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Inaccessibility to Proper Maternal Healthcare Across India

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Abstract

The National Rural Health Mission (NRHM) was introduced in 2005, however, even after 15 years of its implication, there's a major difference in Maternal Mortality Rate in different states in India as it remains significantly higher than the other states according to National Family Health Mission-5 (NFHM-5). This paper aims to study the four most important Maternal Healthcare Services, the causes that have led to the differences, the impact on society and if all the maternal healthcare services are accessed properly. By using the PESTLE Analysis, the authors attempt to compare the data between states to formulate the possible reasons behind the inaccessibility of proper maternal healthcare. The study noticed a substantial gap in the accessibility of proper maternal healthcare across the different states of India. Awareness plays a very important part in the development of maternal health. Social awareness via different schemes and programmes, development of rural healthcare services with better technologies are needed to bridge this gap. The paper aims to highlight the inter-state disparities with respect to maternal health care and the need to approach a multi-faceted approach so as to tackle the issue.

Keywords: *maternal healthcare, National Rural Health Mission, maternal mortality, children mortality, abortion, antenatal checkup, health indicators*

1.0 Introduction

Proper healthcare is an individual's fundamental right and its implementation requires systematic execution of the available resources. It should include the holistic well-being of an individual, early diagnosis of any disease, proper treatment after diagnosis, mental and physical recovery, prevention of its spread and general awareness to maintain one's health. According to the World Health Organization, maternal health refers to the health of women during pregnancy, childbirth and the postnatal period. Each stage should be a positive experience, ensuring women and their young ones live on to be healthy individuals. The most prevailing causes of maternal death are excessive blood loss, infection, high blood pressure, unsafe abortion and obstructed labour, as well as indirect causes such as anaemia, malaria, and heart disease. Most maternal deaths can be prevented by a skilled health professional if provided with the proper technology and a supportive environment. Addressing inequalities

that affect health outcomes, especially sexual and reproductive health, is fundamental to ensuring all women have access to respectful and high-quality maternity care (Maternal Health, 2019).

The World Health Organization estimates that out of 536,000 maternal deaths occurring globally each year, 136,000 take place in India. Estimates of the global burden of disease for 1990 also showed that India contributed 25 per cent to disability-adjusted life-years lost due to maternal conditions alone (Vora et al., 2009). According to the Ministry of Health and Family Welfare, maternal healthcare has significantly improved since the implementation of the National Rural Health Mission (NRHM). In 2005, the Maternal Mortality Ratio (MMR) in India was exceptionally high with 556 women dying during childbirth per hundred thousand live births. MMR of India has shown a steep decline since then, it fell from 212 deaths per 1,00,000 live births in the period 2007- 09 to 167 deaths per 1,00,000 live births in the period 2011-13 (Ministry of Health and Family Welfare, 2018).

India has 28 states and 8 union territories, each having its own geographical and socio-economical differences. The division of states highlights the unequal distribution and implementation of proper maternal healthcare. There is a prominent gap in the accessibility of proper medical facilities for women pre and post the birth of a child between the southern and northern states. It is vital to focus on maternal health during pregnancy for a healthy baby. For the proper growth and development of a baby, postpartum maternal health is also crucial. There is a pressing need for proper implementations of the facilities already available and directing focus towards the states where the state of maternal healthcare is in shambles. By doing so there can be a substantial reduction in maternal mortality rate, infant mortality rate, neonatal mortality rate, pregnancy-related complications and detection of any genetic or other disorders in the baby.

The objective of this paper is to elaborate on the present situation of the accessibility to maternal healthcare in India and the causes due to which it is lacking. The paper also aims to analyze the impact of the national programmes taken up by the government and give out suggestions on the steps to be taken to improve the present condition.

2.0 The Current State of Maternal Healthcare Service

2.1 The Four Most Crucial Maternal Healthcare Services

2.1.1 Antenatal Checkup

An antenatal checkup is a systemic check-up of a woman during pregnancy to see the progress of fetal growth and the general health of the mother. The comprehensive preventive medical check-up provides adequate care to the pregnant woman and also helps to discover pregnancy complications such as anaemia, syphilis, pre-eclampsia or high blood pressure, etc. in the mother and inadequate growth of the fetus. This allows the mother to deal with complications that arise in a timely manner and create a birth plan. (Seeds of Innocence, 2020).

Every pregnant woman is required to have at least four antenatal checkups during the course of the pregnancy and more if necessary, depending upon the conditions. According to the National Family Health Survey of 2019-2020, the percentage of mothers who had an antenatal check-up in the first trimester in West Bengal rose from 54.9 per cent in 2015-16 to 72.6 per cent in 2019-2020 (Ministry of Health and Family Welfare, 2020). Similarly, other states and UTs to witness a high rise in the same included Nagaland, Bihar, Dadra and Nagar Haveli, Daman and Diu etc. While states like Himachal Pradesh, Kerala, Maharashtra, Meghalaya, etc., witnessed little to no change in the percentages; states like Goa and Sikkim witnessed a fall in the percentages.

2.1.2 Tetanus Toxoid Vaccine

According to WHO, Tetanus is an acute infectious disease caused by spores of the bacterium *Clostridium Tetani*. Immunization with tetanus-toxoid-containing vaccines (TTCV) can prevent Tetanus. The majority of reported tetanus cases are birth-associated among newborn babies and mothers who have not been sufficiently vaccinated with TTCV. Tetanus during pregnancy or within 6 weeks of the end of pregnancy is called “maternal tetanus”, and tetanus within the first 28 days of life is called “neonatal tetanus” (Tetanus, 2018). As per the National Family Health Survey of 2019-2020, the percentage of mothers whose last birth was protected against neonatal tetanus in Nagaland proliferated from 63.7 in 2015-2016 to 81.3 in 2019-2020. Overall all the 22 states and union territories have not

shown a sharp change in percentages between the two surveys, however, the results are pretty satisfactory.

2.1.3 Place of Delivery and Assistance during Delivery

The place of delivery is a crucial factor that affects the health and well-being of the mother and the newborn (Aparajita and Soumya, 2009). Assistance during delivery is also an important component in reproductive health care services: it can reduce the risk of obstructed labour during delivery. (Devi et al., 2015). While there is always a choice to opt for institutional or non-institutional delivery, the former is undeniably a better option so as to avoid pregnancy-related complications and get skilled medical care without any delay. The high risk of infections in non-institutional deliveries, both for the mother and the baby also looms when opting out of institutional delivery. For some people choosing between the type of delivery is not an option due to various reasons such as lack of required facilities in the region, economic status, illiteracy and lack of maternal healthcare awareness, traditional beliefs and customs etc. In such cases, deliveries by untrained helpers/attendants/midwives could prove to be fatal.

As reported by the National Family Health Survey of 2019-2020, the percentage of institutional births was 38.8 in rural Nagaland and 65 in urban Nagaland. Correspondingly, the percentage of home births that were conducted by skilled health personnel was 9.9 in rural Nagaland and 11.6 in urban Nagaland. This gap suggests the volume of inaccessibility of maternal care. South Indian region and UTs like Lakshadweep, however, fared better in this aspect, as proven by the percentage of institutional births in the rural area of Lakshadweep was a startling 100 per cent. (Ministry of Health and Family Welfare, 2020)

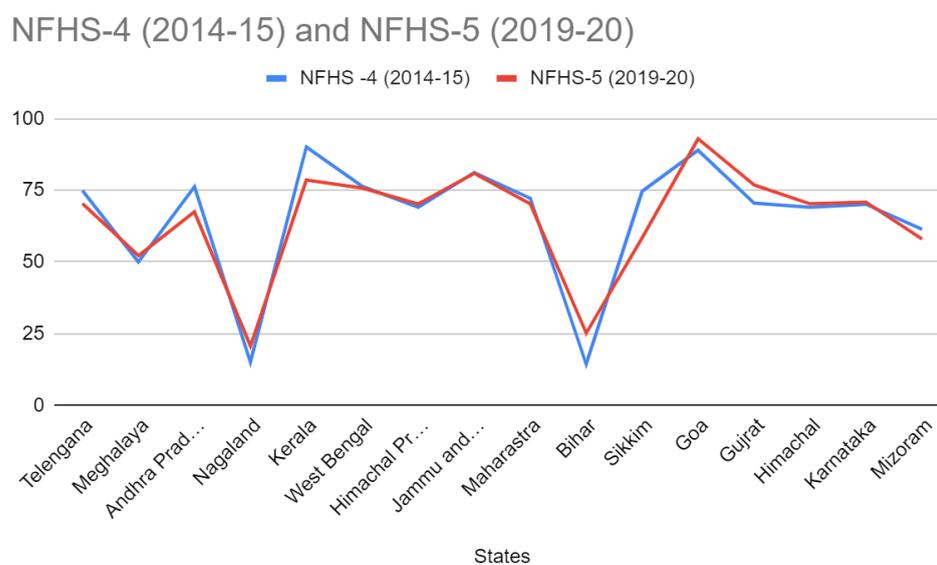
2.1.4. Postnatal Care

Postnatal care (PNC) refers to the assistance given to a mother and the baby for a period of six weeks from the time of delivery. Postnatal services primarily consist of physical examination, immunization, health education and family planning services. (WHO, 2015). The postnatal period is the most vital period in the lives of mother and newborn babies because most maternal and infant deaths occur in the very first month after birth. Almost half

of the postnatal maternal deaths occur within the first 24 hours making it the most critical period. (Lawn et al., 2014)

A study of the National Family Health Survey-5 reveals a drastic difference in the percentage of mothers who received postnatal care from a doctor/nurse/Lady Health Assistant (LHV)/Auxiliary Nurse Midwife (ANM)/midwife/other health personnel within 2 days of delivery between North-Eastern states and Southern states as seen in the case of Mizoram and Kerala (68 per cent in Mizoram vs 93.3 per cent in Kerala). Similarly, the percentage of children who received postnatal care from a doctor/nurse/LHV/ANM/midwife/other health personnel within 2 days of delivery was as low as 36.9 in Mizoram compared to Kerala where the percentage was unmatched at 91.2. The latter patently performs better because of more emphasis on education hence more general awareness about maternal care and better infrastructure to support the same as well (Ministry of Health and Family Welfare, 2020).

3.0 Causes of Inaccessibility to Maternal Healthcare



(Ministry of Health and Family Welfare, 2020)

Graph 1: Percentage of mothers who had at least 4 antenatal care visits according to NFHS-5 (2019-20)

From this graph, it is very much evident that despite the emphasis on antenatal care by the Government, about only 60 per cent of pregnant mothers on average avail all four of them.

There is a need to overlook the multifaceted reasons which play an integral part in the abysmal state of the current maternal healthcare system in India.

3.1 PESTLE Analysis of Root Causes of Inaccessibility

3.1.1 Social

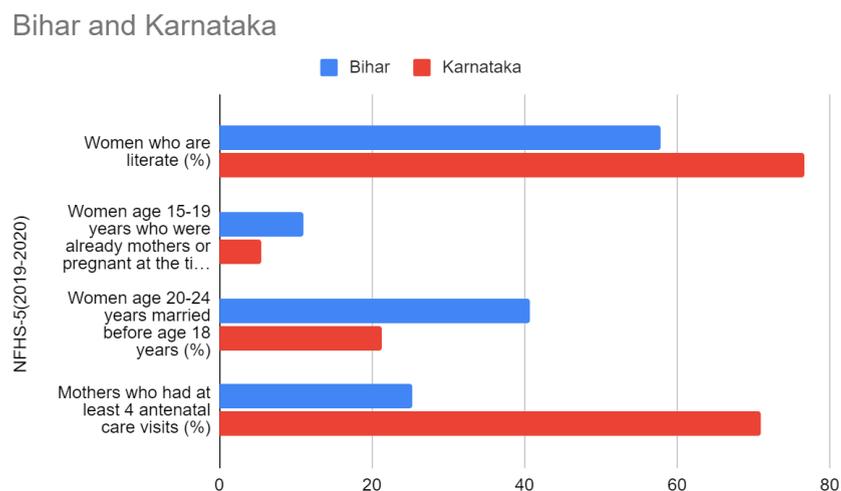
The North Indian states contribute to a disproportionately large proportion of Maternal Mortality Rate (MMR) in comparison to the South Indian states. For example, Bihar, Uttar Pradesh and Rajasthan have high rates of maternal mortality while on other hand Kerala, Karnataka and Tamil Nadu have rates much lower than the average Indian. The social and cultural diversity across India contributes to this variation. The southern states show a better women literacy rate than the other states across India, playing a vital role in the decision to avail adequate maternal healthcare services.

Societies, where child marriages still prevail, show a great Maternal Mortality Rate (MMR) and Infant Mortality Rate (IMR) due to early pregnancy. In several cases, girls are obstructed from completing their primary education and thus fail to understand the importance of antenatal care. Moreover, the lack of proper sex education in schools and community-based stigma contributes towards the deficiency in awareness for maternal healthcare.

NFHS-5(2019-2020)	Bihar	Karnataka
Women who are literate	57.8 %	76.7 %
Women age 15-19 years who were already mothers or pregnant at the time of the survey	11 %	5.4 %
Women age 20-24 years married before age 18 years	40.8 %	21.3 %
Mothers who had at least 4 antenatal care visits	25.2 %	70.9 %

(Ministry of Health and Family Welfare, 2020)

Table 1: Comparing the Social Parameters between Bihar and Karnataka according to National Family Health Survey-5 (NFHS-5)



(Ministry of Health and Family Welfare, 2020)

Graph 2: Comparison of Social Parameters between Bihar & Karnataka inferred from Table 1

It is conspicuous that there is an immense social difference between the two states which eventually leads to a cascading effect in the popularity of maternal health care services in the respective states. From this data, it can be concluded that literate women are more inclined towards availing proper healthcare, hence, societies with a higher percentage of educated women will have a lower MMR. Societies, where women get married only after attaining the right age: do not suffer from early pregnancy, have sufficient insight to understand what is best for their health and thus show a higher inclination towards availing maternal healthcare services.

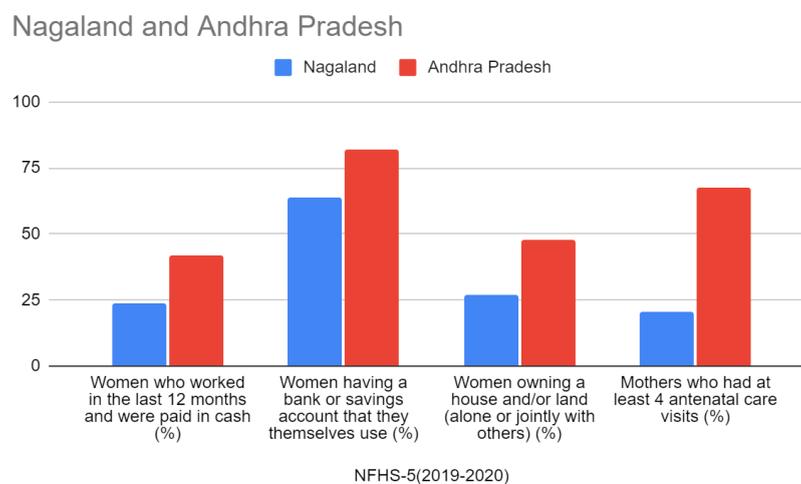
3.1.2 Economical

Different surveys have led to the understanding of economic imbalance in maternal health and healthcare utilization. Various studies used data from Demographic and Health Surveys (DHS) and analyzed disparity in maternal and child health by household wealth, percentage of working women, women who are financially independent, etc. Women living in grave poverty are more likely to experience destitution of finance, housing and fundamental healthcare and education, which therefore creates a huge gap from the women who are from an economically developed background.

NFHS-5(2019-2020)	Nagaland	Andhra Pradesh
Women who worked in the last 12 months and were paid in cash	23.6 %	42.1 %
Women having a bank or savings account that they themselves use	63.7 %	81.8 %
Women owning a house and/or land (alone or jointly with others)	26.9 %	47.8 %
Mothers who had at least 4 antenatal care visits	20.7 %	67.5 %

(Ministry of Health and Family Welfare, 2020)

Table 2: Comparing the economic parameters between Nagaland and Andhra Pradesh according to National Family Health Survey-5 (NFHS-5)



(Ministry of Health and Family Welfare, 2020)

Graph 3: Comparing the economic parameters between Nagaland and Andhra Pradesh inferred from Table 2

This data clearly exhibits how financial independence and better economical condition has contributed towards women’s willingness to avail maternal healthcare. Economic stability in

women have given them the independence to choose what is best for themselves and their child's health. It is understandable that women struggling with proper food, shelter and other basic amenities of life will not focus on their healthcare and/or menstrual hygiene. Therefore it can be concluded that economic stability plays a very major role in women availing all the maternal services.

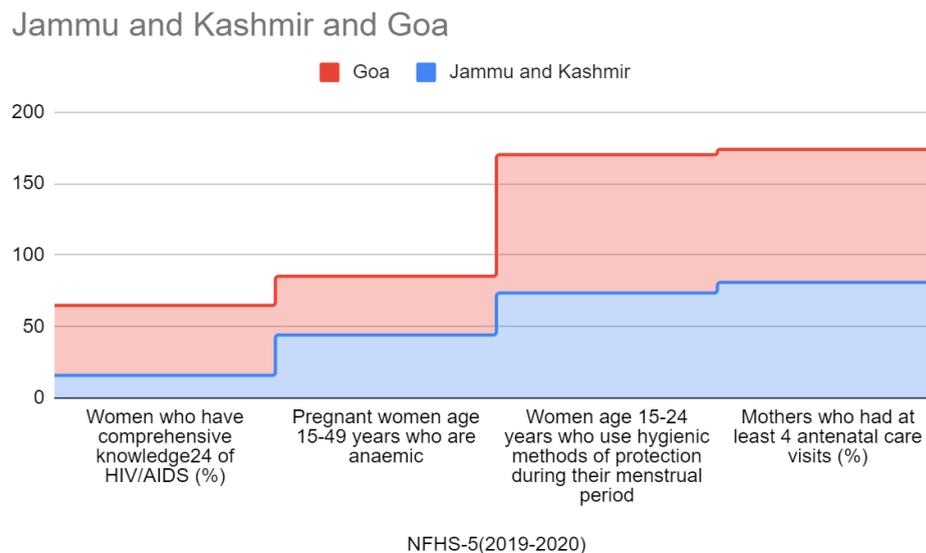
3.1.3 Political

Armed conflicts have profound consequences for the health of affected populations. These consequences not only include the direct effects of violence, such as mortality and morbidity, but also indirect impacts related to displacement, disruption of health care services and elevated risk of disease transmission (Murray et al. 2002). Political unrest and armed conflicts that primarily occur in some parts of India have acute consequences on the health of the people residing there, and significantly show a decrease in the utilization of maternal health care services. The connective link between political unrest and maternal health care utilization has not received proper attention in healthcare policies. There is a negative correlation between the political/arms conflict and the number of antenatal care check-ups (Price and Bohara, 2012).

NFHS-5(2019-2020)	Jammu and Kashmir	Goa
Women who have comprehensive knowledge of HIV/AIDS	15.8 %	49 %
Pregnant women age 15-49 years who are anaemic	44.1 %	41 %
Women age 15-24 years who use hygienic methods of protection during their menstrual period	73.4 %	96.8 %
Mothers who had at least 4 antenatal care visits	80.9 %	93 %

(Ministry of Health and Family Welfare, 2020)

Table 3: Comparing the political parameters between Jammu and Kashmir and Goa according to National Family Health Survey-5 (NFHS-5)



(Ministry of Health and Family Welfare, 2020)

Graph 4: Comparing the political parameters between Jammu and Kashmir and Goa inferred from Table 3

From this data, it can be suggested that the difference in the data is due to the political disturbance in the state of Jammu and Kashmir which might have led the government to direct their attention and resources away from maternal health and towards security. Due to this unrest, women are also reluctant to step outside or travel to any clinic to get their prescribed maternal checkup. The study might have also failed to account for data from remote places in Kashmir.

Back in the years from 1990 to 1995 there were alarming rates of militancy in the region of Jammu and Kashmir. The militants on the objective to track the motion of military troops imposed a ban on the use of family planning methods so that movement of the locals is restricted. Kashmiri women who usually preferred female sterilization were forced to traditional methods or used no methods at all, leading to serious health complications later. As a consequence of improper family protection methods there was a huge number of cases of unwanted pregnancy and hence increased abortion rates. Because of this restriction on movement, women resorted to local untrained practitioners which were not safe and sometimes led to lifetime complications and even death. (“Impact of Armed Conflict on Reproductive Health of Women in Kashmir-India.,” 2009).

3.1.4 Environmental

Environmental issues focus on a broad range of environments, including chemical, natural, built, and social. Pregnant women living in a sound environment prove to have better mental health and hence fewer complications during the pregnancy due to stress and anxiety disorders. On the flip side of the coin, women who face violence at home and are subjected to regular mental trauma or stress are more likely to have a premature baby and in worst cases, it can also lead to miscarriages (Theall and Johnson, 2017). Environmental factors, including concentrated poverty which increases exposure to environmental toxins, social disorganization and informal social control, exposure to violence, neighbourhood cultural context, institutional resources and structural disinvestments which will also majorly affect maternal health in that area. It is also studied that if the mother is stressed while they are pregnant, considerably their child has more chances of getting emotional or cognitive problems, including an increased risk of attentional deficit/hyperactivity, anxiety and language delay (Talge et al., 2007).

3.1.5 Technological

All over the world, the use of Information Technology (IT) in healthcare has increased effectively. Parallely developing countries now are invested in the sustainable use of technologies, with the main focus in primary healthcare systems, antenatal care, immunization and disease control programs and administrative issues such as reporting, inventory management, financial management, and vehicle and personnel management. Computerized information management systems have enabled timely reporting of maternal and child health indicators and thus improved service delivery to the rural areas in India. The Pregnancy, Child Tracking and Health Services Management System (PCTS) has been a game-changer by ensuring better health for women by minimizing maternal mortality and neonatal mortality. In a developing nation like India, technology plays a vital role in healthcare and has changed the way that healthcare is delivered and monitored in India (Bhati, 2015). To supplement community health worker training and retention of knowledge, mobile technology has been considered an effective and sustainable method in India. In-built applications with health messages can be used by the community health workers as an aid for

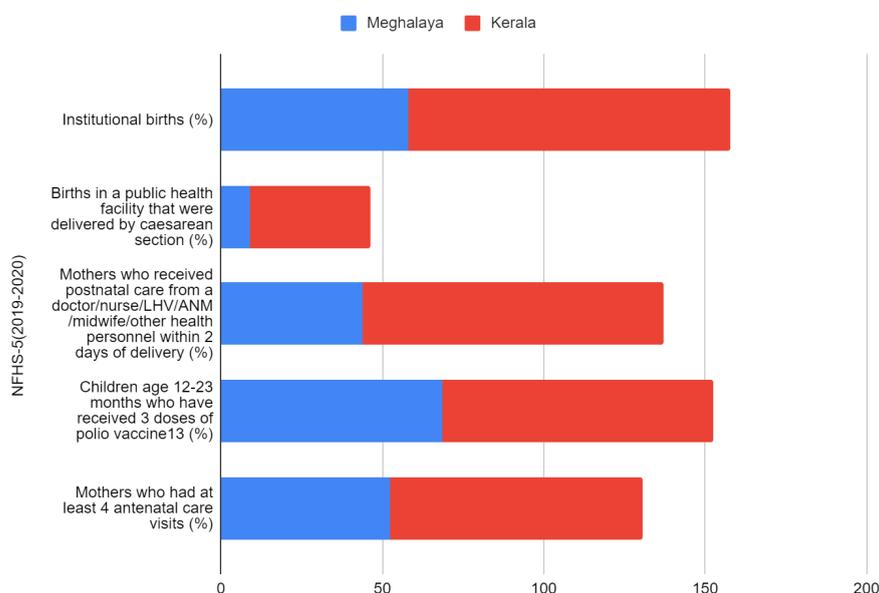
counselling pregnant women, their families and children (Prinja et al., 2016).

NFHS-5(2019-2020)	Meghalaya	Kerala
Institutional births	58.1 %	99.8 %
Births in a public health facility that were delivered by caesarean section	9.2 %	37.2 %
Mothers who received postnatal care from a doctor/nurse/LHV/ANM/midwife/other health personnel within 2 days of delivery	43.9 %	93.3 %
Children age 12-23 months who have received 3 doses of polio vaccine13	68.5 %	84.1 %
Mothers who had at least 4 antenatal care visits	52.2 %	78.6 %

(Ministry of Health and Family Welfare, 2020)

Table 4: Comparing the technological parameters between Bihar and Karnataka according to National Family Health Survey-5 (NFHS-5)

Meghalaya and Kerala



(Ministry of Health and Family Welfare, 2020)

Graph 5: Comparing the technological parameters between Bihar and Karnataka inferred from Table 4

The northeastern states of India are somewhat deprived of the recent technologies in healthcare; not much attention is given to their technological development. They already struggle with limited health centres, therefore technological constraints in those limited health centres simply worsen the condition, whereas, the South Indian states are highly advanced in technologies especially in healthcare. Regular medical checkups, immediate hospitalisation in case of any complication, specialized supervision during pregnancy, updated technologies to keep track of the mother's health, state of the art medical facilities in hospitals and nursing homes are the reasons why these areas show a better response of mothers towards antenatal health services.

3.1.6 Legal

Article 21 has been expanded to include the Right to Life with Dignity. This provision has been invoked to safeguard the rights of women such as the right to divorce, to live a life free from violence and the right to safe abortions. Article 51A of the Constitution lays down the fundamental duties of all citizens. It stipulates that all citizens have a duty to promote harmony and to renounce practices that are derogatory to the dignity of women as iterated in a guide compiled by Majlis Legal centre for IIT Kanpur.

Inaccessibility to maternal healthcare leads to repercussions as unfortunate as death and hence government interference in the provision of these services is extremely important. The Ministry of Health and Family Welfare, launched the National Rural Health Mission (NRHM) in 2005 to provide affordable and quality healthcare to the rural population, especially for the vulnerable sections. Currently, there are many programmes being implemented by the Central and the State government that are resulting in better maternal health outcomes. Some of the key programmes are the Janani Suraksha Yojna, Pradhan Mantri Matru Vandana Yojana, Village Health and Nutrition Days, Janani Shishu Suraksha Karyakaram, Wage Compensation Scheme for pregnant women (in some states), Weekly Iron Folic Acid Supplementation and Poshan Abhiyan (Raghavendra and Das, 2019). A vital component of NRHM is the Janani Suraksha Yojana (JSY) which aims at reducing maternal and child mortality rates by the provision of safe motherhood. According to new research, it

was found that at a national level, odds of death of a child within 29 days (excluding stillbirth) and death of a child within 29 days (including stillbirth) fell significantly (by between 27% and 39%) due to the receipt of assistance via Janani Suraksha Yojna. However, for the Northeastern states, the scheme had no significant impact. While these programmes launched by the government are noble attempts, studies suggest that they have gaps in implementation that need to be attended to like there is a need to pay attention to not only enrollment of women in JSY but also to provide them with quality services, also an attempt should be made to first target the poorest of poor women, rather than opening the services to everyone so that the benefit reaches the ones who need it the most. (Sengupta, N., and Sinha, A. 2017).

3.1.7 Ethical

Pregnant women in India conform to societal norms and the false portrayal of ethics which acts as an impediment in availing maternal healthcare. Pregnant women with unwanted children succumb to unsafe methods of abortion. Unsafe abortions are one of the major causes of maternal mortality in India. The high prevalence of unsafe abortion in spite of abortion being legal in India indicates a major public health problem. Socio-economic vulnerability and inadequate access to health services put a large number of women at risk of unsafe abortion and abortion-related death. Previous studies (Yokoe et al., 2019) show that most women who had undergone abortion did not have antenatal care. There is a strong connection between unsafe abortion with sociodemographic factors (younger maternal age, lower socioeconomic status, Muslim religion, rural residence, illiteracy, tribal population, schedule caste social group), healthcare service utilisation (ANC), family characteristics (number of surviving children and proportion of surviving female children) and family planning use. It was found that factors associated with unsafe abortions were different from those associated with abortion-related mortality. In addition to rural residence and lower socioeconomic status, teenage women (aged 15–19 years) were found to have the highest risk of abortion-related death. Women living in rural India were more likely to have an unsafe abortion and shows a higher probability of dying from an abortion-related cause. These ethical obligations on women should be lifted so that they can avail proper healthcare without

being intimidated by society. If these obligations are lifted, more women will be inclined towards the use of proper medical facilities and hence reduce the MMR in India.

4.0 Effects of Inaccessibility on Maternal Healthcare Across India

The health of individuals is vital for the overall growth of the country and especially women because, in a country like India, families are way too dependent on the mothers for necessities as basic as food. Similarly, the health of children is also equally important because they are the future leaders of the country. Regardless of great progress being made, the number of deaths (of mothers and their children) from causes that could have been prevented, are still high. (CDC Global Health - Maternal and Child Health, n.d.). In 2017, around 810 women died every day from preventable causes related to pregnancy and childbirth. Competent care before, during and after childbirth can save the lives of women and newborns. (WHO, 2019). The mortality rates and pregnancy-related complications shed light on the importance of an adequate maternal healthcare system.

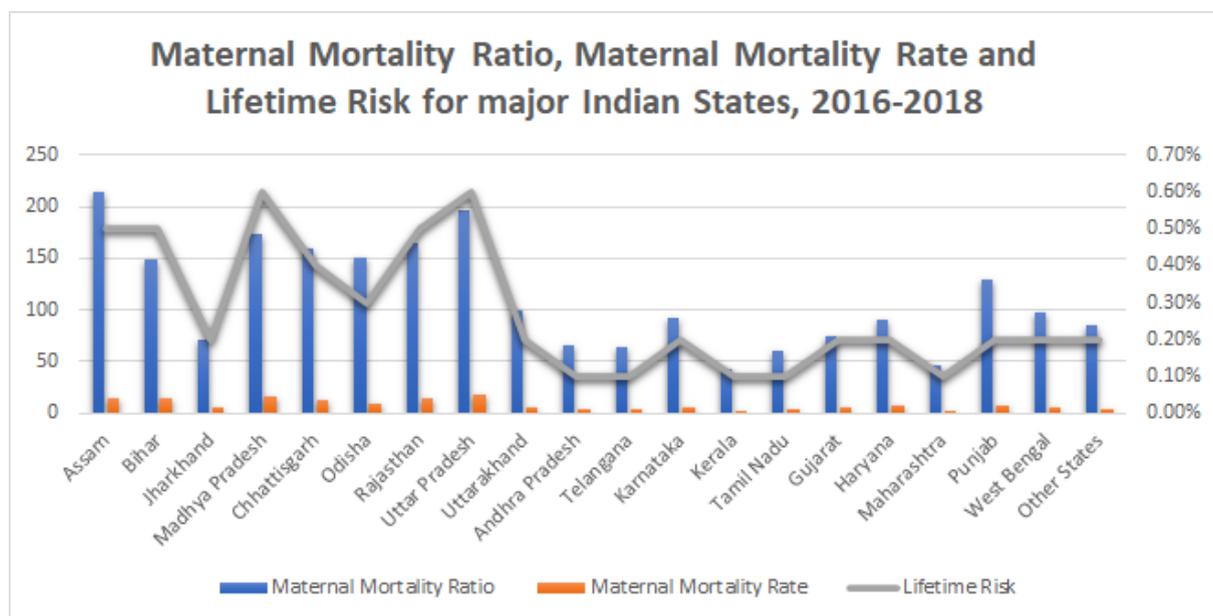
4.1 Mortality Rates

4.1.1 Maternal Mortality Rate

Maternal mortality is the annual number of deaths of women from any cause related to pregnancy or its treatment (excluding accidental causes) during pregnancy and childbirth or within 42 days after the termination of pregnancy, regardless of the duration and location of the pregnancy. One of the fundamental indicators of maternal mortality is the Maternal Mortality Rate (MMR), which is defined as the number of maternal mortality during a given period per 100,000 live births during the same period. Goal 3.1 of the United Nations Sustainable Development Goals (SDGs) aims to reduce the maternal mortality rate worldwide to less than 70 per 100,000 live births. (Sample Registration System Office of The Registrar General, India, 2020)

According to UNICEF India, high blood pressure during pregnancy (known as pre-eclampsia and eclampsia), severe bleeding after childbirth, infections that usually happen after childbirth, complications from delivery and unsafe abortions are some pregnancy-related complications that account for two-thirds of maternal deaths. The MMR of India for the

period 2016-18, is 113/100,000 live births, declining by 17 points, from 130/ 100,000 live births in 2014-16. This implies that in 2018, 2,500 additional mothers were saved annually compared to 2016. The estimated total annual maternal deaths decreased from 33,800 maternal deaths in 2016 to 26,437 deaths in 2018. (Maternal Health, n.d.) A graph prepared from the data made available by the Office of the Registrar General and Census Commissioner, India (Special Bulletin on maternal mortality in India 2016-18) is presented below.



(Special Bulletin On Maternal Mortality In India 2016–18, 2020)

Graph 6: Regional Variation of Maternal Mortality Rate in India.

The chart depicts how the MMR was highest in states like Assam, Uttar Pradesh and Rajasthan etc., during 2016-2018 where there could be a plethora of different reasons causing the same and also how lifetime risk behaves in a similar way with the MMR (states with high MMR also tend to have more lifetime risk).

4.1.2 Children Mortality Rates

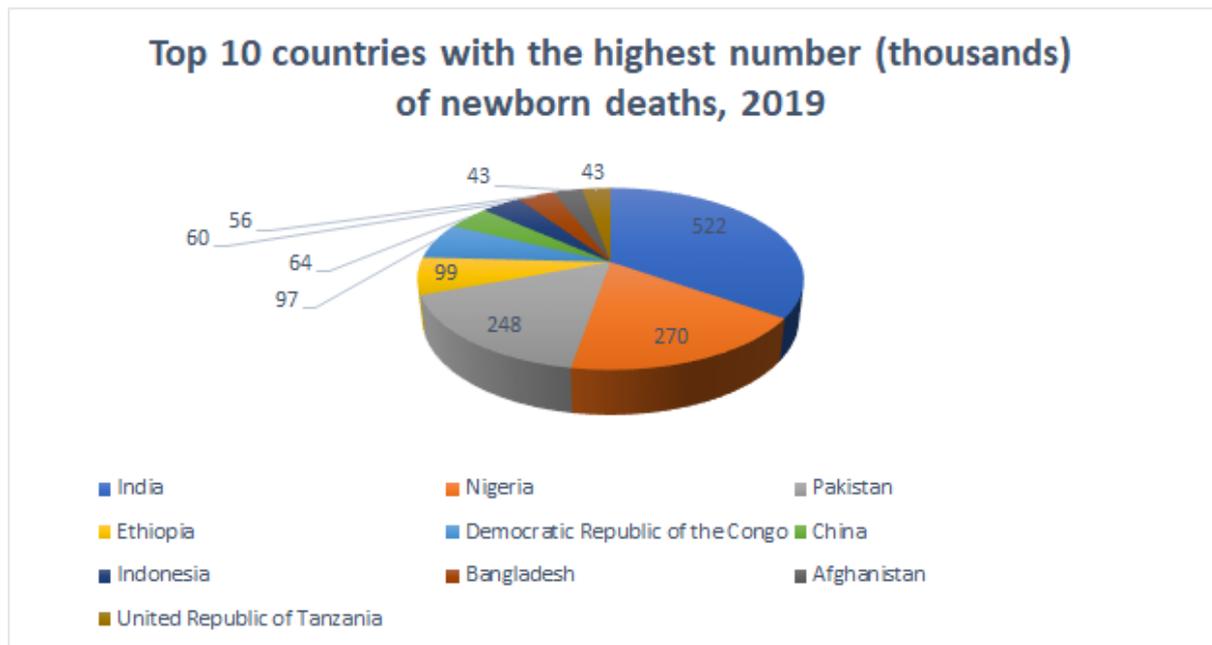
According to WHO, globally 2.4 million children died in the first month of life in 2019. Every day there are approximately 6700 newborn deaths, which add up to 47 per cent

of all child deaths under the age of 5-years, up from 40 per cent in 1990 indicating that the world has made considerable progress in child survival since then. The number of neonatal deaths declined from 5.0 million in 1990 to 2.4 million worldwide in 2019. However, the decline in neonatal mortality from 1990 to 2019 has been relatively slower than that of post-neonatal under-5 mortality. (Newborns: Improving Survival and Well-Being, 2020).

4.1.2.1 Neonatal Mortality Rate

The neonatal mortality rate is defined as the probability that a child born in a specific year or period will die before living 28 days, if subject to age-specific mortality rates of that period, expressed as a rate per thousand live births. The NMR is often divided into early and late mortality rates. Early Neonatal Mortality refers to death during the first seven days (0-7 days) of life and late neonatal mortality refers to death occurring between the second and fourth week of life (8-28 days) (Neonatal Mortality Rate (NMR) – DataForImpactProject, n.d.).

According to WHO, the majority of all neonatal deaths (75 per cent) occur during the first week of life, and about 1 million newborns die within the first 24 hours. In 2017 most neonatal deaths are caused by preterm birth, intrapartum-related complications (birth asphyxia or lack of breathing at birth), infections and birth defects. From the end of the neonatal period to the first 5 years of life, the leading causes of death are pneumonia, diarrhoea, birth defects, and malaria. (Newborns: Improving Survival and Well-Being, 2020). Malnutrition is the underlying contributor towards making children more vulnerable to severe diseases. Lancet neonatal survival series has shown that scaling up of periconceptional folic acid supplementation to reduce the incidence of neural tube defects, calcium supplementation to reduce eclampsia, detection and treatment of asymptomatic bacteriuria, community-based pneumonia management, and extra care for low birth weight infants. (Lawn et al., 2014)



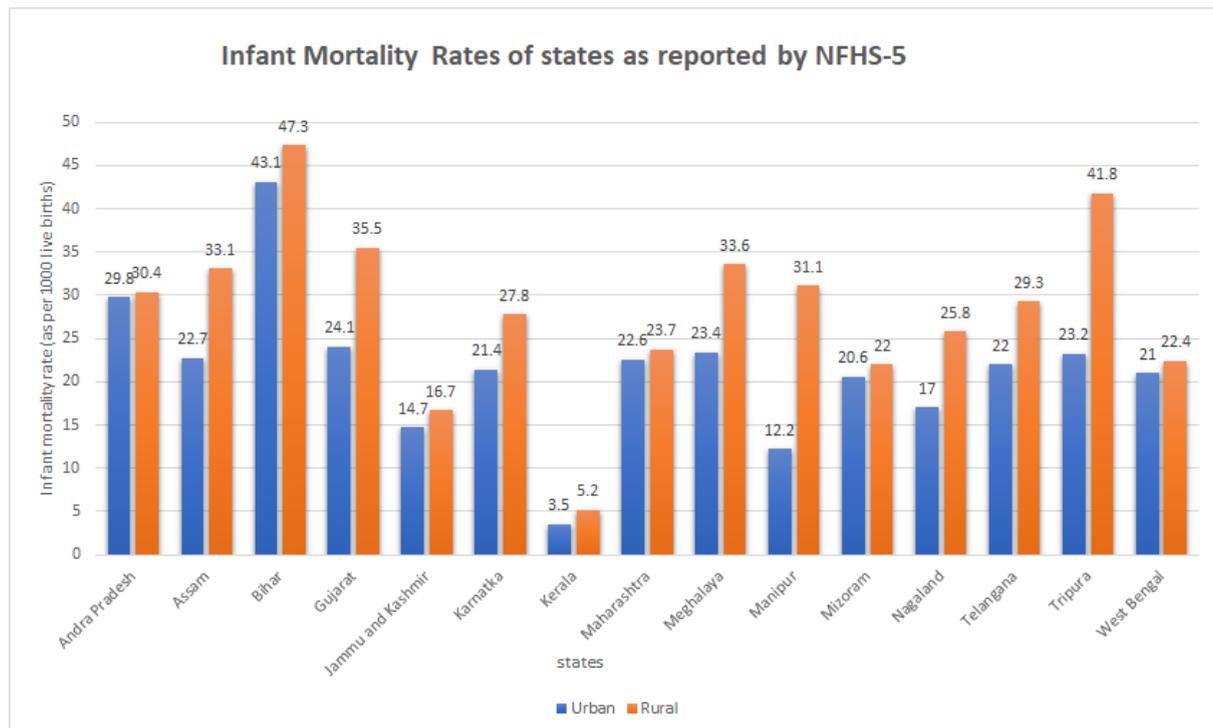
(Newborns: Improving Survival and Well-Being, 2020)

Graph 7: Comparing the highest number of newborn deaths in different countries.

In accordance with the WHO stats, India topped the list of countries with the highest number of newborn deaths in 2019 as depicted by the pie chart above.

4.1.2.2 Infant Mortality Rate

As stated by WHO, the infant mortality rate is the probability that a child born in a specific year or period will die before reaching the age of 1 year, if subject to age-specific mortality rates of that period, expressed as a rate per 1000 live births. (Infant mortality rate (probability of dying between birth and age 1 per 1000 live births), n.d.) The low infant mortality rate is one of the many indicators of a healthy community. It also portrays better socio-economic conditions and access to proper maternal healthcare. Poor sanitation, poor water quality, malnourishment of the mother and infant, inadequate prenatal and medical care, and use of infant formula as a breast milk substitute act as primary causing agents in infant mortality (Childhood disease and disorder, n.d.). Status and economic discrepancy of women are also reflected in infant mortality rates. The mortality rate shows a higher trend in areas where women have few rights and where there is a large difference in remuneration (Treiber, n.d.). This can be proved for India via the data collected by the National Family Health Survey-5, 2019-2020.



(Ministry of Health and Family Welfare, 2020)

Graph 8: Comparing the infant mortality rates between different states in India according to National Family Health Survey-5 (NFHS-5)

The above graph depicts the difference between rural and urban infant mortality rates across various states of India as of the data collected in the National Family Health Survey-5, 2019-2020. It is of utmost significance to notice that the rural infant mortality rates are higher than the urban infant mortality rates in each and every state shown in the graph.

4.1.2.3 Under-Five Mortality Rate

As specified by WHO, the under-five mortality rate is the probability of a child born in a specific year or period dying before reaching the age of five, expressed as a rate per 1000 live births, if subject to age-specific mortality rates of that period. (Under-Five Mortality Rate (Probability of Dying by Age 5 per 1000 Live Births), n.d.). Under-five mortality rate measures the survival of a child. Together with healthcare, it also highlights the various social, economic and environmental conditions in which children live. Since data on disease incidence and prevalence (morbidity data) are often not available, mortality rates are often

used to identify vulnerable populations. The under-five mortality rate is also an indicator of the Millennium Development Goal (MDG). Some of the main causes of under-5 deaths in India in 2017, according to a recent article published by 'The Lancet' (Dandona et al., 2020), were lower respiratory infections, neonatal preterm birth, haemolytic disease and neonatal jaundice and other neonatal disorders, diarrhoeal diseases.

In 2019, 47 per cent of all under-5 deaths occurred in the newborn period with about one third dying on the day of birth and close to three quarters dying within the first week of life (Newborns: Improving Survival and Well-Being, 2020). Currently, in 2020, the under-5 mortality rate for India was 35.73 deaths per thousand live births. Over the past 50 years, India's under-5 mortality rate has steadily declined at a moderate rate, from 207.55 deaths per 1,000 live births in 1971 to 35.73 deaths per 1,000 live births in 2020. (India Under-5 Mortality Rate, 1950–2020 - Knoema.Com, 2019)

4.2 Pregnancy-Related Complications

Complications of pregnancy are health problems that occur during pregnancy; they can involve the mother's health, the baby's health, or both. Women can face various health problems before and during pregnancy that could lead to serious complications. Therefore, to avoid the risk of pregnancy-related complications, it is very important for women to receive proper health care before and during pregnancy. (Pregnancy Complications | Maternal and Infant Health | CDC, n.d.) According to UNICEF India, adolescent girls aged between 15 and 19 years of age face the highest risk of pregnancy-related complications compared to other women. (Maternal Health, n.d.)

Unsafe abortion also can lead to complications in women and is also a reason for several deaths. In developing countries like India, it is of extreme importance to pay attention to unsafe abortions because a large number of pregnant women along with their children succumb to unsafe methods of abortion under the pressure of societal norms. Some of the complications that arise are postpartum haemorrhage, high blood pressure, low birth weight babies, depression and anxiety, infections, miscarriage and stillbirths.

4.2.1 Postpartum Haemorrhage

Postpartum haemorrhage occurs when a woman loses 500 millilitres or more of blood after giving birth. It's estimated that 18 per cent of births involve postpartum haemorrhage (Anderson & Etches, 2007). While most women who experience postpartum haemorrhage do so immediately after their babies are born, it can sometimes occur later. Typically, the uterus continues to contract after a woman delivers the placenta. These contractions help to stop bleeding. If the placenta isn't delivered or the uterus doesn't contract, which is known as uterine atony, a haemorrhage can occur. Common symptoms of postpartum haemorrhage are bleeding that doesn't lessen or stop, a drop in blood pressure, a drop in red blood cell count, or hematocrit, a rise in heart rate and swelling, post-delivery pain. (Data on Pregnancy Complications | Pregnancy | Maternal and Infant Health | CDC, n.d.)

4.2.2 High Blood Pressure

High blood pressure, also called hypertension, is a condition that occurs when arteries carrying blood from the heart to the body organs are narrowed. This increases the pressure in the arteries. During pregnancy, this can make it difficult for blood to reach the placenta, which provides nutrients and oxygen to the fetus. Decreased blood flow can slow the growth of the fetus and put the mother at higher risk for preterm birth and preeclampsia. (Preeclampsia and High Blood Pressure During Pregnancy, n.d.)

4.2.3 Depression and Anxiety

It is no secret that pregnancy affects the mental health of a mother in uncountable ways. Depression and anxiety could be the unwanted by-products of a pregnancy. Anxiety in pregnancy is related to a shorter pregnancy and has negative effects on the neurological development of the fetus and the development of the child. (Dunkel Schetter, C., and Tanner, L. 2012). Child marriages themselves have bad mental health repercussions on adolescent mothers, on top of that pregnancy just increases the intensity of the situation and could impact the mental health even more. It is thus necessary for a pregnant mother to avail of postnatal care to make sure they function properly both in physical and mental terms.

4.2.4 Low Birth Weight Babies

Low birth weight is one debatable cause of neonatal deaths. Even though it is linked with the death of many newborn infants but it is not regarded as a direct cause. Around 15% of newborn infants weigh less than 2500 g, the proportion ranging from 6% in developed countries to more than 30% in some parts of the world. The prime factor responsible is preterm birth and the complications originating from it rather than low birth weight per se. However, the fact that the availability of proper maternal healthcare and proper nutrition to the mother lead to less low birth weight babies is not debatable (World Health Organisation, 2006).

5.0 Impact of Proper Provision of Maternal Healthcare Services

5.1 Healthy Society

Women are the driving force of families and especially in a country like India- not only do they have to look after themselves, the household and chores but the children as well. Hence it becomes important to make sure that women of the country are healthy - physically and mentally. Deprivation of any or all of the maternal healthcare services could have lethal outcomes. If women take care of their health throughout the pregnancy and otherwise as well, they are more likely to deliver healthier babies, which in turn would lead to a healthier nation and better future leadership as children are the leaders of tomorrow. It is also of extreme significance to note that pregnancy itself is a very complex phenomenon and if pregnancy-related complications arise into the picture, they could have serious negative outcomes on the mental health of the mother, indirectly affecting the family members as well.

5.2 Improved Sex Ratio

Male counterparts are thought to be more valuable in society because of the long-reigning patriarchal Indian society. The preferences entrenched in the roots of the society leads to female foeticide and hence disturbs the sex ratio of the country. In the last six years, the Sex Ratio at Birth (SRB) has shown a positive curve in India. The SRB which was 918 in 2014-15 is now presently at 934 in 2019-20 (Sharma, 2021). according to the data revealed by the Health Ministry of India. Also according to the Health Ministry of India, the

1st Trimester Antenatal Care (ANC) Registration percentage has constructively grown from 61% in 2014-15 to 71% in 2019-20, and the Institutional Deliveries shows a promising increase from 87% in 2014-15 to 94% in 2019-20 (Sharma, 2021). It can be observed that states and union territories where a higher percentage of women access healthcare facilities during their pregnancy have a better sex ratio.

With access to healthcare and proper implementation of laws against illegal abortions can improve the sex ratio in India. Proper healthcare includes health workers creating awareness against the abortion of girl child, government registered clinics that do not allow illegal abortion. Girl children born with malnutrition and other complications are more neglected and do not get the medical attention needed which in worst cases causes the death of the infant. Proper awareness should be created so that pregnant women understand the importance of their health and diet and the baby born is not a victim of malnutrition or other serious health complications. Most importantly proper health care will cause a reduction in the Maternal Mortality Rate. The care and well being of the mothers are therefore very much important to maintain a proper sex ratio.

6.0 Conclusion

Over the years, India has shown huge progress in its social, economical and technological aspects but somehow failed to show remarkable progress in bridging the inaccessibility gap to maternal healthcare across India. The Government of India has started many programs and schemes to improve the overall maternal health and reduce the MMR of the country as a whole. But in spite of different initiatives the difference in the proper health care between states are quite evident. While almost all the states show a striking improvement in women availing proper maternal care, the percentage varies for different states. This disparity is due to the variance in their social, economical, political, environmental, technological and ethical background.

The significance of maternal healthcare and dispense them with the requisite antenatal services is evidently transparent. It is important to address the problems and take effective steps to maintain equality in the accessibility of proper maternal healthcare. Women's right to proper healthcare especially during pregnancy should be independent of their residing

locality or state. There stands a challenge in front of the Government on what they should do to ensure the safety and proper maternal care for women. The Government needs to look for improvements and changes that need to be done for the better implementations of the existing programs and schemes for mothers. Alongside governmental initiatives, there is a pressing need for proper education and awareness among women and their families along with economical support and infrastructure. This will further help women to avail all the maternal healthcare services available.

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