful in attributing causes of newborn deaths. In our country, clearly for home deliveries (89%) without a skill provider (88%), rectifying this problem is more complex. Low technology approaches to measuring birth weight, such as hand-held spring balance (passes the mark if the baby weighs more than 2.5 kg), chest circumference tapes (color coded for low and normal birth weight). However, as the proportion of deliveries attended by skill personnel increases, the main issue will be not skill, but equipment, accountability and recording.

Identification of the specific causes of fetal- neonatal deaths is often unreliable, partly because many causes of these deaths present with similar clinical signs and symptoms, such as poor feeding and thermal instability (4). A correct diagnosis often requires a skill clinical health care provider and laboratory facilities which is limited in our country.

Thus, lack of specific data on the cause of death may mislead health policy makers about which intervention will have the greatest impact.

3.4. Institutional and Programmatic Gaps:

Attention and funding directed at care for mother are still inadequate, given the size of the problem. International attention and resources for the newborn seems lost in the gap between the safe motherhood and the child survival program. Program who works for child survival ignore the women health and vice versa.

The poor quality of health care provided to women is increasingly recognized as important barriers to access, because it decreases women's confidence in the service delivery system and contributes to their reluctance to seek care.
Inadequate communication between the patient and service provider, poor interpersonal relationship (especially due to male as service provider) and inadequate follow up are some aspects of care that are frequently mentions as deterrents to women's use of services.

There is also lack of proper coordination among the NGOs resulting in the duplication of effort and waste of resources and time. Adolescent health as safe motherhood point of view is ignored by family, community as well as program institutes.

The best answer is not a new vertical program for the pregnancy newborn and childbirth but greater focus on an integration of existing programs while keeping the mother and baby together; the safe motherhood program goes jointly with the program for women health in their entire life time and program for the improvement of women status.

3.5. Perceived Impossibility:

It is a common misunderstanding among the international health community that expensive technology is needed to save newborn lives and that inexpensive interventions cannot be applied effectively in low - resource setting (19-21).After properly identified the cause of death, it is not impossible to reduce maternal and neonatal death. Because it has shown that low maternal mortality in developed nations today is due, in large part, to the fact that obstetric complications are identified and treated

Box 4 Four Delays in motherhood in Nepal

Delay in reorganization the problem:
"Slightly bleeding during pregnancy is common. Sometime period may occur during pregnancy"

Delays in decision making:
"We know she needs help but her husband was away working so there was nobody with the authority to make the move to the hospital"

Delay in reaching to hospital:
"....in the rural part of the district, roads are opportunistically created by the tracks of vehicles that have previously cut their way through the vegetation. These routs become impossible flooding in the rainy season..."

Delay in receiving service after reaching to institute:
"..... as it is not official time we are waiting for the doctor....it was one hour after interning the hospital, the patient died and people were still waiting for the doctor."

promptly within the context of a functioning health system (22).

In Nepal, the study has shown that most of the neonatal death (60%) is caused by low birth weight which can be prevented by improving nutritional status of mother and birth interval (10).

Similarly nearly half of all maternal death is caused by postpartum hemorrhage which can be prevented if there is accessibility of emergency obstetric care service and avoiding four delays (Box 4). Sri Lanka and Malaysia reduced mortality by ensuring that all deliveries, whether at home or in a health facility, were attended by a trained midwife backed up by accessible emergency care (23).

4. Conclusion

A woman in Nepal is over 200 times more likely to die as a result of pregnancy and childbirth than a woman in the UK (6). This inequity between developing and developed countries is indefensible. We know how to prevent these deaths. Globally each year, over half a million women die from complications of pregnancy and childbirth. In Nepal, every 2 hours one woman dies because of pregnancy and delivery (24). Similarly, it is estimated that over 32,000 children die each year in Nepal during their first month of life, with over two-third of these dying during their first week (10).

Based upon the above data, pregnancy, childbirth and the new born are neglected in Nepal- a mountainous country. One of the main reasons for the negligence is the low status of women. Socially, economically and politically disadvantage of women results their low access of health service. Similarly invisibility of maternal and neonatal death results in a lack of interest of action to government, allowing the problem to remain largely unaddressed. In addition to lack of available data the quality of existing data can be seriously compromised. Designing the program separately for mother and baby in policy level is hindering for integrated approach for management. Whole is greater than sum of its parts. There is a gap to plan the program in holistic way .Many funding agency and policy maker has less confidence about reduction of fetal and maternal mortality and morbidity in resource poor countries.

5. Recommendations

- Nepal government has committed itself to achieve the Millennium Development Goals by 2015. Two of the goals are to improve maternal and child health. At the current rate of progress, the target can be hardly met. However, more progress can be achieved if governments mobilize external and internal resources to turn words into action.

- National policy-makers can establish a legal and political basis for safe motherhood by defining maternal mortality as a "social injustice", as well as a "health disadvantage". By doing so, they will commit to identifying the powerlessness that women face throughout their lives as well as during pregnancy, as an injustice that countries must remedy through political, health and legal systems; ensuring that all women have the right to make decisions about their own health, free from coercion or violence, and

based on full information and guaranteeing that all women have access to good quality care adequate services before, during and after pregnancy and childbirth.

THE RIGHT of the MOTHER and NEWBORN to have....
.....the Right Person
.....in the Right Place
.....at the Right Time
.....doing the Right Thing
.....in the Right Way

This is the RIGHT of the mother and newborn

- As 94% school enrollment rate of children in Nepal, if the compulsory of birth certificate for school entry is enforced, it would possible to support for birth registration.

- In the absence of vital registration system proxy measures are needed to monitor process. The proportion of birth attended by skill health personnel is accepted internationally as the best available proxy (6). In the context of Nepal, Female Community Health Volunteer (FCHV) is involved nationally for maternal and child survival program. So FCHV can be mobilized for the record of mortality and morbidity of mother and neonate. Though it may not give the quality of data, it can make the visibility of maternal and neonatal mortality and morbidity.

- Conduct publicity campaign for increasing birth registration makes aware to individual and community about vital registration and its long term impact

- There is a chronic shortage of health personnel at the rural sub health posts, health posts, and primary health care centers-the very locations where the need for skilled care is greatest. So government should be made every effort to recruit local staff and to place skill staff, including doctors from their local community. At the same time, governments and their partners need to give systematic attention to the supply and retention of trained staff, public expenditure management and good governance.

- Empowering women make motherhood safer because it enables women to speak out about their health needs and concerns; seek services with confidence and without delay; demand accountability from service providers and from governments for their policies and participate more fully in social and economic development . As education is the entry point of women empowerment, special consideration is needed to increase the school enrollment and to decrease dropout rate of girls.

- Around 90 % of all births occur in the home with the assistance of family members or neighbors. So there is need to find the right balance between ensuring skill attendance

for all deliveries (even home delivery) and ensuring access to emergency obstetric care for complicated deliveries.

- There is a serious lack of community-based research in Nepal. Most of the existing research has been hospital-based (5). Any decisions, policies, programs, or priorities based on the existing research will not only be suspect but potentially counterproductive. There is, therefore, an urgent need for considerably more community-based research.

- Interventions to strength the health system must be linked with other cross cutting issue of safe motherhood. Strong coordination between NGOs and donor is needed for avoiding duplication and for disseminating emerging good practices which is one of the lacking part in development organization.

- Information, education and strong behavior change communications is urgently needed through reliable and effective mass media, training and orientation.

- Rapid action is needed to increase awareness and for making the problem visible to politicians, professionals and the public who can be a powerful catalyst for change;

- Advocacy is needed to implement policies at family, community and institutional level.

- Gender friendly environment in health institute should be made to increase the frequency of visit of women for antenatal check up.

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Glossary

MMR	**Maternal Mortality Rate (MMR)** is the number of maternal deaths per 100,000 live births.
Obstructed Labor	One where in spite of good uterine contractions, the progressive descent of the presenting part is arrested due to mechanical obstruction
Eclampsia	Multi-system disorders during pregnancy of unknow etiology characterized by development of hypertension with proteinuria. The condition is complicated with convulsion and coma.
Neonatal	A baby that has recently been born, especially within the last 28 days
Perinatal period	From 22 completed weeks of gestation to 7 completed days after birth
LBW	Birth below 2.5 kg. The standard birth recommended by WHO is 2.5 kg to 3.5 kg
Preterm delivery	Birth before 37 completed weeks of gestation
Birth asphyxia	Clinically define as failure to initiate and maintain spontaneous respiration following birth
Hyperthermia	A condition where the body temperature is below than 36 degree Centigrade
Congenital anomalies	Malformation of body organ by birth
BMI	Calculated as an individual's weight (in kg) divided by the squire of her/his height. It is used to know the prevalence of thinness.
Life time risk	The chances of illness in whole reproductive age
Emergency Obstetric Care	Intervention which is done to manage the complications related to pregnancy and childbirth.

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