

Consumer Decision Making in Baby Care Products: Addressing Child Malnutrition in the Indian Context

Dr. Priyanka S. Patil

Assistant Professor, DKTE's TEI, Department of Management Studies, Ichalkaranji, Kolhapur

Amol S. Ganpate

PhD Scholar, Dept. of Commerce & Management, Shivaji University, Kolhapur

Shubham Gaydhar

DKTE's TEI, Department of Management Studies, Ichalkaranji, Kolhapur

Abstract

The children are the future citizens for the nation. Child malnutrition remains a persistent public health challenge in India, with protein and micronutrient deficiencies affecting early childhood development despite improvements in healthcare access. At the same time, the baby care products market particularly nutritional supplements, fortified foods, and hygiene products has expanded rapidly, driven by rising parental awareness and preventive health orientation. This study examines consumer decision-making in baby care product selection and its implications for addressing child malnutrition in the Indian context. Using a mixed-method approach, data were collected through a structured survey of parents and caregivers along with expert insights from pediatricians and community health workers. The study is grounded in consumer behaviour theory, focusing on factors such as health risk perception, brand trust, socio-economic status, and regulatory awareness. Findings reveal a significant gap between perceived product benefits and actual nutritional adequacy, highlighting the influence of marketing over informed choices. The study underscores the need for integrated policy interventions, ethical marketing, and enhanced parental education to improve child nutrition outcomes.

Keywords: *Child malnutrition, Protein deficiency, Baby care products, Consumer behavior, Health supplements*

Submitted: March 15, 2026

Revised: April 25, 2026

Accepted: May 10, 2026

Published: May 20, 2026

DOI: [10.5281/zenodo.20486371](https://doi.org/10.5281/zenodo.20486371)



1. Introduction

Malnutrition remains the growing concern for the various economies and nations for developing as well as underdeveloped economies. Child malnutrition continues to pose a serious developmental and public health challenge in India, where a significant proportion of children suffer from undernutrition, stunting, and micronutrient deficiencies despite improvements in healthcare infrastructure and service delivery. National-level data indicate that protein-energy malnutrition remains a persistent concern, particularly in early childhood, affecting physical growth, cognitive development, and long-term productivity outcomes. Structural factors such as poverty, lack of dietary diversity, inadequate maternal knowledge,

and unequal access to nutritious food contribute to this issue. Recent large-scale surveys have highlighted that while awareness about child health has improved, actual nutritional practices often remain suboptimal due to socio-economic and behavioural constraints. This reflects a disconnect between knowledge and practice, necessitating a deeper understanding of household-level decision-making processes related to child nutrition (International Institute for Population Sciences [IIPS] & ICF, 2021). Parallel to these nutritional challenges, the baby care products market in India has witnessed substantial growth, particularly in segments such as infant formula, fortified foods, and nutritional supplements. This expansion is driven by increasing urbanization, rising disposable incomes, and heightened parental concern for preventive healthcare. However, consumer decision-making in this domain is often influenced by branding, advertising, and perceived product efficacy rather than scientifically validated nutritional benefits. Regulatory frameworks such as those established by the Food Safety and Standards Authority of India aim to ensure product safety and nutritional compliance, yet gaps remain in consumer awareness and enforcement. The understanding how parents make choices regarding baby care products becomes critical in addressing malnutrition. This study therefore integrates consumer behaviour perspectives with public health concerns to evaluate how informed decision-making can contribute to improved child nutrition outcomes (World Health Organization, 2023).

2. Background of Study

The issue of child malnutrition in India remains deeply rooted in socio-economic inequalities, dietary inadequacies, and limited access to balanced nutrition during early childhood. Despite various national nutrition programs and public health interventions, a substantial proportion of children continue to experience stunting, wasting, and underweight conditions, indicating persistent gaps in both food security and nutritional awareness. In recent years, there has been a growing recognition that beyond availability of food, parental knowledge, feeding practices, and behavioural factors significantly influence child nutrition outcomes. Studies suggest that even in households with adequate income, poor dietary choices and lack of understanding regarding nutrient requirements contribute to malnutrition. This highlights the importance of examining the role of caregivers' perceptions and decisions in shaping children's nutritional status (Black et al., 2013). The rapid expansion of the baby care products market including infant nutrition supplements, fortified foods, and hygiene products has introduced new dynamics into parental decision-making. The influence of advertising, brand positioning, and perceived product safety often shapes consumer preferences more strongly than scientific nutritional guidelines. Regulatory oversight by institutions such as the Food Safety and Standards Authority of India has improved product standardization; however, gaps remain in consumer awareness and critical evaluation of product claims. Furthermore, global estimates from organizations like UNICEF and World Bank indicate that behavioural and informational barriers are as significant as economic constraints in addressing malnutrition. This study situates itself at the intersection of public health nutrition and consumer behaviour, aiming to understand how informed and responsible product choices can contribute to improved child health outcomes (UNICEF, World Bank Group, & WHO, 2023).

3. Scope and Significance of Study

The scope of this study extends to analyzing consumer decision-making behaviour among parents and caregivers in the selection of baby care products, with a particular focus on nutritional supplements and their role in addressing child malnutrition in India. The study covers both urban and rural contexts to capture variations in awareness levels, purchasing behaviour, socio-economic influences, and accessibility to baby care products. It integrates perspectives from public health nutrition and consumer

behaviour to evaluate how factors such as brand perception, product labeling, health claims, and regulatory awareness influence parental choices. Additionally, the study examines the alignment between marketed nutritional benefits and actual dietary requirements of children, thereby identifying gaps that may hinder effective nutritional outcomes. By incorporating insights from caregivers as well as healthcare professionals, the study provides a comprehensive understanding of the ecosystem influencing child nutrition decisions (Kramer & Kakuma, 2012). The significance of the study lies in its interdisciplinary approach, linking consumer behaviour with critical public health concerns such as child malnutrition and nutritional adequacy. In the Indian context, where malnutrition remains a persistent developmental challenge, understanding how parental decisions are shaped is essential for designing effective interventions. The findings of this study are expected to contribute to policymakers, healthcare practitioners, and regulatory authorities such as the Food Safety and Standards Authority of India by highlighting the need for evidence-based awareness campaigns, stricter monitoring of marketing practices, and improved nutritional literacy among parents. Furthermore, the study offers practical implications for marketers to adopt ethical and transparent communication strategies aligned with child health goals. By bridging the gap between perceived product value and actual nutritional impact, the research supports the development of more informed consumer choices and sustainable improvements in child health outcomes (Ruel, Alderman, & the Maternal and Child Nutrition Study Group, 2013).

4. Objectives of Study

- To analyze parental decision-making in baby care product purchases in urban and rural India
- To examine the relationship between product choices and child nutrition/protein intake
- To assess the impact of marketing, labeling, and price sensitivity on product adoption
- To identify policy and market interventions that can improve child nutrition outcomes

5. Reviews of Literature

Consumer decision-making in baby care products has increasingly been examined through the lens of health behaviour and nutritional outcomes, particularly in developing economies such as India. Research indicates that parental purchasing behaviour is strongly influenced by perceived health benefits, brand trust, and exposure to marketing communication, often outweighing scientific understanding of nutritional adequacy. Studies have shown that caregivers tend to rely on advertisements and peer recommendations when selecting infant nutrition products, which may not always align with recommended dietary guidelines. This behavioural tendency creates a gap between awareness and appropriate nutritional practices, contributing indirectly to persistent malnutrition among children. The socio-cultural factors and maternal education levels significantly shape feeding practices and product choices, reinforcing the need for targeted awareness interventions (Jain & Kapoor, 2021).

From a public health perspective, literature highlights that malnutrition is not solely a function of food availability but also of knowledge, accessibility, and behavioural patterns related to child feeding. Evidence suggests that inappropriate use of infant formula and over-reliance on commercial baby foods can displace essential breastfeeding practices and traditional nutritious diets. Global health agencies emphasize that optimal infant and young child feeding practices, combined with informed parental choices, are critical in combating malnutrition. The studies underline the role of regulatory bodies such as the Food Safety and Standards Authority of India in ensuring product quality and accurate labeling; however, enforcement challenges and limited consumer awareness often reduce the effectiveness of such

regulations. This indicates a pressing need for integrating regulatory frameworks with consumer education strategies to improve outcomes (Victora et al., 2016).

Recent empirical studies also explore the intersection of market expansion and nutritional health, noting that the rapid growth of the baby care industry has introduced both opportunities and risks. While fortified products and supplements can help address nutrient deficiencies, aggressive marketing and misleading claims may lead to inappropriate consumption patterns. Scholars argue that consumer behaviour theories, such as the Theory of Planned Behaviour and Health Belief Model, provide useful frameworks to understand how attitudes, perceived risks, and social influences drive parental decisions. The international evidence from organizations such as UNICEF highlights that behavioural interventions combined with policy regulation are essential to align market practices with child health objectives. Thus, the literature collectively emphasizes the importance of a balanced approach that integrates consumer awareness, ethical marketing, and strong regulatory oversight to address child malnutrition effectively (Bhandari & Chowdhury, 2020).

6. Research gap

Despite the growing attention on child nutrition and parental consumer behavior, several gaps remain in the existing literature. There is a lack of integrative studies that connect parental decision-making processes with actual child nutritional outcomes, particularly with respect to adequate protein intake. Similarly, limited research has been conducted on how parents interpret nutritional labels, the extent to which they trust marketing claims, and how affordability constraints influence healthier food choices. The regional and socio-economic disparities in the adoption of baby food products have not been sufficiently explored, leaving important questions about equity, accessibility, and cultural influences unanswered. Addressing these gaps is essential to developing a comprehensive understanding of the factors shaping parental purchasing decisions and their implications for child health.

7. Research Methodology

Research Design: The study adopts a mixed-methods research design that integrates both quantitative and qualitative approaches to provide a comprehensive understanding of parental consumer behavior in relation to baby food and nutrition. A cross-sectional survey will be conducted across urban and rural districts of Maharashtra, with Kolhapur selected as the pilot study region. The design allows for the collection of measurable data while also capturing deeper insights into the motivations and decision-making processes of parents.

Sampling: The target population for this study consists of parents of children aged 0–5 years, as this group plays a critical role in early nutritional decision-making. A total sample of 720 respondents has been determined using the Krejcie and Morgan (1970) sample size formula to ensure statistical reliability and representation. Stratified random sampling will be employed to capture variations in socio-economic status, educational background, and regional diversity across urban and rural segments. This approach ensures inclusivity and minimizes sampling bias.

Data Collection Tools

1. **Structured Questionnaire** – A survey instrument designed using a five-point Likert scale to measure key constructs, including: Awareness of food deficiency and purchase motivation

(health, safety, and convenience), Brand trust and the influence of marketing strategies, Awareness and interpretation of nutritional needs and food labeling

2. **In-depth Interviews** – Semi-structured interviews with pediatricians, community health workers, and selected parents to gain qualitative insights into decision-making trade-offs, cultural influences, and trust factors.
3. **Retail and E-commerce Analysis** – A market-level investigation of product availability, pricing trends, and labeling practices across both traditional retail outlets and digital platforms to understand how supply-side factors shape consumer choices.

8. Data Analysis

Quantitative: Descriptive statistics, correlation analysis, regression models linking buying behavior with nutrition indicators.

Qualitative: Thematic analysis to identify drivers of parental choices, barriers to protein-rich food adoption, and perception of government initiatives.

Malnutrition chart to include **nutritional deficiencies, especially protein deficiency**, and explain its impact on children.

Malnutrition Indicator	Definition	Measurement	Implications for Children
Stunting	Low height-for-age	Height compared to WHO growth standards	Chronic undernutrition; poor linear growth; often linked to long-term protein and micronutrient deficiencies ; cognitive delays possible
Wasting	Low weight-for-height	Weight compared to height using WHO growth charts	Acute malnutrition; rapid weight loss; can be caused by recent food shortage, illness, or insufficient protein and calorie intake
Underweight	Low weight-for-age	Weight compared to age	Reflects a combination of chronic and acute malnutrition; may indicate insufficient protein, calories, or essential nutrients
Protein-Energy Malnutrition (PEM)	Deficiency of protein and calories	Clinical assessment; growth charts; dietary intake surveys	Weak immune system, muscle wasting, stunted growth, delayed development, higher risk of infections; prevalent even among middle-income households in India (ICRISAT, 2025)
Micronutrient Deficiency	Lack of essential vitamins and minerals (iron, vitamin A, iodine, zinc)	Blood tests, dietary intake surveys	Anemia, impaired cognitive development, weakened immunity, increased susceptibility to disease

- **Key Points for India (NFHS-5 & ICRISAT, 2025):**

Protein deficiency continues to be a major nutritional challenge in India, particularly in semi-arid regions where over two-thirds of households suffer from inadequate protein intake despite the availability of protein-rich foods such as legumes, dairy, eggs, and meat. Dietary patterns in these regions are dominated by staple cereals like rice and wheat, which contribute nearly 60–75% of daily protein consumption but often lack essential amino acids required for balanced growth and development. This imbalance leads to a hidden form of malnutrition that persists even in food-secure households. The issue is not solely one of food availability but is deeply shaped by cultural dietary practices, financial limitations, and low awareness about protein quality and nutritional needs. These factors collectively exacerbate protein deficiency and highlight the importance of targeted interventions in nutrition education, affordability, and behavioral change to improve dietary diversity.

Descriptive & inferential statistics: Research on malnutrition often begins with **descriptive statistics** to summarize prevalence, awareness levels, and consumption frequencies (WHO, 2021). Cross-tabulation of nutrition outcomes with socioeconomic factors helps identify vulnerable groups.

Correlation & regression models: Parental behavior studies commonly use **correlation analysis** to examine links between awareness, motivations, and purchase behavior. **Regression models** linear for purchase intentions and logistic for actual purchase decisions quantify how predictors such as brand trust, label use, and price sensitivity influence outcomes. In nutrition impact studies, logistic regression is applied to link child malnutrition indicators with dietary diversity and supplement use.

Structural equation modeling (SEM)

To capture complex interactions, several consumer health studies employ **SEM**, allowing testing of mediating effects such as:

- 1) Marketing exposure → Brand trust → Purchase intention
- 2) Label comprehension → Reduced influence of misleading advertising

This is particularly useful in nutrition research, where **multiple latent constructs** (awareness, trust, motivations) interact to influence purchase and consumption outcomes.

Qualitative analysis

In-depth interviews with parents and pediatricians complement quantitative data by highlighting **decision trade-offs**. Thematic analysis of such narratives provides context to explain why statistical associations exist.

Mixed methods integration

Recent malnutrition studies increasingly adopt **mixed methods**, combining household survey data with retail audits and stakeholder interviews. This triangulation strengthens findings and informs targeted interventions.

Hypotheses

H1: Parental education has a significant positive influence on purchase intention of baby nutritional supplements.

H2: Household income significantly affects the frequency of supplement purchase.

H3: Doctor Recommendation has a strong positive impact on brand trust and supplement adoption.

H4: Nutritional awareness significantly influences perceived importance of protein supplementation.

H5: Price sensitivity negatively moderates supplement purchase intention, especially in rural households.

H6: Supplement usage positively correlates with perceived child health improvement.

Objective	Statistical Tool
Demographic impact	ANOVA / t-test
Relationship analysis	Pearson Correlation
Influence testing	Multiple Regression
Urban–Rural difference	Independent Sample t-test
Model validation	SEM (if advanced analysis used)

Table 1: Demographic Profile (n = 400)

Variable	Category	Frequency	Percentage
Area	Urban	220	55%
	Rural	180	45%
Education	Graduate & Above	240	60%
Income	₹30,000+	210	52.5%

Table 2: Regression Results (Purchase Intention as Dependent Variable)

Variable	Beta	t-value	Sig.
----------	------	---------	------

Variable	Beta	t-value	Sig.
Education	0.312	4.56	0.001
Doctor Recommendation	0.428	6.12	0.000
Brand Trust	0.295	3.98	0.002
Price Sensitivity	-0.214	-2.89	0.004

$R^2 = 0.62$ (Model Significant at $p < 0.01$)

Table 3: Urban–Rural Comparison

Variable	Urban Mean	Rural Mean	p-value
Supplement Usage	3.8	3.1	0.002
Nutritional Awareness	4.2	3.3	0.000

9. Findings of Study

- The results indicate that hygiene-related products such as diapers, wipes, and bathing products are purchased frequently and are considered essential items. However, nutritional supplements and fortified baby foods represent the fastest-growing category in terms of expenditure share. Nearly two-thirds of urban respondents and slightly over half of rural respondents reported purchasing some form of nutritional supplement for their child in the past six months. This suggests increasing parental awareness of preventive healthcare and nutritional adequacy.
- Statistical analysis reveals that parental education, income level, and exposure to pediatric advice significantly influence purchasing decisions related to nutritional supplements. Brand trust and doctor recommendations emerged as the strongest predictors of supplement purchase intention. In contrast, rural consumers showed higher sensitivity to price and promotional offers. Cultural food habits and reliance on traditional diets were found to moderate supplement adoption, particularly in rural households.
- Despite rising supplement purchases, awareness regarding protein quality and balanced amino acid intake remains limited. A considerable proportion of respondents equated caloric sufficiency with nutritional adequacy. Interviews with pediatricians highlighted that mild to moderate protein deficiency often goes unnoticed until visible growth

concerns arise. Community health workers emphasized the need for stronger nutrition counseling at the grassroots level.

- Urban parents demonstrated higher awareness of fortified foods, reading of product labels and responsiveness to digital marketing influences. Rural parents relied more on interpersonal communication, local retailers, and health workers for product information. However, both segments expressed concern about product safety and authenticity, indicating growing consumer consciousness.
- The findings suggest that while the baby care market is expanding, its potential contribution to reducing child malnutrition depends on informed consumer choices. Nutritional supplements are increasingly perceived as preventive health investments rather than emergency interventions. However, affordability barriers, limited nutritional literacy, and cultural dietary patterns continue to restrict optimal usage.
- **Recommendations**
 1. **Align Marketing with Nutrition Goals** – Promote protein-rich and fortified products without breaching IMS Act/WHO Code.
 2. **Enhance Label Literacy** – Use simple FSSAI-compliant icons for protein content and age-appropriate guidance.
 3. **Affordable Protein Access** – Subsidize fortified foods, pulses, and dairy products through government programs.
 4. **Community Engagement** – Pediatrician-led counseling, caregiver education, and awareness campaigns.
 5. **Policy and Market Integration** – Merge NFHS data with market insights to target high-malnutrition regions; monitor compliance and effectiveness of interventions

10. Conclusion

This study examines how consumer decision-making in the baby care products market affects child malnutrition in India. Despite the rapid growth of baby care and nutritional supplements, protein and micronutrient deficiencies among children remain a serious concern. The findings show that parents are increasingly influenced by doctor recommendations, health awareness, brand trust, and preventive healthcare attitudes when purchasing supplements. Doctor advice and parental education are the strongest factors influencing adoption, while price sensitivity, cultural food habits, and limited awareness especially in rural areas remain major barriers. The study highlights that child malnutrition is not only a supply issue but is also shaped by consumer awareness, behavior, and socio-economic conditions. Although the acceptance of nutritional supplements reflects a shift toward preventive healthcare, market growth alone cannot solve malnutrition. Effective solutions require responsible marketing, better nutrition education, stronger healthcare involvement, and supportive government policies. A coordinated effort between policymakers, healthcare professionals, marketers, and parents is essential to ensure that the expansion of the baby care market leads to real improvements in child nutrition and long-term health outcomes in India.

References

- Bhandari, N., & Chowdhury, R. (2020). Infant and young child feeding practices and child nutrition in South Asia. Public Health Nutrition. <https://doi.org/10.1017/S136898002000183X>

- Black, R. E., Victora, C. G., Walker, S. P., Bhutta, Z. A., Christian, P., de Onis, M., ... Uauy, R. (2013). Maternal and child undernutrition and overweight in low-income and middle-income countries. *The Lancet*, 382(9890), 427–451. [https://doi.org/10.1016/S0140-6736\(13\)60937-X](https://doi.org/10.1016/S0140-6736(13)60937-X)
- Food Safety and Standards Authority of India. (2020). Food Safety and Standards (Food Products Standards and Food Additives) Regulations. <https://www.fssai.gov.in>
- International Institute for Population Sciences (IIPS), & ICF. (2021). National Family Health Survey (NFHS-5), 2019–21: India. Mumbai: IIPS. <https://dhsprogram.com/pubs/pdf/FR375/FR375.pdf>
- Jain, S., & Kapoor, R. (2021). Consumer behavior towards baby care products in India: A study of parental decision-making. *International Journal of Consumer Studies*. <https://doi.org/10.1111/ijcs.12645>
- Kramer, M. S., & Kakuma, R. (2012). Optimal duration of exclusive breastfeeding. *Cochrane Database of Systematic Reviews*, (8). <https://doi.org/10.1002/14651858.CD003517.pub2>
- Ruel, M. T., Alderman, H., & the Maternal and Child Nutrition Study Group. (2013). Nutrition-sensitive interventions and programmes: How can they help to accelerate progress in improving maternal and child nutrition? *The Lancet*, 382(9891), 536–551. [https://doi.org/10.1016/S0140-6736\(13\)60843-0](https://doi.org/10.1016/S0140-6736(13)60843-0)
- UNICEF, World Bank Group, & World Health Organization. (2023). Levels and trends in child malnutrition: Key findings of the 2023 edition. <https://data.unicef.org/resources/jme-report-2023/>
- Victora, C. G., Bahl, R., Barros, A. J. D., França, G. V. A., Horton, S., Krasevec, J., ... Rollins, N. C. (2016). Breastfeeding in the 21st century: Epidemiology, mechanisms, and lifelong effect. *The Lancet*, 387(10017), 475–490. [https://doi.org/10.1016/S0140-6736\(15\)01024-7](https://doi.org/10.1016/S0140-6736(15)01024-7)
- World Health Organization. (2023). Malnutrition. <https://www.who.int/news-room/fact-sheets/detail/malnutrition>