

# The State of Malnutrition and Menstrual Hygiene in Madhya Pradesh: A Critical Analysis and Call for Government Action

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## Abstract

Madhya Pradesh, one of India's most populous states, grapples with persistent public health challenges, particularly in the realms of child malnutrition and menstrual hygiene management (MHM). Drawing on data from the National Family Health Survey-5 (NFHS-5, 2019-21) and recent reports up to 2025, this paper examines the current status of these issues, their determinants, and their interconnected impacts on health, education, and socioeconomic development. Malnutrition affects over 40% of children under five in the state, with stunting rates at 41.61% and underweight prevalence at 26.21%, far exceeding national averages. Concurrently, only 61% of adolescent women aged 15-24 use hygienic menstrual methods, contributing to reproductive health risks and school absenteeism. These challenges are exacerbated by socioeconomic disparities, rural-urban divides, and tribal vulnerabilities. The paper highlights the urgent need for the Madhya Pradesh government to prioritize integrated interventions, emphasizing enhanced funding, community education, and infrastructure to achieve Sustainable Development Goals (SDGs) on health and gender equality. Recommendations include scaling up nutrition rehabilitation centers and menstrual hygiene schemes like Project Udit. This analysis underscores that addressing these issues is not merely a health imperative but a foundational step for equitable economic growth and human capital development in the state.

## Introduction

Madhya Pradesh, often referred to as the "Heart of India," spans 308,245 square kilometers and is home to approximately 85 million people, with a significant tribal population comprising 21% of its residents. Despite economic progress, including a projected GDP growth of 7-8% annually through 2025, the state lags in human development indicators, particularly nutrition and women's health. Malnutrition and poor menstrual hygiene represent intertwined crises that undermine the state's demographic dividend, affecting child survival, adolescent girls' education, and women's productivity.

Malnutrition in Madhya Pradesh is a multifaceted epidemic, rooted in food insecurity, inadequate sanitation, and limited healthcare access. According to NFHS-5, 41.61% of children under five are stunted—a marker of chronic undernutrition—compared to the national average of 35.5%. This is compounded by acute issues like wasting (19.3%) and underweight (26.21%), with tribal districts such as Harda reporting severe acute malnutrition (SAM) rates up to 18.8%. Recent 2025 data reveals over 1 million children classified as malnourished, with admissions to Nutrition Rehabilitation Centres (NRCs) surging to 20,741 in 2024-25, a 79% increase from 2020-21.

Menstrual hygiene, equally critical, intersects with nutrition as anemia—prevalent in 57% of women—affects 68% of under-five mortality nationwide and exacerbates menstrual health risks. NFHS-5 indicates that only 61% of women aged 15-24 in Madhya Pradesh use hygienic methods (sanitary pads, tampons, or menstrual cups), the second-lowest rate after Bihar's 59.7%. Rural and tribal areas fare worse, with 59% of tribal women relying on unhygienic clothes, leading to infections and school dropout rates as high as 20-25% during menstruation.

These issues are not isolated; poor MHM contributes to nutritional deficiencies, as infections from unhygienic practices impair nutrient absorption, while malnourished girls face heavier, more painful periods due to anemia. This paper synthesizes recent evidence to delineate the status, causes, and consequences of malnutrition and MHM in Madhya Pradesh. It argues that government intervention is imperative for breaking cycles of poverty and gender inequity, aligning with SDGs 2 (Zero Hunger), 3 (Good Health and Well-Being), and 5 (Gender Equality). The analysis draws on NFHS-5 district-level data, Global Hunger Index (GHI) 2024, and state-specific reports up to 2025.

## Literature Review

### Malnutrition in Madhya Pradesh: Trends and Determinants

India's malnutrition burden is staggering, with the 2024 GHI ranking the country 111th out of 125, scoring 27.3 ("serious" hunger), driven by child undernutrition rates of 36% stunted and 17% underweight. Madhya Pradesh exemplifies regional disparities, historically among the highest in undernutrition alongside Bihar and Uttar Pradesh. NFHS-5 data reveals stunting at 41.61% (vs. national 35.5%), wasting at 19.3% (national 19.3%), and underweight at 26.21% (national 32.1%), with improvements from NFHS-4 but persistent hotspots in tribal belts. A 2025 study using NFHS data identified Madhya Pradesh as a geographic cluster for child growth failure, linked to sanitation deficits and maternal illiteracy.

Determinants include socioeconomic factors: 40% of Anganwadi children are stunted, with rural rates 10-15% higher than urban. Anemia affects 57% of women, perpetuating intergenerational malnutrition via low birth weights. Climate change and food price hikes exacerbate undernourishment, with 13.7% of the population undernourished in 2021-23. Interventions like the Integrated Child Development Services (ICDS) have increased coverage, but implementation gaps persist, as evidenced by rising NRC admissions.

### Menstrual Hygiene Management: National and State Contexts

MHM literature emphasizes its role in preventing reproductive tract infections (RTIs), with 62% of Indian women showing RTI symptoms linked to poor practices. NFHS-5 reports national hygienic method use at 77.3% among adolescents, up from 48% in NFHS-4, but disparities abound. In Madhya Pradesh, usage stands at 61%, with rural districts like Sidhi at 8% and tribal PVTGs (Particularly Vulnerable Tribal Groups) at 41%. A 2023 meta-analysis of tribal women found 59% using cloths, highest in Madhya Pradesh, tied to poverty and stigma.

Spatial analyses reveal hotspots in central India, including Madhya Pradesh, where illiteracy correlates with unhygienic practices (ECI inequality index 0.46). Social taboos restrict discussions, leading to absenteeism: 23% of girls miss school during periods. Government schemes like the Menstrual Hygiene Scheme (MHS) provide subsidized pads, but supply irregularities hinder reach.

### Interlinkages and Gaps

Studies highlight synergies: Malnutrition weakens immunity, increasing RTI vulnerability from poor MHM, while menstrual blood loss aggravates anemia. In Madhya Pradesh's tribal areas, 70% anemia rates amplify both. Gaps in literature include longitudinal impacts on workforce participation and cost-effectiveness of integrated programs.

(Word count: 678; Cumulative: 1,438)

### Methodology

This paper employs a secondary data synthesis approach, drawing on quantitative and qualitative sources for a comprehensive review. Primary data stems from NFHS-5 (2019-21), which surveyed 51 districts in Madhya Pradesh, covering 34,560 households and 28,558 women aged 15-49, with modules on nutrition (anthropometry for under-fives) and MHM (self-reported absorbent use). Indicators include stunting (height-for-age <-2SD), wasting (weight-for-height <-2SD), underweight (weight-for-age <-2SD), and hygienic MHM (exclusive use of pads/cups).

Supplementary sources include: (1) Web-based reports from 2023-2025, such as NDTV's malnutrition trackers and GHI 2024; (2) Peer-reviewed articles from PubMed/PMC on tribal MHM; (3) Government documents on initiatives like Project Udit. Searches used keywords like "malnutrition Madhya Pradesh NFHS-5" and "menstrual hygiene tribal Madhya Pradesh," yielding 50+ sources, filtered for recency and relevance.

Analysis involved descriptive statistics (prevalence rates, district variations) and narrative synthesis of determinants/consequences. Spatial insights from LISA maps identified hotspots. Limitations: Reliance on self-reports may understate stigma-driven behaviors; post-2021 data is sparse due to COVID disruptions.

### Findings

#### Current State of Malnutrition

NFHS-5 district data reveals stark intra-state variations. Stunting exceeds 50% in tribal districts like Mandla (52.3%) and Dindori (51.8%), compared to urban Bhopal's 19.9%. Underweight leads nationally at 26.21%, with 45/55 districts in the "red zone" (>20% underweight) per 2025 Nutrition Tracker. SAM hotspots include Harda (18.8%) and Burhanpur (15.2%), with 85,330 NRC admissions from 2020-2025, peaking in 2024-25. Anemia persists at 57% for women and 66% for children, worsening intergenerational cycles.

Indicator	Madhya Pradesh (NFHS-5)	National Average	Change from NFHS-4
Stunting (U5)	41.61%	35.5%	-6.3%
Wasting (U5)	19.3%	19.3%	-6.8%
Underweight (U5)	26.21%	32.1%	-3.7%
Anemia (Women 15-49)	57%	57%	+2.2%

Source: NFHS-5; WCD Ministry 2024

### Status of Menstrual Hygiene Management

Hygienic method use is 61% among 15-24-year-olds, up from 37.6% in NFHS-4, but rural rates lag at 56% vs. urban 72%. Tribal PVTGs like Bharia show 59% unhygienic use, with 86 districts clustering low practices. School preparedness is inadequate: Only 27% have disposal facilities, leading to 20% absenteeism. Inequalities are pronounced: 90% usage among educated vs. 44% illiterate; Scheduled Castes at 55%.

Demographic	Hygienic Method Use (%)	Unhygienic/Cloth Use (%)
Rural Adolescent Girls	56	39
Urban Adolescent Girls	72	23
Tribal PVTGs	41	59
Overall 15-24 Women	61	34

*Source: NFHS-5; PMC Studies 2023-25*

### Interconnections

In 2025, 40% of malnourished girls reported RTIs from poor MHM, amplifying wasting by 15% via infections. Anemia links both: 57% prevalence doubles menstrual pain and dropout risks.

### Discussion

The findings paint a grim picture: Madhya Pradesh's malnutrition rate (7.79% severe) exceeds the national 5.40%, with 1.36 lakh severely wasted children in 2025. Determinants—poverty (23% below poverty line), sanitation gaps (38% households without improved facilities), and low maternal education (literacy 58%)—mirror national trends but are acute in tribal areas. MHM fares marginally better, with 61% adoption, yet hotspots like Sidhi (8%) signal policy blind spots.

Consequences are profound. Malnutrition costs India 4% GDP annually; in Madhya Pradesh, it stifles workforce productivity, with stunted children earning 20% less as adults. For MHM, 23% girl dropouts perpetuate gender gaps, with RTIs affecting 62% and linking to 68% child mortality via anemia. Integrated effects: Undernourished girls face 2x RTI risk, trapping families in poverty.

Government initiatives show promise but falter in scale. Nutrition efforts like Mukhyamantri Bal Arogya (136,252 registered malnourished children) and Rs 4,895 crore 2025-26 budget aim for <33% stunting by 2025, yet red-zone districts persist. MHM's Project Udita provides pads to 19 lakh girls (Rs 57.18 crore in 2024), praised by UNICEF, but irregular supplies limit impact. Ayushman Bharat integrates peer education, yet only 27% schools have incinerators.

Why government action is necessary: Economically, resolving these could boost GDP by 5-10% via healthier workforce; socially, it advances gender equity, reducing 23% child marriages linked to dropouts. Politically, Madhya Pradesh's Vision 2047 targets <25% underweight by 2025—failure risks SDG shortfalls and electoral backlash in tribal belts. Integrated programs, like nutrition-MHM bundles in VHSNDs, could yield 16:1 ROI. Without scaled funding (e.g., Rs 12/child/day is inadequate), the state risks a "silent crisis."

### Conclusion and Recommendations

Madhya Pradesh's malnutrition and MHM crises demand urgent, holistic government intervention to safeguard its future. With 1+ million malnourished children and 39% unhygienic MHM practices, inaction perpetuates inequity. The state must:

1. Increase nutrition budget, expanding NRCs and IFA supplementation;
2. Universalize Project Udita with sustainable pads and school incinerators;
3. Launch integrated VHSND campaigns targeting tribals;
4. Monitor via digital trackers with district benchmarks.

By prioritizing these, Madhya Pradesh can transform from epicenter to exemplar, fostering a healthier, empowered populace.

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