Maternal Health Situation in Empowered Action Group of States of India: A Comparative Analysis of State Reports from National Family Health Survey (NFHS) - 4 And 5

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Content

Introduction

Maternal health refers to the health of women during pregnancy, childbirth and the postnatal period. Maternal Health is a crucial aspect for any country's development, as it promotes equity and poverty reduction. Some of the key indicators for maternal health are antenatal check-up, institutional delivery and delivery by trained and skilled personnel, post natal care, etc.

According to the latest report from the national Sample Registration system (SRS) data, India's Maternal Mortality Ratio (MMR) for the period of 2018-20 is 97/100,000 live births. Additional efforts will be required for lowering the MMR, especially, in the states of Madhya Pradesh (173), Uttar Pradesh (167), Chhattisgarh (137), Odisha (119), Bihar (118) and Rajasthan (113), which have quite high MMR as compared to the national level, if the SDG target is to be achieved in an equitable manner. Most of these states belong to the Empowered Action Group (EAG) — a classification of socioeconomically poor regions — on whom the country’s development depends.

Research Question

What is the progress of EAG states in terms of the Key Maternal health indicators over the past 5 years?

Aim & Objectives

The aims and objectives of this study are as follows:

- To assess the situation of maternal health in EAG states based on analysis of NFHS-4 and NFHS-5 data.
- To do a comparative analysis of key maternal health indicators of these states using NFHS data

Methodology

A secondary study was conducted with a descriptive design that aimed to utilize data extracted from the reports of NFHS-4 and NFHS-5.

The study focused on the Empowered Action Group (EAG) states of India, including Bihar, Chhattisgarh, Jharkhand, Madhya Pradesh, Odisha, Rajasthan, Uttar Pradesh, and Uttarakhand.

ANC Indicators in the EAG states

States such as Madhya Pradesh (NFHS-4=53%; NFHS-5=75.4%), Bihar (34.6% to 52.9%), and Uttar Pradesh (44.9% to 62.5%) have shown significant improvements in antenatal check-up rates. However, Chhattisgarh has seen a decrease in the percentage of mothers receiving antenatal check-ups in the first trimester (70.8% to 65.7%). The data also reveals that there has been an improvement in the percentage of mothers receiving at least four antenatal care visits in all states except Chhattisgarh. The largest improvements were observed in Odisha (59.1% to 91.9%), Uttarakhand (30.9% to 61.8%), and Madhya Pradesh (35.7% to 57.5%).

State	NFHS-4	NFHS-5
Mothers who had antenatal check-up in the first trimester (%)		
Bihar	34.6	52.9
Madhya Pradesh	53	75.4
Rajasthan	63	76.3
Uttar Pradesh	45.9	62.5
Uttarakhand	53.5	68.8
Jharkhand	52	68
Chhattisgarh	70.8	65.7
Odisha	64	76.9
Mothers who had at least 4 antenatal care visits (%)		
Bihar	14.4	25.2
Madhya Pradesh	35.7	57.5
Rajasthan	38.5	55.3
Uttar Pradesh	26.4	42.4
Uttarakhand-	30.9	61.8
Jharkhand	30.3	38.6
Chhattisgarh	59.1	60.1
Odisha	59.1	91.9
Percentage of mothers who received ANC services.		

Protection against neonatal tetanus and anaemia in the EAG states.

Uttar Pradesh showed the most significant improvement (86.5% to 92.1%). Bihar remained relatively stable while the percentages of Jharkhand and Chhattisgarh declined slightly.

In all states, there was a significant increase in the proportion of mothers-to-be who took iron and folic acid (IFA) for at least 100 days of pregnancy. The improvement was most notable in Madhya Pradesh, from 23.5% to 51.4%, followed by Odisha (36.5% to 60.8%) and Uttarakhand (24.9% to 46.6%).

State	NFHS-4	NFHS-5
% of mothers whose last birth was protected against neonatal tetanus		
Bihar	89.6	89.5
Madhya Pradesh	89.8	95
Rajasthan	89.7	93.4
Uttar Pradesh	86.5	92.1
Uttarakhand	91.4	93.6
Jharkhand	91.7	90.8
Chhattisgarh	94.3	91.9
Odisha	94.3	95.2
% of mothers who consumed IFA for 100 days or more when they were pregnant		
Bihar	9.7	18
Madhya Pradesh	23.5	51.4
Rajasthan	17.3	33.9
Uttar Pradesh	12.9	22.3
Uttarakhand	24.9	46.6
Jharkhand	15.3	28.2
Chhattisgarh	30.3	45
Odisha	36.5	60.8
Percentage of mothers who are protected from neonatal tetanus and anaemia.		

Mother and Child Protection (MCP) card in the EAG states.

Bihar, Rajasthan, Uttar Pradesh, and Chhattisgarh demonstrated notable progress, while Madhya Pradesh and Jharkhand exhibited moderate advancement. Uttarakhand was the only state that experienced a minor decline between NFHS-4 and NFHS-5, and Odisha showed a slight improvement but still achieved an exceptionally high rate compared to other states.

State	NFHS -4	NFHS -5
Bihar	79.9	89.5
Madhya Pradesh	92.2	96.7
Rajasthan	92.3	98.1
Uttar Pradesh	86.5	92.1
Uttarakhand	93.4	91.4
Jharkhand	86.9	91.5
Chhattisgarh	91.4	97.5
Odisha	97.2	99.4

Percentage of registered pregnancies for which the mother received Mother and Child Protection (MCP) card.

Mothers who received postnatal care from a doctor/nurse/LHV/ANM/midwife/other health personnel within 2 days of delivery

The most notable increase in postnatal care provision within two days of delivery was observed in Madhya Pradesh (NFHS-4=54.9%; NFHS-5=83.5%), followed by Rajasthan (NFHS-4=63.7%; NFHS-5=85.3%) and Uttarakhand (NFHS-4=54.8%; NFHS-5=78%). Odisha (88.4%) and Rajasthan (85.3%) were the states with the highest coverage of post-delivery care in NFHS-5, while Bihar (57.3%) had the least. Although Bihar has made significant progress, it still lags behind other states, highlighting the need for further improvements.

State	NFHS-4	NFHS-5
Bihar	42.3	57.3
Madhya Pradesh	54.9	83.5
Rajasthan	63.7	85.3
Uttar Pradesh	54	72
Uttarakhand	54.8	78
Jharkhand	69.1	66.7
Chhattisgarh	63.6	84
Odisha	73.2	88.4

Percentage of women who received post-natal care. *ANM-Auxiliary Nurse Midwife, LHV-Lady Health Visitor

DELIVERY CARE

According to NFHS-5, Rajasthan had the highest percentage of institutional births (94.9%) followed by Madhya Pradesh (90.7%) and Odisha (92.2%), indicating that these three states have a strong maternal healthcare medical system. Although Jharkhand recorded the lowest birth rate in NFHS-4 (61.9%), it recorded a significant increase in NFHS-5 (75.8%). Uttar Pradesh (67.8% to 83.4%) and Uttarakhand (68.6% to 83.2%) have made significant progress in increasing institutional provision, reflecting their commitment to improving health infrastructure.

In public facilities, Odisha registered the highest proportion of institutional births, followed by Madhya Pradesh in both NFHS-4 and NFHS-5. Jharkhand and Uttarakhand recorded the lowest percentage of institutional births in communal amenities.

Percentage of delivery Care.		
State	**NFHS-4**	**NFHS-5**
% of institutional birth		
Bihar	63.8	76.2
Madhya Pradesh	80.8	90.7
Rajasthan	84	94.9
Uttar Pradesh	67.8	83.4
Uttarakhand	68.6	83.2
Jharkhand	61.9	75.8
Chhattisgarh	70.2	85.7
Odisha	85.3	92.2
% of institutional births in public facilities		
Bihar	47.6	56.9
Madhya Pradesh	69.4	80.2
Rajasthan	63.5	77
Uttar Pradesh	44.5	57.7
Uttarakhand	43.8	53.3
Jharkhand	41.8	56.8
Chhattisgarh	55.9	70
Odisha	75.8	78.7

DELIVERY CARE

Home births that were conducted by skilled health personnel: The percentage of home deliveries conducted by skilled health personnel has declined in most states except Madhya Pradesh, Uttar Pradesh, and Jharkhand. In Chhattisgarh and Bihar, the number of home births among skilled health personnel has decreased significantly.

Births attended by skilled health personnel in the EAG states. Uttar Pradesh and Jharkhand have shown the most significant improvement in the proportion of births attended by skilled healthcare personnel between the two surveys. According to NFHS-5, Rajasthan had the highest number of births attended by skilled health personnel (95.6%), while Bihar had the lowest percentage (79.0%). There is overall increase in maternal health services indicating progress in safer birth practices, increased awareness, and improved access to quality health services, and there is increased evidence for the proportion of births attended by skilled health personnel.

State	NFHS-4	NFHS-5
% of home deliveries conducted by skilled health personnel		
Bihar	8.2	6.1
Madhya Pradesh	2.3	2.5
Rajasthan	3.2	1.4
Uttar Pradesh	4.1	4.7
Uttarakhand	4.6	3.4
Jharkhand	8	8.4
Chhattisgarh	8.4	5.8
Odisha	3.3	1.9
% of births attended by skilled health personnel		
Bihar	70	79
Madhya Pradesh	78	89.3
Rajasthan	86.6	95.6
Uttar Pradesh	70.4	84.8
Uttarakhand	71.2	83.7
Jharkhand	69.6	82.5
Chhattisgarh	78	88.8
Odisha	86.5	91.8

Percentage of caesarean section

Births in a private health facility: The proportion of C-sections performed in private facilities increased in EAG states from NFHS-4 to NFHS-5. According to NFHS-5, Odisha had the highest percentage of C-sections in private facilities. Rajasthan, on the other hand, saw the lowest increase in caesarean sections from 23.2% to 26.9%.

Births in a public health facility: Uttarakhand reported the highest number of caesarean sections in public health facilities, while Bihar had the lowest increase. Overall, the number of caesareans in East Asian Games countries showed a clear upward trend.

State	NFHS-4	NFHS-5
% of caesarean section in private facilities		
Bihar	31	39.6
Madhya Pradesh	40.8	52.3
Rajasthan	23.2	26.9
Uttar Pradesh	31.3	39.4
Uttarakhand	36.4	43.3
Jharkhand	39.5	46.7
Chhattisgarh	46.6	57
Odisha	53.7	70.7
% of caesarean section public health facilities		
Bihar	2.6	3.6
Madhya Pradesh	5.8	8.2
Rajasthan	6.1	7.2
Uttar Pradesh	4.7	6.2
Uttarakhand	9.3	14
Jharkhand	4.6	7
Chhattisgarh	5.7	8.9
Odisha	11.5	15.3

Educational Attainment

Bihar, Madhya Pradesh, and Rajasthan are among the states that have witnessed an enhancement in both educational levels and the utilization of ANC services between the two surveys. Chhattisgarh has experienced a noteworthy escalation in educational levels.

Attaining knowledge plays a vital role in empowering women and enhancing their overall health and well-being, which includes maternal health. Obtaining higher levels of knowledge is often associated with lower MMR, as knowledgeable women are more likely to have better understanding about maternal health, access healthcare facilities, and make informed decisions regarding their reproductive health.

State	Median number of years of schooling completed	
	NFHS-4	NFHS-5
Bihar	0.9	2.0
Madhya Pradesh	3.6	4.3
Rajasthan	1.7	4.0
Uttar Pradesh	3	4.3
Uttarakhand	4.9	6.3
Jharkhand	2.3	3.4
Chhattisgarh	0.2	4.6
Odisha	4	4.5

Discussion

The results of the research indicate that the EAG states have made significant progress in improving maternal health indicators, especially in antenatal care and postnatal care within two days of delivery. The percentage of expectant mothers who received antenatal care (ANC) in the first trimester increased between NFHS-4 and NFHS-5. The highest increase of 20 percentage points was observed in Madhya Pradesh.

In India, efforts to address anaemia primarily focus on pregnant women, with regular provision of TT and IFA tablets to maintain pregnancy health and well-being. However, NFHS-4 survey results showed low consumption of IFA tablets in EAG states, with only half of women protected against anaemia compared to NFHS-5. Regular IFA provision and improved consumption through advocacy and communication measures are crucial for maternal and child health, as haemoglobin levels play a significant role.

Based on the data obtained from NFHS-4 and 5, private hospitals have a significantly higher rate of Caesarean Section (CS) deliveries compared to the benchmarks established by the WHO. This implies that there might be an excessive use of CS deliveries and questionable evaluation of cases. This trend is particularly noticeable in Bihar and MP.

Conclusion

The comparison of NFHS-4 and NFHS-5 data revealed improvements in a number of critical maternal health indicators across the EAG states. Maternal mortality ratios have decreased, prenatal care coverage has increased, institutional delivery rates have increased, and availability to competent birth attendants has improved. These advances were made possible by a variety of efforts and interventions undertaken by the government, civil society organisations, and healthcare professionals to improve maternal health services.

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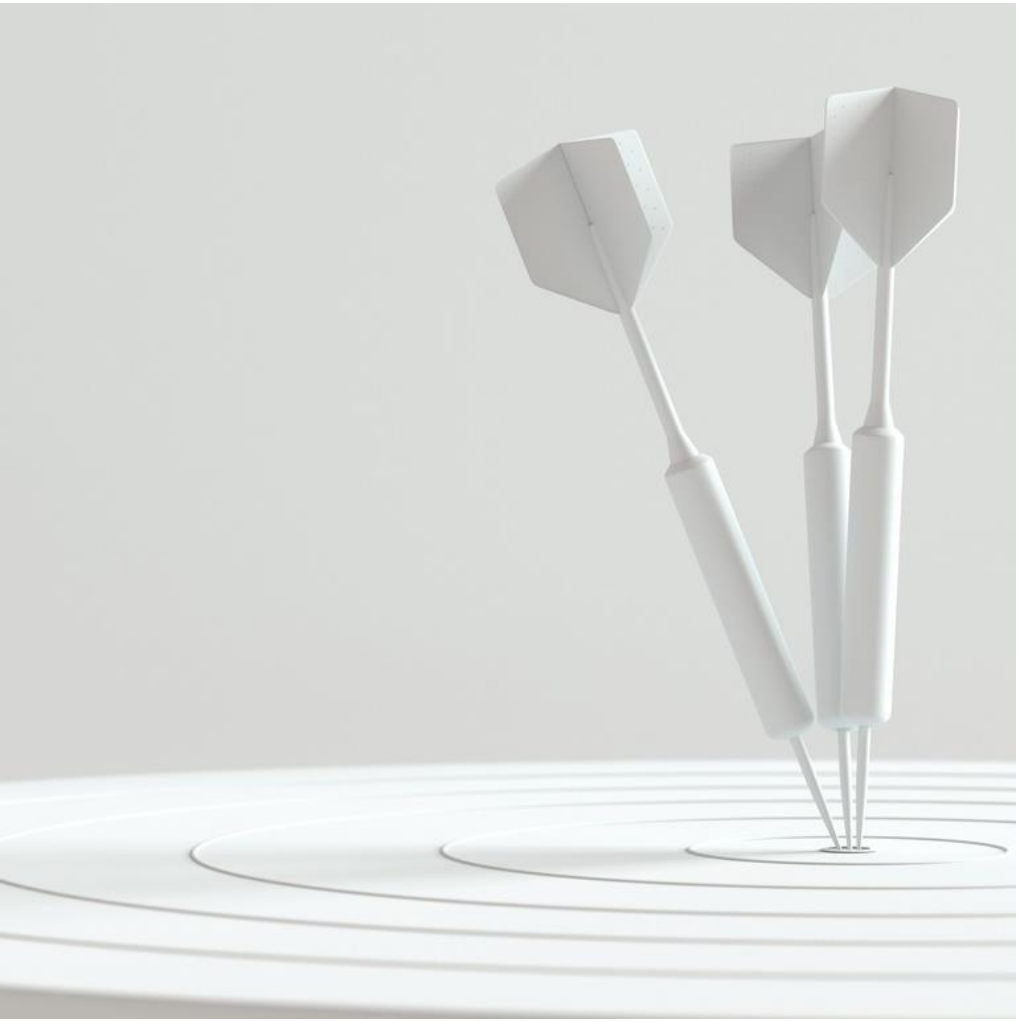

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