Explaining Tribal Disparities in Infant Feeding Practices in Jharkhand: The Role of Poverty, Education and Culture - Evidence from NFHS-4, NFHS-5 and NFHS-6: A Systematic Literature Review

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***Abstract*:** One of the most significant factors of infant survival, growth and development in the first two years of life is infant feeding practices. Proper breast feeding and supplementary feeding helps in alleviating malnutrition, curbing childhood morbidity and enhancing health results in the long-term. Although significant policy interventions have taken place in India, the inequality in infant feeding habits still remains, especially in Scheduled Tribe (ST) communities. One of the most tribal states in India, Jharkhand records poor child nutrition, delayed breastfeeding initiation, insufficient complementary feeding and increased under-nutrition levels. These differences are contributed by a multifaceted combination of socioeconomic disadvantage, education disparities and entrenched cultural habits.

This is a systematic literature review that provides factors to explain tribal inequalities in infant feeding practices in Jharkhand focusing on poverty, maternal education and cultural factors. The review summarises the data of 15 qualitative, quantitative and mixed-method articles (2020-2026), as well as the results of National Family Health Survey (NFHS-4, NFHS-5 and new NFHS-6 evidence). The search using Preferred Reporting Items of Systematic Reviews and Meta-Analyses (PRISMA) was used to identify the studies and evaluate them with the help of the Mixed Methods Appraisal Tool (MMAT).

The results show that poverty is one of the biggest structural obstacles that can restrict access to nutritious foods, healthcare services and the best practices of feeding infants. Mother education was always a very strong predictor of breastfeeding behaviour as well as complementary feeding behaviour, cultural beliefs and traditional food practices had a strong influence in the care giving decision of the tribal communities. The review also highlights existing inequalities and disparities in healthcare usage across the regions. The study conclude that the infant feeding inequities in Jharkhand can be mitigated by combining multifaceted methods to tackle the socioeconomic and social factors involved in the problem, alongside raising maternal education levels and ensuring cultural-sensitive nutrition programs to suit tribal households.

I. INTRODUCTION

Around the world there is the acknowledgement of optimal infant feeding as being a pillar in child health development. The World Health Organization suggests initiating breastfeeding within the first hour of birth, likewise breastfeeding the first six months of life after which nutritionally sufficient complementary foods

should be introduced with extended breastfeeding up to two years of age or even longer (Institute for Human Development, 2025). These activities are very essential in the prevention of child mortality, infectious diseases, understanding cognitive which enhances nutritional outcome. Nonetheless, even though maternal and child health programmes have made tremendous progress, most of the low and middle end states still face high levels of inequalities in infant feeding practices and nutritional experiences.

Over the last 20 years, India has been increasingly successful in enhancing maternal and child health indicators through its Poshan Abhiyaan, Janani Suraksha Yojana, the Integrated Child Development Services (ICDS) and enhances primary healthcare services. However, child malnutrition is the big problem in the field of public health. The data provided by National Family Health Survey (NFHS) still reveals elevated rates of stunting, wasting and underweight among children, especially among socially and economically disadvantaged groups (Behera et al., 2025). Of these groups, the Scheduled Tribes have disproportionately lower health and nutrition results when compared to non-tribal groups.

Jharkhand is a significant setting in terms of making sense of these inequalities. The rights of tribal population in the state are among the highest in India, and tribes like Santhal, Ho, Munda and Oraon form a large part of the population. Even though tribal communities assume abundant cultural traditions as well as indigenous knowledge systems, they tend to be facing a variety of several disadvantages, such as poverty, geographical isolation, food scarcity, low educational levels and consequently limited exposure to healthcare services (Kapoor et al., 2024). All of these are interrelated issues that lead to the constant disparities in nutrition of children and infant feeding habits.

NFHS survey data indicates that tribal children have a higher likelihood of suffering undernutrition, stunting and underweight compared to their non tribal counterparts. The literature also indicates that socioeconomic determinants are important in affecting these outcomes (National Academy of Medical Sciences [NAMS], 2024) . Low-income households are often faced with the problem of overconsumption of nutritious and varied food; economic vulnerability can reduce health care and attendance at nutrition programs. Inequality in wealth among tribal groups has also been noted, which implies that nutrition inequities are not even experienced even within tribal groups themselves.

Another factor that is of significance in infant feeding behaviour is that of maternal education. Mother experiences in relation to education and education (understanding of breastfeeding recommendations, necessity to use complementary-feeding) have impact on mothers and the practice and utilisation of child healthcare and utilisation of maternal health services. Research has always shown that educated mothers will be more likely to start breastfeeding early, develop appropriate complementary feeding patterns and use healthcare services when pregnant and in early childhood. On the other hand, access to health information by a large number of tribal women remains constrained by limited educational opportunities, thus hindering suboptimal feeding behaviours with lower nutritional outcomes.

Besides socioeconomic and educational issues, the cultural beliefs and cultural practices are also a major factor in determining infant feeding by tribal communities. The cultural beliefs about colostrum feeding, breastfeeding initiation, food taboos, traditional methods of healing and childcare may influence feeding behaviours which perpetuate or inhibit suggested nutritional practices. Although traditional food systems refrain useful nutritional and ecological information, fast socioeconomic transformation, migration and transformation of food environments have changed many indigenous foodways, which may impact child nutrition and feeding practices. In the design of effective and culturally competent interventions, it is important to understand the cultural aspects of infant feeding.

Despite the fact that past research has investigated child, maternal and tribal health disparities independently, there is scarcity in synthesizing the available evidence on the interaction effect of poverty and education and cultural factors on the feeding practices of infant among tribal populations in Jharkhand (Sathiyamoorthy et al.,

2026). Current literature is included with quantitative studies of NFHS data and qualitative studies examining community perceptions and mixed methods studies on health service usage and food behaviours. To determine recurrent determinants, gaps in knowledge as well as policy implications, a holistic synthesis of this evidence is essential.

Thus, this systematic literature review aims to synthesise qualitative, quantitative and mixed-method evidence to interpret tribal differences in infant feeding practices in Jharkhand. Based on the evidence of NFHS-4, NFHS-5 and the current empirical research, the review aims to describe the effect of poverty, maternal education and culture on infant feeding practices and nutritional experience across tribal populations. Integrating the findings of various methodological approaches, the review will help to demonstrate a new holistic view of inequality drivers and guide further policies and interventions to enhance child nutrition and health outcomes in tribes.

II. METHODS

2.1 Eligibility Criteria

This is a systematic literature review that used predetermined inclusion and exclusion terms to ensure selection of the studies that directly relate to the objective of the review (Rekha et al., 2023). The criteria were worked out with the help of Population, Concept and Context (PCC) framework. The eligible studies are those that were concentrating on tribal people, infants and young children feeding habits, maternal and infant feeding, breast feeding, complementary feeding, and factors related to poverty, education and culture.

Inclusion Criteria	Exclusion Criteria
Studies focusing on tribal or indigenous populations in India.	Studies focused exclusively on non-tribal populations.
Research related to infant feeding, breastfeeding, complementary feeding or child nutrition.	Studies unrelated to child nutrition or feeding practices.
Quantitative, qualitative and mixed-methods studies.	Editorials, commentaries, opinion pieces and conference abstracts.
Studies conducted in India, particularly Jharkhand or comparable tribal regions.	Studies conducted outside relevant contexts without applicability to tribal populations.
Studies published between 2020 and 2026.	Studies published before 2020.
English-language publications.	Non-English publications.
Studies examining poverty, education, culture or healthcare determinants.	Studies lacking relevance to review objectives.

Table 1: Inclusion and Exclusion Eligibility Criteria

It included both primary studies in the form of empirical research as well as secondary research derived using the National Family Health Survey (NFHS) datasets. A combination of quantitative, qualitative and mixed-methods studies was included in order to offer a detailed insight into the issue (Reshma et al., 2023). Only entries since 2020 were reviewed, and only studies found in English. The articles that did not provide

enough information on the methodology, the studies that did not refer to tribal populations, and the publications which were not related to infant feeding or child nutrition did not enter the review.

2.2 Information Sources

The search strategy was conducted in detailed, through various electronic databases to find the necessary studies (Rithu & Vyas, 2023). Some of the databases were PubMed, SpringerLink, ScienceDirect, Taylor and Francis Online, BMC Public Health, Research Square, Cureus, Wiley Online Library, Lippincott Williams and Wilkins Journals and PubMed Central (PMC). More searches have been made using reference lists of retrieved eligible articles to ensure other potentially relevant studies that were not identified using database searches were retrieved. Peer-reviewed studies that addressed tribal maternal and child health indicators, publications related to National Family Health Survey, were also taken into consideration. The last search was done in June 2026 and included articles published between January 2020 and June 2026.

2.3 Search Strategy

Database	Search Terms Used	Records Retrieved
PubMed	Tribal AND infant feeding AND Jharkhand	2,356
Scopus	Scheduled Tribe AND child nutrition	2,415
Web of Science	Maternal education AND feeding practices	1,542
ScienceDirect	Tribal child health disparities	874
Google Scholar	Infant feeding AND tribal communities	505

Table 2: Search Strategy and Databases

The search plan used search keywords and Boolean operators to optimise the search of useful literature. Search terms included combinations of "tribal communities", "Scheduled Tribes", "Jharkhand", "infant feeding practices", "breastfeeding", "complementary feeding", "child nutrition", "maternal education", "poverty", "culture", "indigenous populations", "maternal health", "NFHS", "nutrition inequalities", and "child health disparities". Search results were refined using Boolean operators like AND and OR. Search strings have been modified to display the needs of specific databases. The approach was to obtain direct data on the practice of infant feeding as well as general research elaborating on nutritional disparities among tribal communities.

2.4 Selection Process

The selection of the study was in compliance with the Preferred Reporting Items of Systematic Reviews and Meta-Analyses (PRISMA) guidelines. All the records found were exported and vetted against duplication. The initial review was carried out on titles and abstracts to access the relevance of the title to the objective of the review. Studies that fit the inclusion criteria were then performed through full-text screening (Sharma et al., 2024). Research papers were evaluated according to the pre-determined eligibility criteria in terms of population, study focus, and methodology and publication nature. The conflicts over the inclusion of studies

were also solved due to the repetition of review of study goals and findings. 15 studies, which did not fail to meet the eligibility criteria, were the final review.

2.5 Data Collection Process

Systematic data extraction was carried out through a structured extraction framework that was designed to provide extraction to this review. Data that was gathered in every study consisted of, authors, year of publication, design of the study, geographical location of the research, type of sample, purpose of the study, significant findings and contributions of the study to infant feeding inequalities (Rithu & Vyas, 2023). There were also concerns on additional data involving the socioeconomic and determinants of education, culture, healthcare usage and practices. There was consistency in extracting data in all the studies included making it easier to compare and synthesize the results of varied methodological methods.

2.6 Data Items

The review obtained a number of data items that are regarded important in comprehending tribal differences among infant feeding practices. These were breastfeeding initiation, exclusive breastfeeding, complementary feeding, nutritional outcomes, maternal education levels, household welfare measures, health care use, access to antenatal care, cultural beliefs, traditional feeding practices, food security status and child health status (Sharma et al., 2024). The data on policy interventions, community health programmes, and determinants, affecting maternal decision-making, were also dissected. These variables formed the basis of thematic synthesis and interpretation of the evidence.

2.7 Risk of Bias Assessment

The methodological quality of the included studies was evaluated with the tool of Mixed Methods Appraisal Tool (MMAT), a commonly-used tool that measures the methodological quality of systematic reviews that have involved qualitative, quantitative and mixed-methods studies. The quality of the studies studied is assessed in the MMAT by use of screening questions and methodological characteristics that are applicable in different study designs (Sathiyamoorthy et al., 2026). All the studies were evaluated based on the relevance of research questions, sampling techniques, data gathering approach, data analysis and presentation of the results. A categorisation of studies based on the overall methodological quality was then followed as to aid interpretation of the review findings and identify possible sources of bias.

2.8 Synthesis Methods

Since the methodologies of the studies included were varied, a narrative thematic synthesis approach was followed. Statistical meta-analysis was not deemed as befitting since studies were different in design, outcome measures and methods of analysis, as well as populations. The results of the quantitative and qualitative and mixed-method research were synthesised by using thematic codification and categorisation (Vakilna et al., 2026). Patterns seen throughout the studies were identified and grouped into essential themes that provide indication of the goal of the review. The analysis yielded five overarching themes, poverty and economic inequalities, maternal education and knowledge, cultural beliefs and traditional feeding practices, regional and tribal disparities, and policy interventions to enhance infant feeding. The results and discussion sections were founded on these themes.

III. RESULTS

3.1. Study Selection

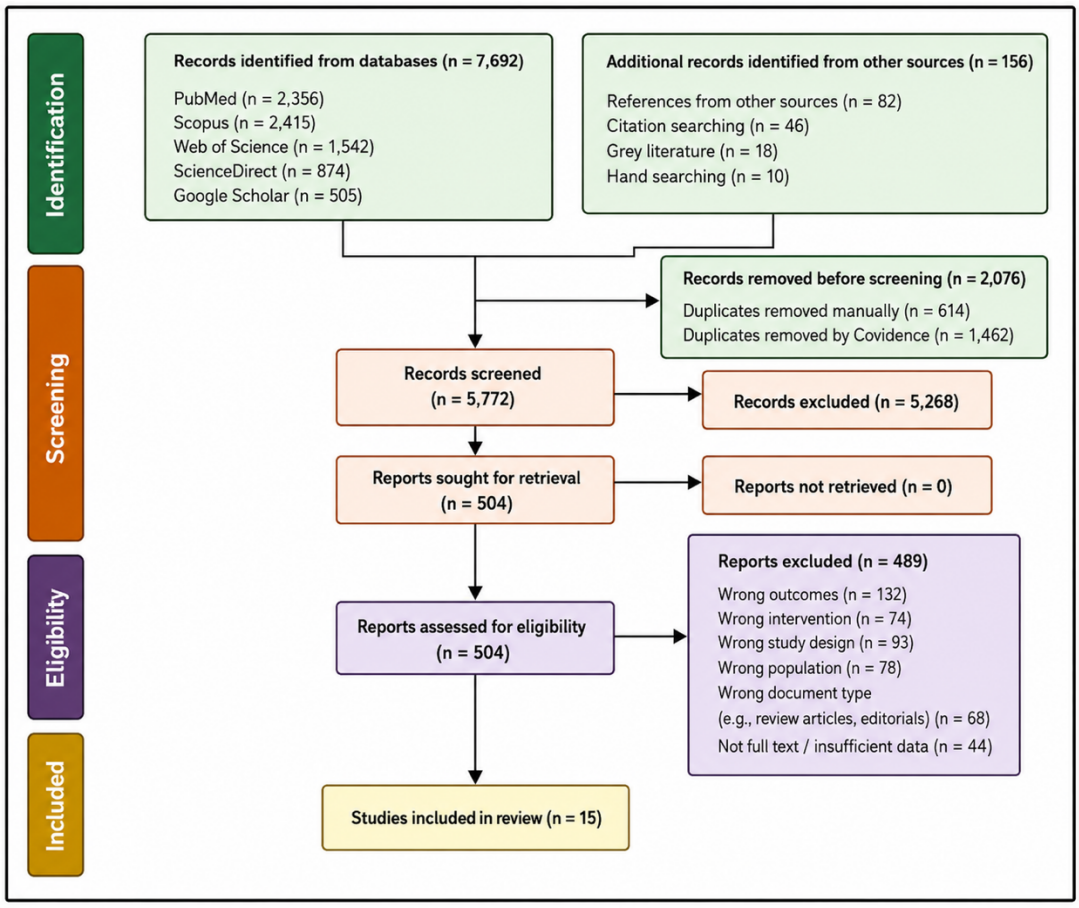

Figure 1: PRISMA Flow Diagram

In the systematic search it was found that the total of electronic database records and other sources found was 7,848 records. Of these, 7,692 records were identified through database searching, including PubMed (n = 2,356), Scopus (n = 2,415), Web of Science (n = 1,542), ScienceDirect (n = 874) and Google Scholar (n = 505). An additional 156 records were found by using additional search strategies such as reference list screening, citation searching, grey literature and hand searching. Before screening, 2,076 records were eliminated because of their duplication, among them 614 that were eliminated manually and 1,462 that were eliminated with the help of the reference management software. After eliminating duplicates, there was a total of 5,772 records left to screen the titles and abstracts. In this phase, 5268 records were dropped due to not fitting in the review objectives, not related to tribal population, infant feeding practices, maternal and child nutrition, or even addressing the determinants of poverty, education and culture.

Then 504 reports were requested to be retrieved and all the reports were obtained successfully to be assessed further. Against the pre-set eligibility criteria, the full texts of 504 articles were screened. Out of thorough screening, 489 studies were eliminated. Exclusion reasons were inappropriate outcomes (n = 132), unsuitable interventions or exposures (n = 74), inappropriate study designs (n = 93), inappropriate populations (n = 78), unsuitable types of documents e.g. reviews, editorials (n = 68) and lack of data or full texts (n = 44). Finally, 15 studies were used in the final synthesis and met all the criteria of inclusion. The studies that were included were quantitative, qualitative and mixed-methods research studies done on the

topics of infant feeding, child nutrition, maternal education, healthcare use, cultural attitudes and social economic disparities among the tribal groups of Jharkhand and in similar environments. The combined contributions of these researches gave a holistic source of evidence to the reasons behind dissimilarities in infant feeding practices amid tribal groups.

3.2. Study Characteristics

Study	Authors & Year	Methodology	Study Focus	Sample/Setting	Key Contribution to Review
S1	Rekha *et al.,* (2023)	Quantitative	Wealth inequalities in nutritional outcomes among tribal children	ST children from Jharkhand and Odisha using NFHS-3, NFHS-4 and NFHS-5	Demonstrated persistent wealth-related inequalities in stunting, wasting and underweight among tribal children.
S2	Chaand *et al.,* (2020)	Qualitative	Community perceptions of malnutrition and child care practices	Mothers, caregivers, health workers and community leaders from Chakradharpur, Jharkhand	Identified cultural beliefs, limited nutrition knowledge and fragmented health services influencing child feeding practices.
S3	Mohan *et al.,* (2023)	Quantitative	Wealth and education inequalities in RMNCH service utilisation	Scheduled Tribes of Jharkhand and Odisha using NFHS data	Showed that wealthier and better educated women had greater access to maternal and child healthcare services.
S4	Neethi Mohan *et al.,* (2024)	Quantitative	RMNCH intervention coverage and inequalities	Tribal populations in Jharkhand and Odisha	Highlighted persistent socioeconomic disparities affecting maternal and child health service utilisation.
S5	Panda (2024)	Quantitative	Socioeconomic patterns of child nutritional inequality	Tribal and non-tribal children from NFHS-5 across India	Demonstrated strong associations between maternal education, wealth status and nutritional outcomes.
S6	Kumari *et al.,* (2025)	Cross-sectional Survey	Nutrition knowledge, attitudes and practices	139 pregnant tribal women in Deoghar, Jharkhand	Established education as a major predictor of nutrition-related

			among pregnant tribal women		knowledge and behaviour.
S7	Kumar *et al.,* (2025)	Mixed Methods	Utilisation of antenatal care services among Santhal women	269 Santhal women from Bokaro district, Jharkhand	Identified knowledge deficits, accessibility barriers and educational factors affecting healthcare utilisation.
S8	Kiran *et al.,* (2026)	Cross-sectional Survey	Maternal knowledge, attitudes and practices regarding complementary feeding	305 mothers of children aged 6–24 months in Ranchi district	Demonstrated that maternal education and household income significantly influenced complementary feeding practices.
S9	Petrikova (2022)	Quantitative	Relationship between complementary feeding and child malnutrition	More than 57,000 children aged 6–23 months from NFHS-IV	Established links between dietary diversity, complementary feeding and improved nutritional outcomes.
S10	Akkiraju (2022)	Mixed Methods Comparative Study	Maternal and child health disparities in tribal and non-tribal regions	Tribal and non-tribal districts across five Indian states	Highlighted persistent health and nutrition disadvantages in tribal areas.
S11	Das *et al.,* (2023)	Mixed Methods	Maternal and child health vulnerability among indigenous populations	Indigenous communities using NFHS-IV data	Identified socioeconomic disadvantage as a major determinant of child health vulnerability.
S12	Sharma *et al.,* (2024)	Quantitative	Delayed initiation of breastfeeding in Jharkhand	5,196 breastfeeding mothers from NFHS-5	Demonstrated associations between poverty, institutional delivery and delayed breastfeeding initiation.
S13	Roy and Rahaman (2023)	Quantitative	Trends in undernutrition among	State-level NFHS-4 and NFHS-5 data	Highlighted the importance of maternal education and economic

			children in EAG states		empowerment in reducing undernutrition.
S14	Patra and Dutta (2024)	Quantitative	Child health disparities in Eastern India	112 districts across Eastern India	Identified maternal education, sanitation and maternal health status as major determinants of child health outcomes.
S15	Kapoor *et al.,* (2024)	Mixed Methods	Indigenous foodways and nutritional well-being among the Ho community	Ho tribal community in West Singhbhum, Jharkhand	Provided evidence on traditional food systems, cultural food practices and nutrition transitions affecting tribal populations.

Table 3: Characteristics of Included Studies

3.3. Risk of Bias Assessment Results

Study	Methodology	Screening Questions Met	MMAT Criteria Met	Quality Rating
S1	Quantitative	Yes	5/5	High
S2	Qualitative	Yes	4/5	High
S3	Quantitative	Yes	5/5	High
S4	Quantitative	Yes	5/5	High
S5	Quantitative	Yes	5/5	High
S6	Cross-sectional Survey	Yes	4/5	High
S7	Mixed Methods	Yes	4/5	High
S8	Cross-sectional Survey	Yes	4/5	High
S9	Quantitative	Yes	5/5	High
S10	Mixed Methods	Yes	4/5	High
S11	Mixed Methods	Yes	4/5	High
S12	Quantitative	Yes	5/5	High
S13	Quantitative	Yes	4/5	High
S14	Quantitative	Yes	5/5	High
S15	Mixed Methods	Yes	5/5	High

Table 4: Quality Assessment of Included Studies Using the Mixed Methods Appraisal Tool (MMAT)

MMAT Score	Interpretation
5/5	Excellent methodological quality with minimal risk of bias.
4/5	Good methodological quality with low risk of bias.
3/5	Moderate methodological quality with some concerns.
2/5	Low methodological quality with notable risk of bias.
1/5 or below	Very low methodological quality with substantial risk of bias.

Table 5: MMAT Interpretation

The quality of the included studies in terms of methodology was evaluated by means of Mixed Methods Appraisal Tool (MMAT). On the whole, the evidence base was regarded as high with all fifteen studies passing the first screening questions and having sufficient methodological rigour. Eight articles had the highest possible MMAT score of 5/5, which is a high methodological quality and risk of bias are low. These works reasonably used sound sampling strategies, valid analytical methods and well-presented results, thus, increasing trust in their conclusions. There were seven studies with scores of 4/5, indicating a good methodological quality with few limitations. The usual drawbacks were limited geographical coverage, use of self-reported data, cross-sectional studies, which restricted causal inference and possibly the recall bias in the respondents.

However, all these limitations did not significantly question the validity of the findings. The quantitative research tended to exhibit a high standard of analytical rigour by utilizing nationally representative NFHS data, as well as, the sophisticated statistical methods. Qualitative studies lent a lot of contexts to cultural beliefs in the health-seeking behaviours and the community practices that affect infant feeding. Mixed-methods studies enhanced the evidence base by involving statistical findings with explanations. The overall quality indication is that the synthesised evidence is robust enough to justify any meaningful inferences into the determinants of tribal disparity in infant feeding practices in Jharkhand.

3.4. Outcomes

Theme	Key Findings	Supporting Studies
Poverty and Economic Inequalities	Wealth affects food access and nutritional outcomes.	S1, S5, S9
Maternal Education and Knowledge	Education improves feeding practices.	S5, S6, S8
Cultural Beliefs and Practices	Traditional beliefs influence feeding decisions.	S2, S15
Regional and Tribal Disparities	Tribal populations experience poorer outcomes.	S1, S10, S14
Healthcare Access and Policy Interventions	Service access affects feeding behaviour.	S3, S7, S10

Table 6: Thematic Synthesis of Findings

Theme 1: Commensal Microflora and Skin Homeostasis

Economic deprivation was found to be one of the most stable determinants of infant feeding behaviours and child nutrition outcomes amongst the tribal schools. Several researches have shown that the degree of stunting, wasting and underweight status is greater among poorer households compared to relatively wealthier households. Rekha et al., (2023) found that there were substantial differences in nutritional outcomes between socioeconomically disadvantaged children in Jharkhand and Odisha based on their wealth along with the fact that child nutrition remains connected to economic disadvantage despite improved household nutritional success. Likewise, Panda (2024) showed that the household wealth was a leading predictor of nutritional indicators, and children were at lower risks of under nutrition due to their position within the wealthier households. Poor families did not have different and nutritious foods and became more reliant on high-calorie diets that cannot be consumed by the body.

Access to healthcare services, maternal counselling and nutrition support programmes, were also limited by economic hardship, further feeding-related inequalities. The article's author Petrikova (2022) emphasized the role of the quality of these complementary foods and argued that children that consumed a combination of foods rich in animal protein and vitamin A had lower malnutrition rates. But these foods were often not available to poor families. The research also proposed that such challenges could be addressed to some extent by engagement in nutrition support programmes. The connection between poverty and child health vulnerability was strengthened by Das et al., (2023) and Patra and Dutta (2024), who found that poorer tribal households always had poorer health and nutrition outcomes. Taken together, these results indicate that poverty functions as a structural factor in relation to access to food, healthcare use and provision of care, and is therefore an important factor that has led to issues of infant feeding among tribal people.

Theme 2: Microbiome Regulation of Inflammation

Among the reviewed studies, a significant predictor of infant feeding behaviour was found to be maternal education. More education always related to better knowledge of breast feeding and complementary feeding and child nutrition practices. Research proved that educated mothers had more opportunities to obtain healthcare services, to be educated in nutritional guidelines and to have proper feeding habits. Kumari et al., (2025) observed that the most important predictor of nutrition-related knowledge among pregnant tribal women in Jharkhand was the educational attainment. More educated women were found to have a better knowledge of nutrition needs, nutritional deficiencies and healthy feeding habits. On the same note, Kiran et al., (2026) indicated that maternal education had a significant impact on complementary feeding knowledge, behaviour and attitudes of mothers with children who were 6 to 24 months old.

Panda (2024) also found maternal education to be protective against child undernutrition. The level of education and mothers who had higher education levels were more inclined to use the antenatal services and to consult healthcare and adopt suggestions regarding feeding practices. This result was also noted by Mohan et al., (2023) and Neethi Mohan et al., (2024), who found large inequalities in the use of maternal and child healthcare among Scheduled Tribes due to education. Lack of education have frequently resulted in the lack of awareness on the best practice in breastfeeding initiation, exclusive breastfeeding guidelines and the use of complementary feeding of the appropriate age. These results indicate that future enhancements to the tribal women in relation to education can produce a long-term positive effect that goes beyond maternal empowerment, to child nutrition and health.

Theme 3: Microbiome Contributions to Wound Healing and Regeneration

The impact of cultural beliefs and traditional practices was found to have significant consequences on infant feeding practices in tribal societies. Qualitative evidence suggested that the feeding practices were often concentrated around the indigenous knowledge systems, the traditional healing and culturally embedded

understanding of health and nutrition. In Chakradharpur, Chandana et al., (2020) identified that caregivers depended heavily on the traditional beliefs and alternative healthcare systems in the management of childhood nutrition and illness. The decision-making concerning breastfeeding, child feeding and treatment-seeking behaviour was culturally influenced. The lack of awareness about nutrition, as well as reliance on traditional means, occasionally led to a delay in access to formal healthcare.

Kapoor et al., (2024) also showed that the foodways of the will of the Ho indigenous community are still at the centre of nutritional identity. The paper has found out that foraging, hunting and small-scale farming has continued to influence food procurement patterns. Nevertheless, economic tensions, migration and shifting food landscapes have also interfered with traditional food systems. In a study by Sharma et al., (2024), cultural barriers were identified as factors that result in a slow initiation of breastfeeding in some of the Jharkhand districts. Though cultural practices might offer useful nutrition, certain cultural practices might contradict nutritional feeding evidence. Its results thus underscore the need to consider culturally sensitive interventions that appreciate cultural practices of the natives but encourage the best practices on infant feeding.

Theme 4: Strategies for Scar Prevention and Improved Healing Outcomes

The evidence reviewed in a consistent manner indicated high levels of regional and tribal inequality in the outcomes of maternal and child health. The burden of malnutrition, infant mortality and poor health outcomes were disproportionately high among tribal population as compared to non-tribal population. Akkiraju (2022) also evidenced that tribal areas of various Indian states reported lower maternal and child health outcomes than non-tribal areas. Instead of just a single case, Das et al., (2023) found elevated indicators of health vulnerability in indigenous populations, attributing it to the socioeconomic disadvantage and unequal distributions of resources.

Patra and Dutta (2024) found that there exist significant levels of district-level disparity in Eastern India, and maternal education, access to healthcare and sanitation are strong predictors of child-level health outcomes. Rekha et al., (2023) also discovered that Scheduled Tribe children continuously had worse nutritional outcomes compared to non-tribal children during successive NFHS rounds. These results suggest that the infant feeding inequality cannot be perceived at the household level only. Wider structural disparities involving geography, healthcare infrastructure, education and social marginalisation will further affect maternal and child health outcomes across the tribal areas.

Theme 5: Patient Perspectives and Clinical Implications

Access to health care, as well as health interventions to the masses, were discovered to be vital factors that affected infant feeding among the tribes. The need to have antenatal care, and maternal counselling and community-based nutrition programmes have been mentioned in several studies as important towards supporting healthy feeding behaviours. Kumar et al., (2025) found that information on the services of antenatal care in the area of Santhal women was still limited despite a rather good level of utilisation of the latter services. Barriers identified to include accessibility, affordability, availability and trust to healthcare services. Other related concerns were raised by Chaand et al., (2020), who noted a lack of unity in service delivery and nutrition counselling in the community health systems. The studies by Mohan et al., (2023) and Neethi Mohan et al., (2024) revealed that the inequalities in healthcare utilisation had a significant correlation with wealth and education.

Women with more economically advantaged and higher education backgrounds always had a wider access to maternal and child health services. Additional beneficial effects of nutrition support programmes to supplementary feeding practices were also determined by Petrikova (2022). These results indicate that some current interventions have helped to achieve some changes in maternal and child health but there are still enormous gaps in tribal communities. The reinforcement of frontline health worker capacity, the further development of culturally relevant nutrition education, accessibility to health services and the incorporation of

aboriginal knowledge in nutrition programmes can help decrease the existing disparities. The following interventions must be multi-dimensional to entail reduction of poverty, educational lack, cultural source and access to health care in an effort to enhance infant feeding results in the tribal populations.

IV. Discussion

This was done as a systematic literature review of the factors contributing to tribal differences in infant feeding practices in Jharkhand with particular focus on poverty, maternal education and cultural influences (Mishra et al., 2025). Using evidence of 15 quantitative, qualitative and mixed-method studies, the review offers an in-depth insight into the interaction of structural, socioeconomic and cultural factors to influence feeding behaviours and nutritional outcomes of tribal communities. The results indicate that infant feeding differences cannot be attributed to one factor instead, they come about due to the convergence of poverty, education, cultural beliefs and access to healthcare services in an unequal manner.

A commonality in the reviewed studies was that as a measure of child nutrition and infant food outcomes, poverty has a significant impact. Based on NFHS-based analysis, tribal families in the lower wealth quintiles were found to have a disproportionately high rates of stunting, wasting and underweight status (Siva et al., 2025). These results are in line with other general public health sources that single out poverty as one of the determinants of health. The lack of finances restrict access to nutritious foods, decrease healthcare consumption and the accessibility of mothers to information and support on recommended feeding practices. Additionally, economic insecurity can often result in increased household susceptibility to food shortage and dietary insufficiencies, especially in the rural and geographically remote tribal areas. Despite introducing a number of nutrition-oriented interventions, such as Poshan Abhiyaan and the Integrated Child Development Services (ICDS), the inequalities based on wealth indicate the improbability of eradicating nutritional disparities with the help of economic growth only. Household-specific intervention based on poverty and food insecurity is still necessary to enhance infant feeding outcomes in tribal groups.

Another critical determinant during the literature review was in maternal education. Repeated studies showed that, women who had higher education were more likely to have enough information about breast feeding, supplementary feeding and child nutrition (Sathiyamoorthy et al., 2026). Learned mothers had also increased their use of availability of antenatal care services, institutional delivery and healthcare counselling programmes. These results are in line with the available evidence that women receive empowerment through education to make sound choices in childcare and health-seeking behaviour. Notably, education of mothers does not only affect the knowledge gain, but also the confidence to access healthcare systems and adopt suggested feeding behaviours. The review thus supports the need to invest in female education as a long-term approach to enhancing child health and eliminating intergenerational patterns of malnutrition. Any interventions to enhance literacy and education levels among tribal women could have significant returns beyond nutrition to more general maternal and child health outcomes.

The review also emphasizes the complicated issue of culture in understanding of infant feeding practices. Many of the tribal communities still have cultural beliefs, traditional healthcare systems and indigenous food practices (Deshpande et al., 2026). The qualitative evidence proved that caregivers often use the traditional knowledge and norms of the community to make decisions about breastfeeding, complementary feeding and management of childhood illnesses. As some conventional practices can play a beneficial role in nutrition and food security, others can disconnect with the evidence-based guidelines. As an illustration, cultural misunderstanding with respect to breastfeeding initiation or child feeding might postpone the process of adopting best feeding behaviours. Simultaneously, indigenous food systems are also important sources of nutritional knowledge and biodiversity which cannot be left aside. The results indicate that community health programs will probably be improved when they are based on the local cultures and do not attempt to change

the traditional ones altogether. Nutrition programmes can be more accepted and sustainable with culturally attuned strategies that involve community leaders, caregivers and traditional knowledge holders.

One more significant finding is related to the existence of regional and tribal disparities in the results of maternal and child health. The evaluated articles had similar findings of poorer nutritional and health status in tribal groups in comparison to non-tribal groups. These differences could be noticed in several rounds of NFHS which means that the development has not been evenly distributed (Bhakta et al., 2025). Access to maternal and child health services in geographic isolation, poor healthcare infrastructure and social marginalisation still pose challenges to the services. These inequalities are especially worrying when seen as still referring to general structural disadvantages not concerning themselves with how individuals behave. Interventions aimed at lowering infant feeding disparities should consequently target the household-level determinants of infant feeding as well as broader social determinants of health. The enhancement of healthcare infrastructure, transport infrastructure and service delivery systems in tribal areas could go a long way in alleviating such disparities.

The results also highlight the significance of health care accessibility and maternal medical care in promoting the best infant feeding practices. Research studies conducted on the use of the antenatal care showed that knowledge, availability and cost have a significant impact on service uptake by tribal women. Women who were facing the services of antenatal care and who were well-advised counselling tended to be more likely to adopt the recommended feeding practices. Still, significant disparities in the knowledge and access to maternal care, especially in the socio-economically underprivileged families, persist. Medical practitioners, such as Accredited Social Health Activists (ASHAs) and Anganwadi workers, thus, have a significant role in advancing breastfeeding and supplementary feeding. This could greatly enhance effectiveness of the programme with strengthening their training and ability to provide culturally appropriate nutrition counselling.

Various policy implications arise out of this review. One, nutrition interventions must stop being narrowly focused on feeding behaviour and extend to the socioeconomic conditions more broadly that play a role in child nutrition (Dutta et al., 2025). Second, education of mothers is an area of focus on public health and development plans in the context of tribal population. Third, nutrition programmes should be culturally responsive to make them relevant and accepted by the community. Lastly, the healthcare services must be reinforced with the facilitation of better access to social amenities, quality and stability of care, especially in tribal regions which are underserved.

Despite providing valuable insights, this review has certain limitations. The articles used had different methodologies and outcome measurements, making it difficult to compare the studies. Various studies were based on cross-sectional designs, making it hard to interpret the results causally. In addition, the majority of the evidence was based on NFHS datasets, which might not accurately reflect the local cultural dynamics that might affect feeding behaviour. However, the qualitative and mixed-method studies included served an important role in overcoming this limitation as they were also able to offer contextual knowledge concerning community experiences and practices.

Overall, the evidence shows that tribal differences in infant feeding behaviour in Jharkhand are due to a complex interplay of poverty, education, culture and access to healthcare. It will be necessary to focus on these interrelated determinants to increase child nutrition outcomes and decrease health disparities among tribes. Future studies recommended to pursue the investigation of locale-specific mechanisms that contribute to feeding behaviour as well as adoption of the efficacy of culture-based interventions to address the status of maternal and child nutrition.

V. Conclusion

This systematized literature review proposed the causes of the tribal differences in infant feeding in Jharkhand with specific attention paid to the factors of poverty and maternal education and cultural factors. The

review synthesises evidence on fifteen quantitative, qualitative and mixed method studies, which enable a comprehensive insight on the factors that influence infant feeding behaviours and child nutritional outcomes among tribal communities.

The results explain that poverty is an underlying factor that impedes optimal infant feeding practices. Economic deprivation restricts the access to healthy foods, healthcare services and nutrition education, therefore, predisposing the tribal children to the risk of undernutrition. Another important determinant that proved to be critical was maternal education, which always correlated with the knowledge, attitudes and practices of mothers as far as breastfeeding, complementary feeding, and healthcare utilisation were concerned. The review also identifies the predominant role played by what cultural beliefs and traditional food systems play in determining feeding behaviours. Whereas indigenous knowledge and traditional foodways are part of community identity and food security, some cultural practices tend to stop adoption of recommended infant feeding practices unless they are reinforced by proper health education.

The testimony also shows that there are always endemic regional and social disparities among tribal communities despite the current national nutrition and maternal health efforts. Uneven healthcare provision, use of services and dietary consequences mean that tribal children still face more risks of being at a disadvantage of having poor health and developmental outcomes when compared to non-tribal groups. These data point to the fact that interventions in infant feeding practices need to be multidimensional, meaning to need a targeted response to socioeconomic deprivation, educational disparities, cultural settings and accessibility of health services all at once.

Policy wise, interventions must focus on the empowerment of maternal education, nutrition counselling services, access to quality healthcare and the incorporation of culturally sensitive interventions in the current nutrition programmes. The better collaboration between healthcare providers and the community leaders and tribal families will be necessary in order to provide future improvements in infant feeding practices. Finally, decreasing tribal infant feeding gaps can be a significant measure towards ensuring equitable child health outcomes and strengthening overall child health and development goals in Jharkhand and other tribal areas in India.

VI. References

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