

Interlinkages Between Tribal Education and Health Outcomes in Chhattisgarh, India

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Abstract—Tribal populations in India continue to experience persistent disadvantages in education and health, despite sustained policy attention and constitutional protections. Chhattisgarh, one of India's most tribal-concentrated states, provides a critical setting for examining how educational conditions shape health outcomes among indigenous communities. This study presents a contemporary descriptive analysis of the interrelationship between tribal education and health outcomes in Chhattisgarh during the period 2015–2025, with specific focus on Particularly Vulnerable Tribal Groups (PVTGs). Using a descriptive-analytical framework, the study synthesizes secondary data from national surveys, census reports, state government documents, and peer-reviewed literature. A meta-analytical narrative approach is employed to identify recurring patterns linking educational attainment with health indicators such as nutrition, maternal health, and healthcare utilization. The findings reveal that while improvements in primary education and basic health service coverage have generated modest gains, persistent educational discontinuities, low female literacy, cultural dissonance, and structural exclusion continue to undermine health outcomes. The study argues that fragmented sectoral interventions are insufficient and highlights the need for integrated, culturally responsive education–health strategies to advance sustainable human development among tribal communities.

Index Terms—Tribal education; tribal health; Chhattisgarh; PVTGs; human development; social exclusion

I. INTRODUCTION

Education and health are universally recognized as foundational pillars of human development, mutually reinforcing each other across the life course. In

indigenous and tribal contexts, however, the interaction between these two domains is shaped by historical marginalization, spatial isolation, and socio-cultural discontinuities. Tribal communities in India, constitutionally recognized as Scheduled Tribes, represent a heterogeneous social category with distinct cultural practices, livelihood systems, and knowledge traditions. Yet, they remain disproportionately affected by poverty, ill-health, and educational deprivation [1].

Chhattisgarh occupies a central position in India's tribal geography. Approximately one-third of the state's population belongs to Scheduled Tribes, many of whom reside in forested, hilly, and resource-constrained regions [2]. The state is also home to several PVTGs, including the Baiga, Kamar, and Korwa, who experience extreme levels of social and economic vulnerability. In these settings, limited educational opportunities intersect with fragile health systems, producing cumulative disadvantages across generations.

Education influences health through multiple pathways. Schooling enhances health literacy, facilitates informed health-seeking behavior, improves employment prospects, and strengthens access to public services. Conversely, poor health during childhood undermines cognitive development, school attendance, and learning outcomes. While this bidirectional relationship is well documented in general populations, its dynamics within tribal contexts remain insufficiently explored, particularly at the regional level.

Over the last decade, the Indian state has expanded education and health interventions targeting tribal populations through programs such as Samagra

Shiksha Abhiyan, Eklavya Model Residential Schools, the National Health Mission, and Ayushman Bharat. Although these initiatives have improved physical access to services, questions persist regarding their effectiveness in addressing qualitative deficits, linguistic barriers, and cultural relevance. This study examines how contemporary patterns of tribal education in Chhattisgarh shape health outcomes, with particular emphasis on structural inequalities and extreme vulnerability among PVTGs.

II. LITERATURE REVIEW

Existing scholarship situates tribal deprivation within broader processes of historical exclusion and uneven development. Studies emphasize that tribal marginalization extends beyond material poverty to encompass political invisibility and cultural alienation [1]. Investments in social sectors such as education and health are widely recognized as critical for reducing inter-group inequalities and enhancing human capabilities [3].

Research on tribal education consistently highlights a pattern of improved primary enrollment alongside high dropout rates at secondary and post-secondary levels. Linguistic mismatch between home languages and the medium of instruction, poor school infrastructure, teacher absenteeism, and limited relevance of curricula to indigenous livelihoods are frequently cited constraints [4]. These educational disruptions have long-term consequences for employment security, income stability, and health outcomes.

Health-focused studies report persistent disparities between tribal and non-tribal populations across key indicators. Higher prevalence of child malnutrition, anemia among women, and lower utilization of maternal health services are widely documented [5]. Maternal education emerges as a particularly strong determinant of child survival, nutrition, and healthcare utilization in tribal regions [6].

Recent research increasingly advocates integrated and culturally grounded approaches. Education systems that incorporate indigenous languages and knowledge traditions are found to enhance community engagement and health awareness [7]. Studies on PVTGs reveal severe deficits in both education and health infrastructure, suggesting that uniform policy

frameworks are inadequate for addressing differentiated vulnerability [8].

Despite this body of work, region-specific, contemporary analyses that explicitly integrate education and health through a meta-analytical descriptive lens remain limited. This study contributes to this gap by focusing on Chhattisgarh and synthesizing evidence across sectors and populations.

III. OBJECTIVES OF THE STUDY

1. To examine the linkage between education and health outcomes among tribal communities in Chhattisgarh.
2. To analyze the health impact of educational dropout among Scheduled Tribes and PVTGs.
3. To assess the role of female education in maternal and child health among tribal populations.
4. To identify key barriers to sustainable education–health integration in tribal regions.

IV. MATERIALS AND METHODS

The study adopts a descriptive–analytical research design based exclusively on secondary data. Data sources include the Census of India, National Family Health Survey (NFHS-4 and NFHS-5), reports from the Government of Chhattisgarh, publications of the Ministry of Tribal Affairs, and peer-reviewed journal articles published between 2015 and 2025.

A narrative meta-analytical approach was employed to synthesize findings across multiple studies and datasets. The analysis focuses on identifying consistent patterns linking educational indicators—such as literacy, school retention, and female education—with health outcomes including nutrition, maternal health, preventive behavior, and healthcare utilization. Comparative analysis distinguishes trends among the general tribal population and PVTGs.

V. RESULT AND DISCUSSION

1. Education, Health, and Sustainability in Tribal Contexts

Education and health are widely recognized as mutually reinforcing dimensions of sustainable human development. Education enhances cognitive skills, social participation, and health literacy, while good health supports learning capacity, school retention,

and productivity across the life course [9]. However, among tribal populations, this virtuous cycle is often disrupted by structural exclusion, spatial isolation, and historical neglect.

Scheduled Tribes in India represent a culturally diverse yet structurally marginalized segment of the population. Despite constitutional protections, tribal communities continue to face disproportionate deprivation in schooling, healthcare access, nutrition, and life expectancy [10]. These disadvantages are not accidental but are embedded within long-standing political, economic, and cultural processes of exclusion.

Chhattisgarh provides a critical empirical context for examining these dynamics. With nearly one-third of its population belonging to Scheduled Tribes [2], the state’s development trajectory is inseparable from tribal well-being. Many tribal settlements are located in forested and hilly terrains characterized by weak infrastructure, limited institutional reach, and fragile service delivery systems. These challenges are particularly acute among PVTGs such as the Baiga, Kamar, and Korwa, who’s educational and health indicators remain among the poorest in the country [11].

2. Education as a Social Determinant of Tribal Health

The meta-analytical synthesis indicates that education functions as a critical social determinant of health in tribal regions. Expansion of primary schooling under initiatives such as Samagra Shiksha Abhiyan and Eklavya Model Residential Schools has increased enrollment and basic literacy. These gains are reflected in improved awareness of immunization, sanitation, and child nutrition [6].

However, the analysis also reveals that educational continuity rather than mere access is central to sustained health improvement. High dropout rates at the secondary level sharply limit the transformative potential of education. Communities experiencing early school exit exhibit higher prevalence of child stunting, maternal anemia, and low utilization of institutional healthcare services [12].

This pattern underscores a critical sustainability concern: fragmented educational trajectories yield only partial health benefits and fail to interrupt intergenerational cycles of deprivation. Education, when truncated, does not fully translate into enhanced health capabilities.

3. Gendered Pathways: Female Education and Intergenerational Health

One of the most robust findings of this study concerns the gendered nature of education–health linkages. Low female literacy among tribal populations is strongly associated with adverse maternal and child health outcomes. Early marriage, repeated pregnancies, nutritional deficiencies, and limited engagement with formal healthcare systems are more prevalent in contexts where girls’ education is constrained [6].

Conversely, even modest improvements in female educational attainment are associated with substantial health gains. Educated women demonstrate greater autonomy in reproductive decision-making, improved childcare practices, and higher uptake of antenatal and postnatal services (NFHS-5). These findings align with global evidence positioning women’s education as a cornerstone of sustainable development and population health [13].

4. PVTGs and the Sustainability Deficit

Among PVTGs, the education–health nexus is marked by extreme fragility. Educational deprivation is intensified by geographic isolation, absence of mother-tongue instruction, teacher shortages, and digital exclusion. These barriers translate directly into poor health outcomes, including severe malnutrition, high disease burden, and reduced life expectancy [7]. The COVID-19 pandemic further exposed these vulnerabilities. School closures disproportionately affected PVTG children due to lack of digital access, while disruptions in outreach health services amplified existing health risks. The experience of PVTGs highlights the unsustainability of uniform policy frameworks and the need for differentiated, context-specific interventions.

<i>Educational dimension</i>	Health outcome	Descriptive relationship	Source
<i>Primary schooling access</i>	Immunization coverage	Higher access linked to improved coverage	IIPS (2021) [6]
<i>Secondary dropout</i>	Child malnutrition	Dropout associated with higher stunting	Sharma & Singh (2018) [12]

<i>Female literacy</i>	Maternal healthcare use	Educated women show higher ANC uptake	IIPS (2021) [6]
<i>Health education exposure</i>	Preventive behaviour	Low education linked with under-utilization	Govt. of Chhattisgarh (2022) [4]
<i>PVTG school availability</i>	Life expectancy	Minimal schooling linked with poor survival	MoTA (2019) [11]

5. Education–Health Barriers and Sustainability Pathways

From a sustainability perspective, the findings indicate that sector-specific interventions are insufficient to address tribal deprivation. Educational exclusion weakens health capabilities, while poor health undermines learning and educational continuity. This mutually reinforcing disadvantage calls for integrated policy frameworks that align education, health, and community knowledge systems [14,15].

Culturally responsive schooling, mother-tongue instruction, community-based health education, and participatory service delivery models emerge as critical pathways for sustainable and inclusive development in tribal regions [16].

VI. CONCLUSION

This study demonstrates that improvements in tribal education and health in Chhattisgarh remain uneven and fragile. Quantitative expansion of services has not translated into equitable or sustainable human development outcomes, particularly among PVTGs. Education plays a decisive role in shaping health trajectories, and persistent educational inequalities continue to reproduce health disparities. Advancing sustainability and social inclusion requires integrated, culturally grounded education–health strategies that prioritize continuity, quality, and community participation.

REFERENCES

- [1] Caldwell, J. C. (1994). How is greater maternal education translated into lower child mortality? *Health Transition Review*, 4(2), 224–229.
- [2] Census of India. (2011). *Census of India 2011: Primary Census Abstract—Scheduled Tribes*. Office of the Registrar General & Census Commissioner, India, Ministry of Home Affairs, Government of India.
- [3] Dreze, J., & Sen, A. (2013). *An uncertain glory: India and its contradictions*. Princeton University Press.
- [4] Government of Chhattisgarh. (2022). *Health and education status report of tribal areas*. Raipur.
- [5] Govinda, R. (2018). *India education report*. Oxford University Press.
- [6] International Institute for Population Sciences (IIPS). (2021). *National Family Health Survey (NFHS-5), 2019–21: India*. Mumbai.
- [7] Ministry of Tribal Affairs. (2019). *Statistical profile of Scheduled Tribes in India*. Government of India.
- [8] Nambissan, G. B. (2000). Identity, exclusion and the education of tribal communities. *Oxford Review of Education*, 26(3–4), 457–473.
- [9] Sen, A. (1999). *Development as freedom*. Oxford University Press.
- [10] Xaxa, V. (2014). *State, society, and tribes: Issues in post-colonial India*. Pearson.
- [11] Ministry of Tribal Affairs. (2019). *Statistical profile of scheduled tribes in India 2019*. Government of India.
- [12] Sharma, R., & Singh, P. (2018). Education and child nutrition among tribal populations in India. *Economic and Political Weekly*, 53(42), 54–61.
- [13] World Health Organization. (2018). *Closing the gap in a generation: Health equity through action on the social determinants of health*. WHO.
- [14] Sen, A. (1999). *Development as freedom*. Oxford University Press.
- [15] World Bank. (2018). *World development report 2018: Learning to realize education’s promise*. World Bank Group.
- [16] UNESCO. (2017). *Education for sustainable development goals: Learning objectives*. United Nations Educational, Scientific and Cultural Organization.