

Impact of Mortality Rate to Understand the Nutritional Status Among the Tribal: A Micro Level Analysis

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ABSTRACT

It is doctrinal study on the basis of literature review. The study has been focussed on Maternal and child health (MCH) care in the health service provided to mothers (women in their child bearing age) and children. The main objectives of the study are health & nutrition care awareness level of Tribal communities and level of health care services by the Government to prevent the MMR & IMR. The data will be collected through the existing literature and Government report. The study would be highlighted on the child mortality and maternal mortality in India among the Tribal community. The study is concluded for cause of child mortality and maternal mortality in relation with child immunization, early marriage, diet and hygiene of mother, importance of breast feeding, traditional food habit and beliefs. The finding of the study would be helpful to the rural people and Government public health sectors.

Key words: MMR, IMR, MCH, Public health

INTRODUCTION

Tribal population is found in almost all parts of India. The word 'tribe' means a part of the standard organization, mainly between primitive people but existing in some present societies, consisting of a group of people claiming a common heritage, usually contributing a common way of life, and originally living together under a chief of head-man.

In the ethnographic map of India, West Bengal occupies an important place, for it is inhabited by substantial number of tribal communities as compared to the other States and Union Territories and it also has the largest concentration of tribal people next only to 5 other states. The tribal communities, in varying concentrations, are found almost in all the districts of the state. Each tribe has a cultural identity of its own. The distinctiveness of each tribe is manifested in its language, social organization, and rituals and festivals, and also in their dress pattern, adornments and art and craft. Tribes in general live in a close relationship with nature and depend on it for their survival. As the historical perspective every tribes have their separate language. Their distinctive status in sociological, cultural and economical background helps them to recognize separately from the others.

Maternal death is the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes. To facilitate the identification of maternal deaths in circumstances in which because of death attribution is inadequate, a new category has been introduced: Pregnancy-related death is defined as the death of a woman while

pregnant or within 42 days of termination of pregnancy, irrespective of the cause of death.

Generally there is a distinction between a direct maternal death that is the result of a complication of the pregnancy, delivery, or their management, and an indirect maternal death that is a pregnancy related death in a patient with a pre existing or newly developed health problem. Other fatalities during but unrelated to a pregnancy are termed *accidental, incidental, or non obstetrical maternal deaths*. Maternal mortality is a sentinel event to assess the quality of a health care system.

Maternal mortality refers to deaths due to complications from pregnancy or childbirth. From 2000 to 2017, the global maternal mortality ratio declined by 38 per cent – from 342 deaths to 211 deaths per 100,000 live births, according to UN inter-agency estimates. This translates into an average annual rate of reduction of 2.9 per cent. While substantive, this is less than half the 6.4 per cent annual rate needed to achieve the Sustainable Development global goal of 70 maternal deaths per 100,000 live births.

The number of women and girls who died each year from complications of pregnancy and childbirth declined from 451,000 in 2000 to 295,000 in 2017. These improvements are particularly remarkable in light of rapid population growth in many of the countries where maternal deaths are highest. Still, over 800 women are dying each day from complications in pregnancy and childbirth. And for every woman who dies, approximately 20 others suffer serious injuries, infections or disabilities.

Infant mortality rate is the probability of a child born in a specific year or period dying before reaching the age of one, if subject to age-specific mortality rates of that period. Infant mortality rate is an MDG indicator.

Infant mortality is the death of an infant before his or her first birthday. The infant mortality rate is the number of infant deaths for every 1,000 live births. In addition to giving us key information about maternal and infant health, the infant mortality rate is

an important marker of the overall health of a society. In 2020, the infant mortality rate in the United States was 5.4 deaths per 1,000 live births.

Maternal Mortality Ratio: is the ratio of the number of maternal deaths per 100,000 live births. The MMR is used as a measure of the quality of a health care system. Sierra Leone has the highest maternal death rate at 2,000, and Afghanistan has the second highest maternal death rate at 1900 maternal deaths per 100,000 live births, reported by the UN based on 2000 figures. According to the Central Asia Health Review, Afghanistan's maternal mortality rate was 1,600 in 2007. Lowest rates included Ireland at 0 per 100,000 and Austria at 4 per 100,000. In the United States, the maternal death rate was 11 maternal deaths per 100,000 live births in 2005. This rose to 13.3 per 100,000 in 2006.

Infant Mortality Rate (IMR): The Infant Mortality Rate (IMR) has also registered 4 point decline to 33 in 2017 from 37 in 2015 at the National level. The maximum IMR has been observed in Madhya Pradesh (47) and the minimum in Kerala (10) is shown at Annexure Table B2.18. Female infants continue to experience higher mortality than male infant.

Under 5 Mortality Rate (U5MR): In 2017, U5MR for the country has shown a decline of 6 points over 2015 (37 in 2017 against 43 in 2015). There has been a decline of 1 point in male U5MR and 2 points in female U5MR during the period. In 2017, U5MR has decreased sharply in both rural and urban sector for all major states except in Tamil Nadu (U) compared to 2015 year. And, it is highest for the state of Madhya Pradesh and stood at 61 for rural sector in 2017, while it is lowest for Kerala at 12. However, in urban sector, it is highest for Odisha at 37 and lowest for Kerala at 12. MMR is the number of women who die due to causes relating to pregnancy, childbirth & abortion per 100,000 live births. Deaths due

to pregnancy and during the child birth are common among women in the reproductive age groups. Reduction of mortality of women has thus been an area of concern and time bound targets are set nationally and internationally (in SDG) to achieve it. India has made impressive achievement in reducing MMR substantially over the years. Since 2015 the MMR estimates from SRS are available annually through collating sample of three consecutive years at a time. According to the latest SRS estimates (2015-17), the Maternal Mortality Ratio (MMR) of India was 122 per one lakh live birth and the country is working towards the vision of ending all preventable maternal mortality and a global MMR of 70 by the year 2030.

Maternal mortality is considered a key health indicator and the direct causes of maternal deaths are well known and largely preventable and treatable.

The major complications that account for nearly two-thirds of all maternal deaths are severe bleeding (mostly bleeding after childbirth), infections (usually after childbirth), high blood pressure during pregnancy (pre eclampsia and eclampsia), complications from delivery and unsafe abortions.

Maternal Mortality Ratio (MMR): In INDIA TOTAL: Among women aged between 15-49 years dying due to maternal causes per 1, 00,000 live births in 2004-2006 was 254 and in 2007-2009 was 212. In the state of Assam in 2004-2006 and 2007-2009, 480 and 390, in Bihar/Jharkhand 312 and 261, in Madhya Pradesh/ Chhattisgarh 335 and 269, in Orissa 303 and 258, in Rajasthan 388 and 318, in Utter Pradesh/ Uttarakhand 440 and 359, in EAG(Empowered Action Group States) and ASSAM SUBTOTAL: 375 and 308, in Andhra Pradesh 154 and 134, in Karnataka 213 and 178, in Kerala 95 and 81, in Tamil Nadu 111 and 97, in SOUTH SUBTOTAL: 149 and 127, in Gujarat 160 and 148, in Haryana 186 and 153, in Maharashtra 130

and 104, in Punjab 192 and 172, in West Bengal 141 and 145, in Other 206 and 160, in OTHER SUBTOTAL: 174 and 149; in 2004-06 and 2007-09, respectively.

Causes of maternal death

Haemorrhage remains the leading cause of maternal mortality, accounting for over one quarter (27 per cent) of deaths. Similar proportion of maternal deaths was caused indirectly by pre-existing medical conditions aggravated by the pregnancy. Hypertensive disorders of pregnancy, especially eclampsia, as well as sepsis, embolism and complications of unsafe abortion also claim a substantial number of lives.

The complications leading to maternal death can occur without warning at any time during pregnancy and childbirth. Most maternal deaths can be prevented if births are attended by skilled health personnel – doctors, nurses or midwives – who are regularly supervised, have the proper equipment and supplies, and can refer women in a timely manner to emergency obstetric care when complications are diagnosed. Complications require prompt access to quality obstetric services equipped with life-saving drugs, including antibiotics, and the ability to provide blood transfusions needed to perform Caesarean sections or other surgical interventions.¹

Causes of Infant Mortality

Almost 20,000 infants died in the United States in 2020. The five leading causes of infant death in 2020 were:

1. Birth defects.
2. Preterm birth and low birth weight.
3. Sudden infant death syndrome.
4. Injuries (e.g., suffocation).
5. Maternal pregnancy complications².

Lifetime risk of maternal death

The lifetime risk of maternal death is the probability that a 15-year-old girl will die from complications of pregnancy or childbirth over her lifetime; it takes into account both the maternal mortality ratio

and the total fertility rate (average number of births per woman during her reproductive years under current age-specific fertility rates). Thus, in a high-fertility setting, a woman faces the risk of maternal death multiple times, and her lifetime risk of death will be higher than in a low-fertility setting. Similar to maternal mortality ratio, the lifetime risk of maternal death varies largely across countries. In 2017, the lifetime risk of maternal death in low income countries as a whole was 1 in 45, compared to 1 in 5,400 in high-income countries. Among regions, women in sub-Saharan Africa face the highest lifetime risk (1 in 38), followed by South Asia (1 in 240).

Objective:

The primary objective of this study is to study Maternal Mortality Rate and Infant Mortality Rate among Tribal women at a tertiary level of care in India. To know the present scenarios of the IMR & MMR among the Tribal community in India is being study.

LITERATURE REVIEW

Maternal Mortality Rate: a study in Chhattisgarh, it is an article of Maternal Mortality among Tribal Women at a Tertiary Level of Care in Bastar, Chhattisgarh written by Prabha Chauhan, Dr. V. K. S. Chauhan, Dr, and Praveen Shrivastava, Dr in the year 2012, it was published in the journal of Global Journal of Health Science. This paper concluded that from a Maternal Mortality Rate (MMR) of 437 per 100,000 live births in 1990-91, India is required to reduce MMR to 109 per 100,000 live births by 2015. Between 1990 and 2006, there has been some improvement in the Maternal Mortality Rate (MMR) which has declined to 254 per 100,000 live births as compared to 327 in 1990. However despite this progress, India is expected to fall short of the 2015 target by 26 points. Safe motherhood depends on the delivery by trained personnel, particularly through institutional facilities. However delivery in institutional facilities has risen slowly from

26% in 1992-93 to 47% in 2007-08. Consequently, deliveries by skilled personnel have increased at the same pace, from 33% to 52% in the same period. By 2015 India is expected to be able to ensure only 62% of births occur in institutional facilities with trained personnel. Thus universal coverage remains to be achieved.

The problems of Tribal women in India are due to deep rooted community traditions, custom, culture, beliefs and taboos. They are imposed on them by the family, society and community at different levels. It can be said that the socio-economic status of the tribal in Bastar is far below: the national standard. The low socio-economic condition is associated with poverty, lack of awareness about personal hygiene, health care & nutrition and livelihood skills to increase productivity using local resources. It has been shared. All these put their development and multidimensional progress and above all, health at risk.

It has been argued by the authors that the improving the "Standard of living" will bring improvement in the health status of Tribal women and Tribal population as a whole. The interaction between social factors and health issues is complex and sometimes unpredictable. For example, in Western Europe during the nineteenth century, increase in income and wealth, resulting from the Industrial Revolution, was accompanied by decrease in both birth and death rates. Many authors have in fact argued that increased income was the main cause of these changes. The situation in the developing world has varied and differs from the so-called "demographic transition" in Europe. In many parts of Asia, and to a certain extent in Latin America, death rates, particularly among infants, have declined steadily in the past decade and birth rates have declined rather dramatically. Yet the increase in income has been very modest. In Africa, on the whole, death rates, particularly of infants, remain high, birth rates are not declining, the benefits of increased income are not yet apparent, and concern over population growth is just

emerging. The relationship between wealth, birth, and death rates observed in the development of West European Countries is thus obviously not universal.

The involvement of tribal community in health care delivery system is essential to improve the health status of tribal women of Bastar. A "holistic" approach is needed to organize the health care delivery system in the way it caters the essentials for women of all tribal groups, with emphasis on improvement of the health of tribal women. For example: Planning of health programme according to felt needs of the tribal women groups; IEC programme in their local dialect by the tribal women in connection with nutrition for all category of tribal women with emphasis on pregnant women; Awareness generation for conduction of deliveries by trained staff; discard the old primitive method of parturition by untrained traditional birth attendants, avoid consumption of alcohol, Abstain from use of smokeless tobacco and smoking tobacco, strenuous physical exertion and taking proper rest during pregnancy. Training of health care staff of peripheral health facilities regarding 100% registration of pregnant tribal women and regular Anti Natal Check Up, giving Prophylactic/Therapeutic treatment of Anaemia during pregnancy; immunization against tetanus, detection of dangerous signs and timely referral to First Referral Units or Tertiary care health facilities; detection of STD's and identification of Genetic disorders i.e. sickle cell and Glucose-6-Phosphate Dehydrogenase Enzyme Deficiency (G-6-PD) and to provide postnatal health services to all tribal mothers. The above has been shared.

One of 20 case studies in Millions Saved: Proven Successes in Public Health is devoted to the reduction of maternal mortality in Sri Lanka. Since 1950, Sri Lanka has reduced maternal deaths. "From between 500 and 600 maternal deaths per 100,000 live births in 1950 to 60 per 100,000. Levine (2007) attributes this decline to four major factors:

- 1) Broad, free access to a strong health system.
- 2) The professionalization and broad use of midwives.
- 3) Gathering of health information and use of this information for policy making.
- 4) Targeted quality improvements to vulnerable groups.

Sri Lanka accomplished its large reduction in maternal mortality while spending a smaller percentage of GDP on health than most countries at its income level. Maternal mortality decreased more rapidly than female death rates in general. Also, death rates from specific causes of maternal mortality, such as hypertensive disease and sepsis, fell. This suggests that maternal mortality fell due to factors other than general improvements in health. If India and Chhattisgarh state public health services can plan to implement these four factors, India along with Chhattisgarh state will achieve reduction in maternal mortality.

It is an article of Maternal Health Status in Tribal India: A 5 Year Intervention Program and its Outcome written by Amit Sengupta, Mamata Sahoo, Asif Khan, Raziya Shaikh, and Rukhsar Khan in the year 2020, it was published in the journal of Indian Journal of Community Medicine. This paper concluded that innovative triage of collective activism, social marketing, and system correction and strengthening appeared to be one of the best fit intervention models that improved the health care delivery mechanism in such inaccessible conflict regions, but the health indicators continue to lag much behind the rest of the rural or urban Chhattisgarh and India (NFHS-4). Therefore, lot more concerted effort is required to be put in by all the stakeholders, so that the facilities provided under NHM can be enhanced and made available to the unreached at par with others in the future.

A recent study has been done by Markordor Lyngdoh and Brogen Singh Akoijam on "Formative research on infant mortality rate in Manipur". They have found in their study that from the perspective of the health care

workers, they are in agreement with the low IMR statistics in Manipur. The most common reason they stated was because of the efficiency of the health workers. There is a belief that there is a disparity between the hilly and plain areas. Further studies need to be conducted in different parts of Manipur to gain insight in the different districts especially the hilly areas.³ World Bank South Asia Human Development Department Washington DC: It is an article of A Closer Look at Child Mortality among Adivasis in India written by Maitreyi Bordia Das, Soumya Kapoor and Denis Nikitin in the year 2010, it was published in Policy Research Working Paper 5231. This paper attempts to disaggregate childhood mortality by age and by social group membership and analyses the correlates for each. Our analysis leads to three results that are of policy relevance. First, we point out that a disproportionately high number of child deaths are concentrated among Adivasis especially in the 1-5 age group and in those states and districts where there is a high concentration of Adivasis. Since the gap between tribal and non-tribal children's mortality outcomes is so high, the slow pace of improvement in India's child mortality MDG is driven to a large extent by tribal mortality. Any effort to reduce child mortality in the aggregate will now have to focus more squarely on lowering mortality among the Adivasis. Second, the gap in mortality between tribal children and the rest really appears after the age of one. In fact before the age of one, tribal children face more or less similar odds of dying as other children. However, these odds significantly reverse later. This calls for a shift in attention from infant mortality or in general under-five mortality to factors that cause a wedge between tribal children and the rest between the ages of one and five. Third, our analysis goes contrary to the conventional narrative of poverty being the primary factor driving differences between mortality outcomes. Instead, we find that upon breaking down child mortality by age, we come to a much more refined picture.

Tribal status then is significant even after controlling for wealth. While heterogeneity is of essence, and what is true for one state or tribe is not true for another, our analysis indicates a significant gap between ST and non ST children and their mothers across the board. Notwithstanding gains in immunization, child treatment and maternal health outcomes, in absolute levels the Scheduled Tribes fare the worst when compared to other categories. Tribal children though as (or less) prone to falling ill than others are significantly less likely to receive treatment. Most tribal women remain deprived of health facilities in their local clusters. They still have to cover significant distances to access formal health care services. Where present, tribal households hesitate to use such facilities due to the significant costs and callous treatment of service providers. Large public assistance programs such as the ICDS can play a useful role. However, changes are needed in the program to bridge the gap between policy intentions and actual performance. Tribal children, especially in the age-group of 0-3 need to be reached urgently and funds need to be redirected to states with higher prevalence of malnutrition. Targeting gaps too need to be addressed. Involving communities in the implementation and monitoring of ICDS can be a useful way of bringing in additional resources into the anganwadi centres, improving quality of service delivery and increasing accountability in the system (Graganolati et al 2006). Proximate and local factors aside, at its root child mortality among tribal is explained by a gradual process of alienation that finds tribal households deprived of their lands, their livelihoods and their traditional sources of nutrition and medicine.

It is an article of "The comparing of infant mortality rate in different World Health Organization regions during 1990-2017" written by Firooz Esmailzadeh, Yousef Alimohamadi, Mojtaba Sepandi, Farzad Khodamoradi & Parisa Jalali in the year 2021, it was published in Egyptian Pediatric Association Gazette. This paper concludes

that the trend of IMR in different regions of WHO had a decreasing trend during the last decades but the amount of decrease is not the same in different areas. This is an ecological study so it is recommended to assess the effective factors on IMR among different regions by the individual-based studies. The comparison we made in this study with regard to the variance that exists at different regional levels can help in further investigations to discover and apply effective interventions that are successful at

the regional level. Multilevel interventions may improve the health status of women, children, and their communities.

Analysis & Discussion:

The Total Fertility Rate of the State is 1.9. The Infant Mortality Rate is 37 and Maternal Mortality Ratio is 141 (SRS 2004 - 06) which are lower than the National average. The Sex Ratio in the State is 934 (as compared to 933 for the country). Comparative figures of major health and demographic indicators are as follows:

S. No.	Item	West Bengal	India
1	Total population (Census 2001) (in millions)	80.18	1028.61
2	Decadal Growth (Census 2001) (%)	17.77	21.54
3	Crude Birth Rate (SRS 2007)	17.9	23.1
4	Crude Death Rate (SRS 2007)	6.3	7.4
5	Total Fertility Rate (SRS 2007)	1.9	2.7
6	Infant Mortality Rate (SRS 2007)	37	55
7	Maternal Mortality Ratio (SRS 2004 - 2006)	141	254
8	Sex Ratio (Census 2001)	934	933
9	Population below Poverty line (%)	27.02	26.10
10	Schedule Caste population (in millions)	18.45	166.64
11	Schedule Tribe population (in millions)	4.41	84.33
12	Female Literacy Rate (Census 2001) (%)	59.6	53.7

Status of Maternal Mortality Rate in West Bengal (MMR)

India/ States	2015-17	2016-18
West Bengal	5.0	5.0

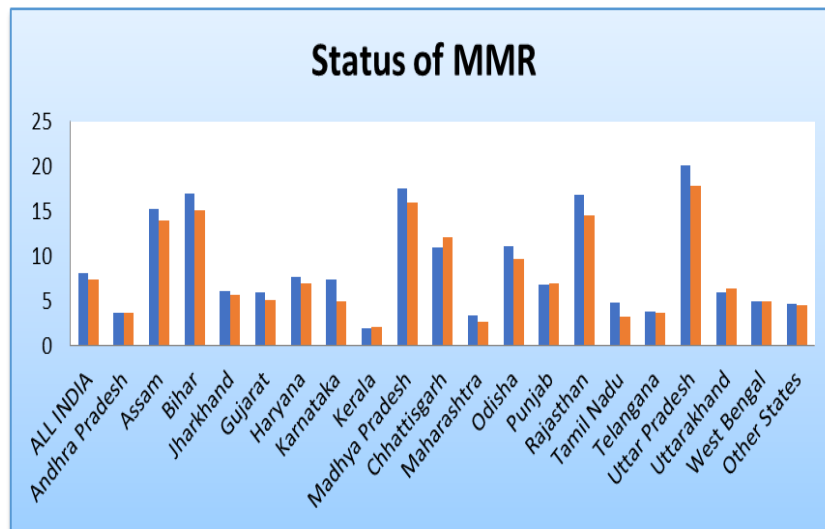
Status of IMR and MMR in India

As per the Sample Registration System (SRS) Report of Registrar General of India (RGI), the Maternal Mortality Rate (MMR) has reduced from 8.1 in 2015-17 to 7.3 in

2016-18 at National Level. The Status of MMR at National level and State level as per SRS 2015-17 and 2016-18 are as follows:

Status of Maternal Mortality Rate (MMR)		
India/ States	2015-17	2016-18
ALL INDIA	8.1	7.3
Andhra Pradesh	3.6	3.6
Assam	15.2	14.0
Bihar	16.9	15.1
Jharkhand	6.1	5.6
Gujarat	6.0	5.1
Haryana	7.7	7.0
Karnataka	7.3	4.9
Kerala	1.9	2.1
Madhya Pradesh	17.5	15.9
Chhattisgarh	11.0	12.1
Maharashtra	3.3	2.6
Odisha	11.1	9.7
Punjab	6.8	7.0
Rajasthan	16.8	14.5
Tamil Nadu	4.8	3.2
Telangana	3.8	3.6
Uttar Pradesh	20.1	17.8
Uttarakhand	5.9	6.4
West Bengal	5.0	5.0
Other States	4.7	4.5

Source: Sample Registration System (SRS) of Registrar General of India (RGI)



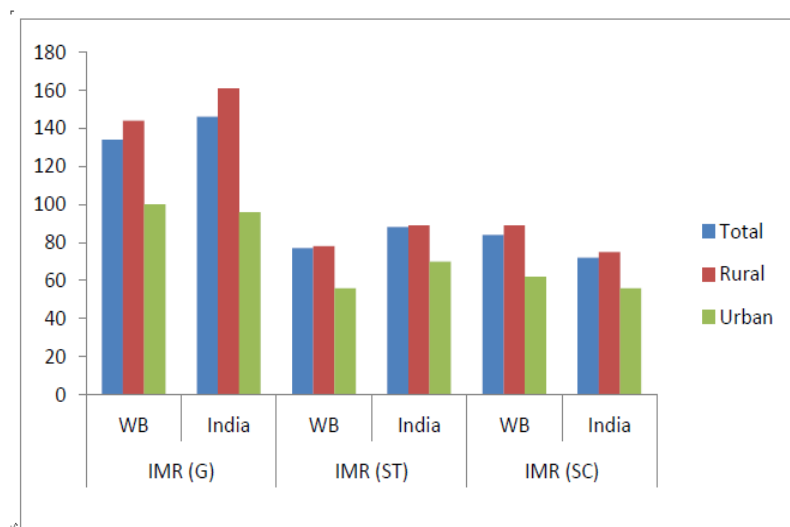
Infant and Child Mortality: West Bengal and India

Sr. No.		SRS: 1991	NFHS 2: 1998-99		
			West Bengal	West Bengal	India
1.	Neo-natal Mortality Rate	R	48.0	—	—
		U	24.7	—	—
		R+U	43.6	31.9	43.4
2.	Post-natal Mortality Rate	R	28.1	—	—
		U	21.9	—	—
		R+U	26.9	16.8	24.2
3.	Infant Mortality Rate	R+U	71	48.7	67.6
4.	Under-5 Mortality Rate	R+U	—	67.6	94.9
5.	Child Mortality Rate	R+U	—	19.9	29.3
6.	Still Birth Rate (per 1000 births)	R	13.6	—	—
		U	7.2	—	—
		R+U	12.4	—	—

Source; - Govt. of West Bengal, *Family Welfare Statistics At a Glance: West Bengal (1995)*, Table 15; NFHS 2, *West Bengal Preliminary Report*, August 2000, Table 16 and NFHS 2 India (1998-99), Table 6.6.

The scenario of Infant Mortality Rate (IMR) in Rural & Urban in respect of WB & India (1991 Census)⁴

	IMR (G)		IMR (ST)		IMR (SC)	
	WB	India	WB	India	WB	India
Total	134	146	77	88	84	72
Rural	144	161	78	89	89	75
Urban	100	96	56	70	62	56



Status of Infant Mortality Rate (MMR)

S. No.	National/ State/ UT	Infant Mortality Rate (per 1000 live births)				
		2015	2016	2017	2018	2019
1	West Bengal	26	25	24	22	20

Status of Maternal Mortality Rate (MMR)

India/ States	2015-17	2016-18
West Bengal	5.0	5.0

(RGI), the Infant Mortality Rate (IMR) has reduced from 37 per 1000 live births in 2015 to 30 per 1,000 live births in 2019 at National Level.

As per the Sample Registration System (SRS) Bulletin of Registrar General of India

No.	National/ State/ UT	Infant Mortality Rate (per 1000 live births)				
		2015	2016	2017	2018	2019
	ALL INDIA	37	34	33	32	30
1	Andhra Pradesh	37	34	32	29	25
2	A&N Islands	20	16	14	9	7
3	Arunachal Pradesh	30	36	42	37	29
4	Assam	47	44	44	41	40
5	Bihar	42	38	35	32	29
6	Chandigarh	21	14	14	13	13
7	Chhattisgarh	41	39	38	41	40
8	D&N Haveli	21	17	13	13	11
9	Daman& Diu	18	19	17	16	17
10	Delhi	18	18	16	13	11
11	Goa	9	8	9	7	8
12	Gujarat	33	30	30	28	25
13	Haryana	36	33	30	30	27
14	Himachal Pradesh	28	25	22	19	19
15	J&K including Ladakh	26	24	23	22	20
16	Jharkhand	32	29	29	30	27
17	Karnataka	28	24	25	23	21
18	Kerala	12	10	10	7	6
19	Lakshadweep	20	19	20	14	8
20	Madhya Pradesh	50	47	47	48	46
21	Maharashtra	21	19	19	19	17
22	Manipur	9	11	12	11	10
23	Meghalaya	42	39	39	33	33
24	Mizoram	32	27	15	5	3
25	Nagaland	12	12	7	4	3
26	Odisha	46	44	41	40	38
27	Puducherry	11	10	11	11	9
28	Punjab	23	21	21	20	19
29	Rajasthan	43	41	38	37	35
30	Sikkim	18	16	12	7	5
31	Tamil Nadu	19	17	16	15	15
32	Telangana	34	31	29	27	23
33	Tripura	20	24	29	27	21
34	Uttar Pradesh	46	43	41	43	41
35	Uttarakhand	34	38	32	31	27
36	West Bengal	26	25	24	22	20

DISCUSSION

A recent study done by Dandub Palzor Negi, Dr. Monica Munjial Singh on Tribal Health in India, this article published in International Journal of Health Sciences & Research. The research findings are concluded by the researcher that 'It is clear that tribal health is in a state continuum. Efforts are being done by the various govt. and non-government organizations to deal

with the issues of tribal health. Hosts of innovations are being applied for the development and making health care available to the most vulnerable population. Govt. is committed to bringing out positive changes. But the health issues and challenges of this population would be in a state of indolence until and unless people from the communities are not involved in the process of health care development.

Tribal health care system especially their indigenous knowledge has to be explored and promoted at every level of health operation and execution. It is high time for the government to bring out and implement a comprehensive health policy at the national level to address the issues of health and related phenomenon among the tribes'. The health and well-being of mothers and children are important indicators of society's overall development and progress. Maternal death and illness reflect not only on how well the health system is functioning, but also the degree of equity in public service delivery, and utilization of services. Maternal health is a key indicator of the social status of women and their decision-making power. Even today in India, a large number of women either do not survive their pregnancy or have to go through the traumatic experience of miscarriages or the death of their child soon after birth due to pregnancy-related complications. Maternal health is closely linked to newborn survival. Unfortunately, 50 children out of every 1,000 children do not live up to the age of five years. Prematurity and low birth weight, pneumonia and diarrheal diseases are responsible for majority of these deaths among children. More than half of these deaths can be prevented by evidence based, cost-effective measures such as universal immunization along with improved child care and feeding practices, antibiotics and micronutrient supplementation. India managed to bring down under-five mortality by almost 54 per cent between 1990 and 2012 (compared with a global reduction of 44.8 per cent). In this unit, the overall health status of mothers and children in India is described in terms of mortality, nutritional status and utilisation of key maternal and child health services, particularly immunization coverage. The emphasis is not so much on actual data as it is to highlight gaps and unmet needs of women and their families.

Infant Mortality Rate (IMR) is the number of deaths per 1,000 live births of children under one year of age. IMR is universally

regarded as the most important indicator of the health status of a community and the effectiveness of Maternal and Child Health services in particular. It is also an excellent indicator of the socio-economic development of a country. This statistical index not only indicates the quantity and number of deaths, but is also indicative of life quality. Infant mortality is the result of a complex web of determinants at different levels. 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 bacteraemia, community-based pneumonia management, and extra care for low birth weight infants, including Kangaroo mother care will lead to reduction in neonatal mortality.⁵

UNICEF works with the Ministry of Health and Family Welfare (MoHFW), Ministry of Women and Child Development (MWCD), NITI Aayog and state governments to support planning, budgeting, policy formulation, capacity building, monitoring, and demand generation. It supports the capacities of health managers and supervisors at district and block-level to plan, implement, monitor and supervise effective maternal health care services with a focus on high-risk pregnant women and those in hard-to-reach, vulnerable and socially disadvantaged communities. UNICEF supports the implementation of various interventions by Government of India, including: UNICEF supports the implementation of MoHFW policy that the every delivery should be attended by a skilled health care provider in a health care facility.⁶

Home Delivery and Infant Mortality Rate

Fujisaki's analysis (2003) identifies the promotion of institutional delivery as a "specialized promoting factor" contributing to the decline in the maternal mortality rate. Here we will see how this theory fits the available data.

We can see from the graph below that in 1950, the rate of home delivery was 95.4%, but by 1960 had halved, and by 1970 was only 4%. We can also see a rapid decline in the infant mortality rate over the same period. From these data, we can conclude that the move to institutional delivery (includes hospital, medical clinic, and maternity clinics) brought about a significant improvement in the Japanese infant mortality rate. One reason for the move to institutional delivery was a directive from the post-war GHQ, and another important factor was the introduction of universal health insurance coverage in 1961, leading to a rapid expansion of medical institutions, providing easy access to medical care even for rural villages.

It is overly simplistic to say, however, that institutional delivery is superior to home delivery. It is more reasonable to suggest that an appropriate system was not in place for home delivery in Japan, and the move to institutional delivery brought about an improvement in the standard of medical care, thereby lowering the infant mortality rate.

From the viewpoint of reproductive health, a pregnant woman should be able to select the place where she will give birth. The modern theory of international health care cooperation states that the goal is not for “a move to institutional delivery,” but rather to “birth under the supervision of someone with specialized training.”

Continuum of Care: Improving the health and nutrition of mothers-to-be and providing quality maternal and new-born health services through a continuum of care approach. This includes improving access to family planning, antenatal care during pregnancy, improved management of normal delivery by skilled attendants, access to emergency obstetric and neonatal care when needed, and timely post-natal care for both mothers and newborns.

Antenatal care: All pregnant mothers must register for antenatal care at the nearest

health facility as soon as aware of the pregnancy to assure healthy progress of their pregnancy and timely identify high risk issues affecting their health or their baby’s well-being.

To achieve the global goal of improving maternal health and to save women’s lives we need to do more to reach those who are most at risk, such as women in rural areas, urban slums, poorer households, adolescent mothers, women from minorities and tribal, Scheduled Caste and Scheduled Tribe groups.

Interventions and/or Recommendation for improving Maternal Mortality Rate (MMR) and Infant Mortality Rate (IMR):

- **Janani Suraksha Yojana (JSY)**, a demand promotion and conditional cash transfer scheme was launched in April 2005 with the objective of reducing Maternal and Infant Mortality by promoting institutional delivery among pregnant women. This scheme encompasses free maternity services for women and children, a nationwide scale-up of emergency referral systems and maternal death audits, and improvements in the governance and management of health services at all levels.
- **Surakshit Matratva Ashwasan (SUMAN)** aims to provide assured, dignified, respectful and quality healthcare at no cost and zero tolerance for denial of services for every woman and newborn visiting the public health facility to end all preventable maternal and newborn deaths.
- **Pradhan Mantri Surakshit Matritva Abhiyan (PMSMA)** provides pregnant women fixed day, free of cost assured and quality Antenatal Care on the 9th day of every month. Launched by MoHFW, provides a fixed day for assured, comprehensive and quality antenatal care free of cost to pregnant women on 9th of every month. This Programme strengthens antenatal care detection and

follows up of high risk pregnancies, contribute towards reduction of maternal deaths and reduce the MMR of India.

- **LaQshya** aims to improve the quality of care in labour room and maternity operation theatres to ensure that pregnant women receive respectful and quality care during delivery and immediate post-partum period.
- **Comprehensive Abortion Care services** are strengthened through trainings of health care providers, supply of drugs, equipment, Information Education and Communication (IEC) etc.
- **Midwifery programme** is launched to create a cadre for Nurse Practitioners in Midwifery who are skilled in accordance to International Confederation of Midwives (ICM) competencies and capable of providing compassionate women-centred, reproductive, maternal and new-born health care services.
- **Delivery Points**-Over 25,000 'Delivery Points' across the country are strengthened in terms of infrastructure, equipment, and trained manpower for provision of comprehensive RMNCAH+N services.
- Functionalization of **First Referral Units (FRUs)** by ensuring manpower, blood storage units, referral linkages etc.
- Setting up of **Maternal and Child Health (MCH) Wings** at high caseload facilities to improve the quality of care provided to mothers and children.
- Operationalization of **Obstetric ICU/HDU** at high case load tertiary care facilities across country to handle complicated pregnancies.
- **Capacity building** is undertaken for MBBS doctors in Anesthesia (LSAS) and Obstetric Care including C-section (EmOC) skills to overcome the shortage of specialists in these disciplines, particularly in rural areas.
- **Maternal Death Surveillance Review (MDSR)** is implemented both at facilities and at the community level.

The purpose is to take corrective action at appropriate levels and improve the quality of obstetric care.

- **Monthly Village Health, Sanitation and Nutrition Day (VHSND)** is an outreach activity for provision of maternal and child care including nutrition.
- Regular IEC/BCC activities are conducted for early registration of ANC, regular ANC, PNC, institutional delivery, nutrition, and care during pregnancy etc.
- Need strong public health awareness programme each & every village by the Government health workers (ASHA, AWW, ANM)

CONCLUSION

It is concluded that the primary causes of deaths included PPH, Eclampsia, and sepsis and the health systems locally need to strengthen the overall health-care delivery system to avert these deaths. Although most of the deaths happened at tertiary care centres but there is a need for improving the secondary level health-care facilities to ensure early treatment of complications around birth. There is a need to improve the provision of preventive maternal and child health services (ante natal, intra natal, and post-natal care) for reducing the maternal mortality further. Infant mortality rate is high in rural area than urban area among the General, St, & SC due to appropriate lack of awareness. The Infant Mortality Rate is 37 and Maternal Mortality Ratio is 141 (SRS 2004 - 06) which are lower than the National average. The data shows that the MMR is reduce day by day, but not in satisfactory positions.

Conflict of Interest: None

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