



MATERNAL HEALTH CARE PRACTICES IN NAGALAND

Smti. Imlinungla
Assistant Professor
Department of Zoology,
Fazl Ali College
Mokokchung- 798601, Nagaland.

Abstract: Women die as a result of complications during and following pregnancy and at childbirth. Many of these complications develop during pregnancy and most are preventable or treatable. The use of maternal health care services, specifically antenatal care (ANC) during pregnancy and skilled attendance during childbirth, plays a significant role in reducing maternal deaths. At the heart of the Goals adopted by all United Nations Member States, is a shared blueprint for global partnership to reduce global Maternal Mortality Ratio (MMR) to less than 70 per 100,000 live births by 2030. India recorded the second highest number of maternal deaths globally (35,000) in 2017 as per UN estimate. Special Bulletin by the Registrar General of India (RGI) shows that MMR now stands at 97 per lakh live births.

The major factor of maternal mortality in India is non-accessibility of health care services at an affordable expense. Maternal mortality ratio is an important indicator of the quality of health services in the country. The survival and wellbeing of mothers is not only important in their own right but are also central to solving large broader, economic, social and developmental challenges. The objective of this review study is to assess the present situation of maternal health in Nagaland.

Keywords: maternal health, health care services, status, Nagaland

Introduction

Maternal health refers to the health of women during pregnancy, childbirth and the postnatal period (WHO 2022) ensuring that women and their babies reach their full potential for health and well-being. All women need access to high quality care as maternal health and new born health is closely linked. Almost all of the world's maternal deaths are preventable as the health-care solutions to prevent or manage complications are well known with adequate maternal care, safe deliveries, good nutrition and hygiene and sanitation. It is particularly important that all births are attended by skilled health professionals, as timely management and treatment can make the difference between life and death for the mother as well as for the baby.

The most common direct causes of maternal injury and death that account for nearly 75% of all maternal deaths are:

Severe bleeding after birth: This can kill a healthy woman within hours if she is unattended.

Pre-eclampsia: This should be detected and appropriately managed before the onset of convulsions (eclampsia) and other life-threatening complications.

Infection after childbirth: This can be eliminated if good hygiene is practiced and if early signs of infection are recognized and treated in a timely manner.

Of the direct causes of death, haemorrhage is the leading cause of maternal death, followed by hypertensive disorders and sepsis besides unsafe abortion and obstructed labour. Indirect causes include anaemia, malaria, and heart disease. Complications that exist before pregnancy can worsen during pregnancy.

Global scenario: About 287 000 women died during and following pregnancy and childbirth in 2020 (WHO). Every day in 2020, almost 800 women died from preventable causes related to pregnancy and childbirth. A maternal death occurred almost every two minutes in 2020. Most of these deaths could have been prevented. In 2000 there was an estimated 4,51,000 maternal deaths. The global MMR in 2017 is estimated at 211 maternal deaths per 100,000 live births, representing a 38% reduction since 2000, when it was estimated at 342. The average annual rate of reduction in global MMR declined by 2.9% every year between 2000 and 2017. The global MMR in 2020 was 223 per 100,000 live births; the aim is to now achieve a global MMR below 70 by the year 2030, an annual rate of reduction of 11.6%, a rate that has rarely been achieved at the national level. However, scientific and medical knowledge are available to prevent most maternal deaths.

Causes:

The high number of maternal deaths in some areas of the world reflect inequalities in access to quality health services and highlights the gap between rich and poor. 95% of all maternal deaths occurred in low and lower middle-income countries in 2020. The high number of maternal deaths in some areas of the world reflects inequalities in access to quality health services and highlights the gap between rich and poor. The MMR in low-income countries in 2020 was 430 per 100 000 live births versus 12 per 100,000 live births in high income countries. The risk of maternal mortality is highest for adolescent girls under 15 years old and complications in pregnancy and childbirth are higher among adolescent girls age 10-19 (WHO).

India: UN estimates that out of about 24 million children born in 2017 in India about 35,000 mothers died during childbirth or shortly thereafter, giving an MMR of 145 per 100,000 live birth which is the second highest number of maternal deaths globally (35,000) in 2017. Maternal Mortality Ratio (MMR) of India for the period 2016-18 as per the latest report of the national Sample Registration system (SRS) data is 113/100,000 live births, declining by 17 points, from 130/100,000 live births in 2014-16. India achieved significant decline in the Maternal Mortality Ratio in 2014-16 to 97 per lakh live births in 2018-20 and achieved National Health Policy (NHP) Target for MMR.

The latest available data suggest that in most high income and upper middle income countries, more than 90% of all births benefit from the presence of a trained midwife, doctor or nurse. It is estimated that about 44,000 of women in India die annually due to preventable pregnancy-related causes. Despite the decline of MMR in India, the maternal death due to complications developed during child birth accounted of five women every hour. About 46.6 percent of women in India have been pushed to poverty due to maternal health care expenses inclusive of antenatal care, child birth, and postnatal care expenses. The central government of India has adopted various interventions such as maternity benefit programme, national health mission (NHM), accredited social health activist (ASHA), Janani Suraksha Yojana (JSY), Janani Shishu Suraksha Karyakram (JSSK), and ambulance services etc., to improve the maternal health care. However, the back drop behind the attempt in standardization of health care services is the variation in the implantation process across the country. The number of States that have achieved the SDG target has now risen from five to seven- Kerala, Maharashtra, Telangana. Assam has the highest Maternal Mortality Ratio (MMR) of 195 while Kerala has the lowest of 19 per lakh live births in 2018-2020.

Nagaland: Nagaland state, located in the north-eastern part of India lies between 25°6' and 27°4' northern latitudes and between 93°20' and 95°15' eastern longitudes. It is bounded by Assam in the west, Myanmar on the East, Manipur in the south and Arunachal Pradesh and parts of Assam on the north. As per the 2011 Census, Nagaland has a population of 19,78,502 persons which constitute 0.16 per cent of India. It covers an area of 16,579 sq km, which is 0.5 per cent of the country's geographical area. The State is predominantly rural, with 71.14 per cent of the population living in villages. Literacy rate in Nagaland has seen upward trend and is 80.11 per cent as per 2011 census. Density of Nagaland is 119 per sq. km. which is lower than national average of 382 per sq km with the sex ratio of 931 which is below national average of 940. Nagaland state is currently spread over 16 administrative districts, 74 blocks and 1355 villages.

The National Health Mission (NHM) encompasses its two Sub-Missions, the National Rural Health Mission (NRHM) and the National Urban Health Mission (NUHM). One of the main programmatic components include Health system strengthening in Reproductive Maternal-Neonatal-Child health in rural and urban areas. The NHM envisages achievement of universal access to equitable, affordable & quality healthcare services that are accountable and responsive to people's needs. Reduction in Infant Mortality Rate (IMR) and Maternal Mortality Ratio (MMR), are goals of this mission.

Since the launch of the National Rural Health Mission (NRHM) in Nagaland in February 2006, the state has seen significant improvement in some aspects of health care delivery output while it has failed to deliver in other aspects. The State's Maternal Mortality Ratio (MMR) stands at 4.5 per lakh live births (SRS 2020). As per National Health Profile on India 2020, the Infant Mortality Rate (per 1000 live births) of Nagaland (rural) during 2020 was 7.000 NA and 3.000 NA (urban). Apart from Assam the other Northeast states have not made their most recent MMR data public.

Materials and Methods

To assess the current state of maternal health quality care in Nagaland and opportunities for continued improvements. It draws on select maternal health literature, including peer-reviewed publications, in addition to public reports and data on maternal health in India comprising of demographic and health surveys, human development reports, facility surveys, reports of government and other research organizations. This includes the Sample Registration System (SRS) report by Registrar General of India (RGI), National Health Systems Resource Centre (NHSRC), Ministry of Health and Family Welfare (MoHFW), Government of India, Indian Institute of Health Management Research (IHMR) and the Department of Health and Family Welfare,

Department of Information and Public Relations, Economics and Statistics under the Government of Nagaland. Predominantly the quantitative data on maternal health and childcare were drawn from the National Family Health Survey- NFHS-5 (2019-21) conducted under the management of the MoHFW, Government of India, which designated the International Institute for Population Sciences (IIPS), Mumbai, as the nodal agency for the surveys.

Correspondingly, NFHS-5 fieldwork (methodology) for Nagaland was conducted in all 11 districts from 15 July, 2019 to 6 December, 2019, by Research and Development Initiative (RDI) Pvt. Ltd. New Delhi. Information was collected from 10,112 households, 9,694 women age 15-49 (including 1,515 women interviewed in PSUs in the state module), and 1,456 men age 15-54. The report provides the key findings of the NFHS- 5 Survey in Nagaland, with detailed tables and an appendix on sampling errors.

Results

Maternal health is an essential part of every country's growth when it comes to increasing equity and reducing poverty. The use of prenatal care, delivery care, and postnatal care by women who reported their last births in the five years prior to the report of NFSH- 5 is summarily discussed in this section (Refer Annexure for a detail prenatal care, delivery care, and postnatal care by women). It also briefly emphasises the role played by men in maternal healthcare.

Women are the most disadvantaged in regard to availing intensive maternal health care due to multi-dimensional factors such as isolation, habitat, terrain, illiteracy, ignorance, unawareness, poverty, cultural practices and mis-beliefs. Tribal women mostly prefer home delivery being assisted by an untrained midwifery, elders or relatives.

The MMR in the State of Nagaland accounts of 160 (GOI-UNDP Report Nagaland, 2016). Nagaland is ranked the lowest among all of Northeast in case of institutional delivery (33%) and full immunisation coverage (35%) from 2006 to 2016. Nagaland has registered no gains from India's flagship National Rural Health Mission (NRHM) between 2006 and 2016. In NFHS- 5 the institutional delivery increased to 45.7 percent. There is also a sharp increase in the Percentage who received antenatal care in the first trimester of pregnancy from 25% (NFHS- 4) to 50% (NFHS- 5). Percentage of deliveries assisted by health personnel stands at 55% as against 41% in NFHS- 4. In Nagaland, C-Sections are being underused (5%). In Nagaland, it is seen that the rate has dropped further as compared to NFHS- 4. Nagaland is the only state with less than 80% institutional births, the share of such births in urban areas is 65% compared to just 38.8%. Pregnant

women who received full course of 180 iron-folic acid tablets per 100 ANC registered women were lowest in Nagaland, reaching only 24.87 from 2018 -2020 for three consecutive years.

Maternal health care in Nagaland

70% of mothers had antenatal care provided by a medical professional, (50% by a doctor and 21% by an auxiliary nurse midwife (ANM), lady health visitor (LHV), nurse, or midwife). 27% of pregnant women did not receive any prenatal care. Ninety-two percent of the pregnancies that were registered received a Mother and Child Protection Card (MCP Card). During the first trimester of pregnancy, as advised, prenatal care was received by half of the women. Only 21% of mothers had four or more antenatal appointments, with urban women being more likely than rural women to have this number of visits.

From 15% in NFHS- 4 to 21% in NFHS- 5, the percentage of women who had four or more antenatal visits has increased, and in the four years since NFHS- 4, the percentage of women who had their first antenatal visit during the first trimester of pregnancy for their most recent births has increased significantly (from 15% in NFHS- 1 to 50% in NFHS- 5). 68% Mothers obtained iron and folic acid (IFA) supplements, but only 10% took them for the recommended 100 days or longer and only 4% for 180 days or more. 81 percent of babies were shielded from neonatal tetanus by the mother's tetanus toxoid vaccines. During pregnancy, only 7% of mothers took medication for intestinal parasites. There is no significant increase since NFHS- 1 when only 1% took the medication.

Women who met with a community health worker in the final three months of their pregnancy for their most recent live birth received guidance on different topics (77% on the importance of institutional delivery, 68% received advice on breastfeeding, 65% on keeping the baby warm, 64% on cord care and 61 percent on family planning).

Women occasionally do not obtain all the prenatal care services necessary to monitor their pregnancies. In Nagaland, more than 85% of women who underwent antenatal care for their most recent delivery received all of the services required to monitor their pregnancies, including having their weight taken (95%), their blood pressure measured (97%), urine samples taken (87%), blood samples taken (89%), and their abdomen examined (93%), underwent an ultrasound (54%).

When compared to women without any formal education, 30% of those with 12 years of education more likely had an ultrasound. In comparison to women who had at least one son, pregnant women without a boy child were more likely to undergo an ultrasound.

Only 46% of births took place in a health facility (primarily a government hospital), and 54% at home. Women who are giving birth for the first time, and those who live in urban location tend to give birth in hospitals more frequently.

A clean blade was used to cut the cord in 92% of home deliveries, as advised. 59% of deliveries were made using a disposable delivery kit. The recommendation that the baby be quickly wiped dry and then wrapped without being initially bathed was followed in 76% of home deliveries. The cord was properly cut in 92% of home deliveries using a clean blade. In 59% of the deliveries, a disposable delivery kit was used. The advice to immediately wipe the baby dry and then swaddle him or her without first bathing them was followed in 76% of home deliveries.

The majority of births i.e., 55% was delivered with the help of a skilled provider, and the remaining 5% were delivered by a traditional birth attendant. Among women who had an institutional delivery, caesarean sections were performed on 5%. 62% of caesarean sections (representing 3% of all births) were emergency caesarean section.

The Janani Suraksha Yojana provided financial help to 37% of women who had institutional delivery. Urban women (29%) had a lower likelihood of receiving financial aid than rural women (43%). Among the districts, Mokokchung recorded highest institutional deliveries (47%).

Postnatal care is most common for births in a health facility; only 17 percent of home births had a postnatal check for the mother within two days of birth whereas 78 percent of births in public health facilities and 91 percent of births in private health facilities availed a postnatal check for the mother within two days of birth.

Men with a child under three years of age whose wife received antenatal care during the youngest child's pregnancy was 64 percent and men who were present at least once at the antenatal check of the child's mother was 41 percent. One third of these men were given information by a health provider or health worker on what measures to take if the mother had a pregnancy complication. Only 27-37 percent of men were told about the signs of specific pregnancy complications (convulsions, vaginal bleeding, prolonged labour, high blood pressure, and severe abdominal pain).

The majority of fathers with children under three years old received information on various aspects of maternal care. About 50% of the men had knowledge about the significance of a mother's nutrition during pregnancy and the significance of having the baby in a medical institution. Twenty-four percent of men were told by a health provider or a health worker about family planning or delaying the next child. 24-51 percent of fathers

whose child was not delivered in a health facility were given advice about the importance of cord care, keeping the baby warm and breastfeeding the baby immediately after delivery.

Discussion and Challenges

The lack of healthcare access in the State can be ascribed to the general public's lack of knowledge, deficiency of healthcare facilities, poor communication, and challenging geographical conditions. With greater road connectivity between the small towns, villages, and district headquarters, patient access to healthcare facilities will be greatly enhanced. In addition, individuals frequently forgo seeking medical care in favour of consulting local quacks, and they only visit hospitals when a patient is in a life-threatening condition.

Despite various government initiatives, pregnant women typically do not bother to seek treatment for themselves unless they are sufficiently aware of the facilities in the area. When it comes to issues involving maternal healthcare, they tend to be more hesitant, especially in rural areas where poverty, illiteracy, and stigma are prevalent. The expectant women can be disadvantaged when the males of the household, fail to understand the importance of prompt medical assistance.

Anecdotal evidence suggests that there has been a major increase in institutional deliveries in Nagaland because of the financial incentives (Janani Suraksha Yojana) and ASHA programmes. However, there is a lack of robust systems for estimating maternal mortality regularly either in the SRS, vital registration system, community-based surveys, or hospital-based data. Maternal death has not been a major socio-political agenda and even different Human Rights bodies and women's bodies have paid little attention to the high number of maternal deaths in India.

Maternal health is a topic that must be examined in conjunction with other relevant factors. Raising public literacy regarding maternity healthcare in order to save individuals from having to walk far or be carried by a person physically in addition to clinics having qualified staff members and necessary medications are some basic necessities. Healthcare facilities in Nagaland continue to be distributed unfairly and inequitably, particularly in remote areas. Women's values and preferences should be at the centre of their own care. Initiating engagement and empowering women, families, communities, and health care providers is essential for quality improvement. Promoting health through good nutrition, timely detection and prevention of diseases and access to sexual and reproductive health along the whole continuum of pregnancy, childbirth and postnatal care is paramount.

Conclusion

In Nagaland, the rate of reduction in maternal mortality has been slow and inadequate. The findings of the current paper show that, a low percentage of women receive antenatal care services, and nearly half of all deliveries occur at home. There is a need for policies, programmes, and meticulous micro-level programme planning that adopt evidence-based initiatives. The system of reporting maternal deaths should be strengthened in order to study the trends in mortality rates over time. Without these requirements, progress and innovation will deteriorate.

Large number of the institutional deliveries take place in the private sector, and there is need to formulate guidelines for public-private partnership for maternal health services to ensure the quality of care without causing financial strain to the poor. Thus, ongoing attention is critical to support the quality improvement cycle and drive the maternal health agenda forward. Additional research is required to identify the drivers of maternal mortality and effective interventions. By prioritising improvements in maternal health with strong political will and increased community participation, Nagaland can accelerate decline in MMR to ensure that it achieves the 2030 SDG Goal.



ANNEXURE

Table 1: Trends in maternal care indicators by residence, NFHS-5 and NFHS-4, Nagaland¹ (in percentage)

Indicator	Urban		Rural		Nagaland	
	NFSH- 4 (2015-16)	NFSH- 5 (2019-21)	NFSH- 4 (2015-16)	NFSH- 5 (2019-21)	NFSH- 4 (2015-16)	NFSH- 5 (2019-21)
Percentage who received antenatal care	63.3	82.3	40.1	66.9	46.5	71.2
Percentage who had at least four antenatal care visits	31.3	40.2	9.8	13.1	15.6	20.7
Percentage who received antenatal care within the first trimester of pregnancy	37.1	64.6	19.9	43.8	24.6	49.6
Percentage of births delivered in a health facility	61.1	64.7	26.7	38.8	35.7	45.5
Percentage of deliveries assisted by health personnel	69.1	75.1	35.8	48.1	44.5	55.1

Source: NFHS- 5 Nagaland, 2019-2021

¹ Based on the last birth to women in the 5 years preceding the survey.

Based on all births in the 5 years preceding the survey.

Doctor, auxiliary nurse midwife (ANM), nurse, midwife, lady health visitor (LHV), or other health personnel.

Table 2: Antenatal care indicators by district: NFHS-5, Nagaland² (in percentage)

District	Number of women	Four or more ANC visits	ANC visit in the first trimester of pregnancy	Received two or more TT injections during the pregnancy	Last live birth was protected against neonatal tetanus	Given or bought IFA	Took IFA for at least 100 days	Took IFA for at least 180 days	Took an intestinal parasite drug
Dimapur	366	50.1	71.4	78.2	86.4	70.7	14.9	9.3	11.9
Kiphire	103	5.8	27.2	54.3	63.0	50.2	1.6	0.8	7.7
Kohima	218	28.3	61.9	92.2	94.3	82.3	17.2	1.0	4.4
Longleng	89	15.4	42.3	72.9	75.5	67.9	2.6	1.6	3.6
Mokokchung	174	18.2	51.6	84.4	91.7	84.2	12.5	4.1	8.4
Mon	211	9.7	44.6	71.4	78.0	55.3	10.6	6.4	8.4
Peren	100	14.5	45.1	79.6	85.1	70.3	6.1	2.1	5.2
Phek	195	9.5	50.1	78.0	83.8	65.3	13.5	5.6	11.7
Tuensang	321	4.4	27.1	63.6	68.9	58.3	3.3	0.9	5.3
Wokha	99	34.7	57.8	73.7	77.6	75.8	12.9	4.3	3.4
Zunheboto	108	11.2	46.5	78.5	81.2	66.3	5.5	2.3	0.8
Nagaland	1,985	20.7	49.5	75.6	81.3	67.8	10.2	4.1	7.3

Source: NFHS- 5 Nagaland, 2019-2021

² Among women with a live birth in the 5 years preceding the survey, percentage who received different types of antenatal care (ANC) during the pregnancy for their most recent live birth, by district, Nagaland, 2019-21. Includes mothers with two injections during the pregnancy for her last live birth, or two or more injections (the last within 3 years of the last live birth), or three or more injections (the last within 5 years of the last live birth), or four or more injections (the last within 10 years of the last live birth), or five or more injections at any time prior to the last live birth.

Table 3: Delivery and postnatal care district-wise, Nagaland, 2019-21³ (in percentage)

District	Number of Women	Number of births	Delivery in a public health facility	Delivery in a private health facility	Delivery in a health facility	Deliveries assisted by health personnel	Delivery by caesarean section	Postnatal check from health personnel within two days of delivery
Dimapur	366	469	43.2	30.5	73.7	80.7	14.6	71.0
Kiphire	103	145	33.8	1.0	34.8	46.7	2.1	37.2
Kohima	218	272	44.7	22.2	66.9	78.9	4.3	61.5
Longleng	89	135	37.8	0.9	38.7	44.6	3.6	29.7
Mokokchung	174	217	47.3	4.2	51.5	61.7	3.8	51.1
Mon	211	274	20.2	1.3	21.4	30.9	1.4	27.6
Peren	100	148	38.7	4.8	43.5	52.5	2.4	51.1
Phek	195	284	29.2	3.0	32.2	50.7	1.7	49.0
Tuensang	321	452	34.1	0.8	34.8	39.2	1.5	34.2
Wokha	99	122	24.2	19.4	43.6	63.5	10.1	52.7
Zunheboto	108	159	32.1	2.8	35.0	40.5	7.6	28.7
Nagaland	1,985	2,679	35.8	9.9	45.7	55.3	5.2	47.7

Source: NFHS- 5 Nagaland, 2019-2021

³ Health personnel includes doctor, auxiliary nurse midwife, nurse, midwife, lady health visitor, and other health personnel. If the respondent mentioned more than one person attending during delivery, only the most qualified person is considered in this table. Postnatal checks are on the woman's health within 42 days of birth.

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Disclosure of conflict of interest

The author declare that there is no conflict of interest.

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