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Assessment of adoption of recommended child feeding and nutrition practices among farm families at Balaghat district

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Abstract

The present study was conducted to assess the adoption of recommended child feeding and nutrition practices among farm families in Balaghat district. The study was based on primary data collected from 120 farm families, with mothers or primary caregivers of children below five years of age selected as respondents. Data were collected through a structured interview schedule covering socio-economic characteristics, awareness and child nutrition practices. The findings revealed that the majority of respondents belonged to the middle-age group (47.50%), had medium annual income (47.50%), medium extension contact (62.50%), medium access to health services (65.00%) and medium access to Anganwadi services (68.33%). Regarding awareness, the highest awareness was observed for regular immunization (79.17%), while the majority of respondents (73.33%) followed a medium level of child nutrition practices. Correlation analysis revealed significant positive relationships of age ($r = 0.152$), landholding ($r = 0.218$), education level of mother ($r = 0.652$), annual income ($r = 0.371$), extension contact ($r = 0.583$), access to health services ($r = 0.447$), access to Anganwadi services ($r = 0.492$), information-seeking behaviour ($r = 0.605$) and awareness on child nutrition ($r = 0.671$) with child nutrition practices, while family size ($r = 0.128$) showed a non-significant relationship. The major constraints reported were lack of awareness about a balanced diet (65.00%), financial constraints/low income (55.00%) and lack of knowledge regarding preparation of nutritious meals (50.00%). The study highlights the need for strengthening nutrition awareness, counselling and extension support among farm families to improve the adoption of recommended child nutrition practices.

Keywords: Child nutrition, child feeding practices, farm families, adoption, awareness, Anganwadi services, Balaghat district

Introduction

Child nutrition is a fundamental determinant of physical, cognitive and emotional development, particularly during the first 1,000 days of life. Adequate nutrition during early childhood improves immunity, learning and long-term productivity, while undernutrition continues to be a major public health concern in developing countries. UNICEF (2021) [22] reported that nearly 45 per cent of deaths among children under five years of age are associated with undernutrition. In India, the persistence of child malnutrition is reflected in NFHS-5 data, which reported that 35.5 per cent of children under five years were stunted, 32.1 per cent were underweight and 19.3 per cent were wasted (MoHFW, 2021). These conditions indicate the importance of appropriate feeding, dietary diversity and nutrition-related childcare practices at the household level.

Madhya Pradesh continues to face a considerable burden of child malnutrition, with 35.7 per cent stunting, 26.4 per cent wasting and 33.0 per cent underweight among children under five years, according to NFHS-5 (MoHFW, 2021). The situation is particularly important in rural and agricultural communities such as Balaghat district, where farm families are directly involved in food production but may still experience limitations in dietary diversity, income and

nutrition awareness. In Balaghat, only 8.6 per cent of children aged 6-23 months receive a minimum acceptable diet, while 54 per cent of children are reported to be anaemic (MoHFW, 2021). Agricultural seasonality, household income, availability of nutritious foods, maternal education, workload and cultural beliefs may influence the feeding practices adopted for young children. Pingali and Sunder (2017) [15] also highlighted that agricultural households may face a paradox in which nutrient-rich food commodities are produced for markets while household consumption remains less diverse.

Recommended child-feeding practices include exclusive breastfeeding, timely initiation of complementary feeding, adequate dietary diversity, appropriate feeding frequency and hygienic food preparation. However, the adoption of these practices may be influenced by caregivers' knowledge, socio-economic conditions and access to nutrition-related services. In rural areas, misconceptions regarding complementary foods, limited counselling and irregular utilization of Anganwadi and health services can further affect appropriate feeding behaviour. Government initiatives such as the Integrated Child Development Services (ICDS), POSHAN Abhiyaan and Village Health and Nutrition Days aim to improve child nutrition through supplementary nutrition,

counselling and community-level interventions. Therefore, an assessment of the adoption of recommended child feeding and nutrition practices among farm families in Balaghat district is essential to understand existing practices, examine their relationship with selected independent variables and identify the challenges faced by families in adopting recommended practices. The findings can provide useful evidence for strengthening nutrition education and improving child-feeding practices among rural agricultural households.

Material and Methods: For the present study, primary data were collected through a structured interview schedule developed specifically in accordance with the objectives of the study. The interview schedule consisted of questions related to the socio-economic and personal characteristics of the respondents, access to health and Anganwadi services, information-seeking behaviour, awareness of child nutrition and practices followed by farm families regarding child nutrition. The schedule was pre-tested in a village outside the selected study area to assess the clarity, relevance and suitability of the questions. Based on the observations obtained during pre-testing, necessary modifications were made before final administration. Secondary data were collected from government websites, official reports, published documents and other relevant sources, including the District Nutrition Profile (DNP) of Balaghat district, to supplement the primary information.

The data were collected through personal interviews with the selected respondents at their respective households. Mothers or primary caregivers of children below five years of age

were included as respondents, as they were considered the major source of information regarding child feeding and nutrition practices. Before conducting each interview, the respondents were informed about the purpose and objectives of the study and their consent was obtained. The interviews were conducted in a friendly and non-intrusive manner so that respondents could provide accurate and complete information. The independent variables considered in the study were age, education level of mother, family size, land holding, annual income, extension contacts, access to health services, access to Anganwadi services, occupation status, information-seeking behaviour and awareness on child nutrition. The dependent variable was practices on child nutrition.

The collected data were systematically examined and analysed using appropriate statistical techniques. Frequency and percentage were used to describe the distribution of respondents according to different characteristics and practices. Averages, standard deviation and mean scale values were used wherever required for measuring and interpreting the variables. To determine the relationship between the selected independent variables and the dependent variable, the correlation test was employed. The study was guided by hypotheses formulated to examine whether significant relationships existed between the selected independent variables and child nutrition practices. The hypotheses were tested statistically at the appropriate level of significance and the results were interpreted in relation to the objectives of the study.

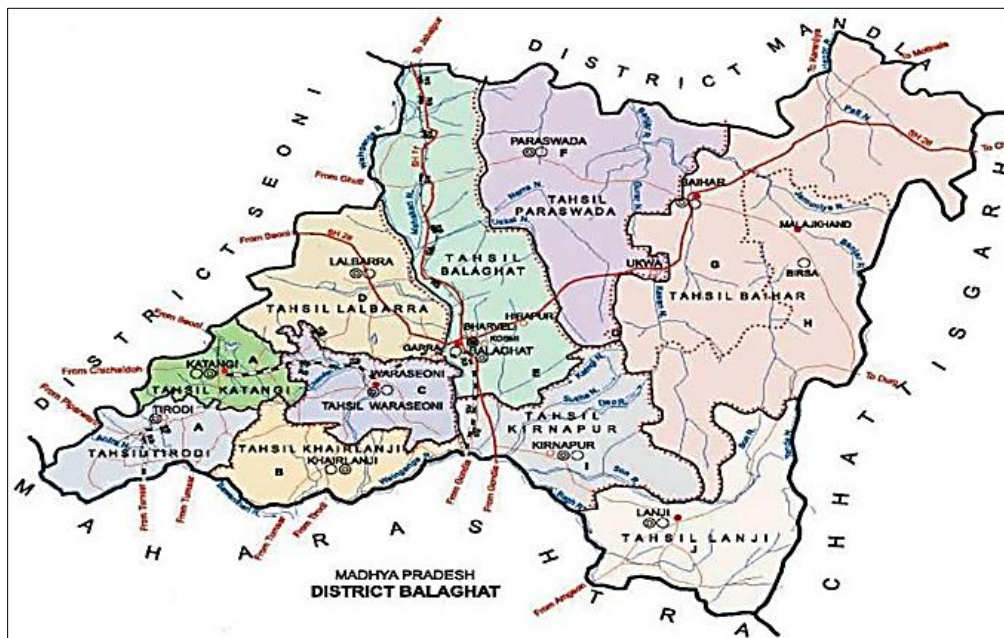


Fig 1: Map showing the location and study area of Balaghat district, Madhya Pradesh

Results and Discussion

The study considered 11 independent variables, namely age, education level of mother, family size, landholding, annual income, extension contact, access to health services, access to Anganwadi services, occupation status, information-seeking behaviour and awareness of child nutrition. The adoption level of recommended child feeding and nutrition practices was considered the dependent variable. These

selected independent variables were analysed to determine their relationship with the adoption of recommended child feeding and nutrition practices among farm families in Balaghat district (Table 1).

Socio-Economic Characteristics of Farmers

Age: The findings revealed that the majority of respondents (47.50%) belonged to the middle-age group, followed by

young (31.67%) and old-age (20.83%) groups. The dominance of middle-aged respondents indicates their active involvement in farming and household decision-making. The finding is in line with Kaur and Kaur (2020) and Deshmukh and Tembhare (2024) [3, 7].

Education level of mother: The largest proportion of respondents (25.00%) had education up to primary level, followed by HSSC (20.83%) and middle level (16.67%). Illiterate respondents constituted 12.50%, while higher education was reported by a smaller proportion. The finding supports Hegde *et al.* (2023) and More and Solanke (2025).

Family size: A majority of respondents (58.33%) belonged to nuclear families, while 41.67 per cent belonged to joint families. This indicates the predominance of nuclear family systems in the study area. The finding is supported by Kumari and Devi (2021), Hegde *et al.* (2023) and More and Solanke (2025) [4, 8, 11].

Land holding: The largest proportion of respondents (28.33%) possessed small landholdings, followed by marginal (23.33%), medium (21.67%) and semi-medium (18.33%) landholdings. Only 8.33 per cent had large landholdings, indicating the dominance of small and marginal farmers. The finding supports Deshmukh and Kumbhare (2025) [2].

Annual income: Nearly half of the respondents (47.50%) belonged to the medium-income category, followed by low (26.67%) and high (25.83%) income groups. This indicates a predominantly moderate economic status among the respondents. The finding supports Kaur and Kaur (2020), Hegde *et al.* (2023), Deshmukh and Tembhare (2024) and More and Solanke (2025) [3, 11].

Extension contacts: The majority of respondents (62.50%) had a medium level of extension contact, followed by high (30.83%) and low (6.67%) levels. This shows moderate interaction of respondents with extension personnel and services. The finding is similar to Reddy *et al.* (2019), Sharma *et al.* (2022) and Hegde *et al.* (2023) [4, 22].

Access to health services: The majority of respondents (65.00%) had medium access to health services, while 20.00 per cent had high and 15.00 per cent had low access. Thus, most respondents had moderate access to healthcare facilities. The finding is supported by Pradhan and Singh (2018), Reddy *et al.* (2019), Kumari and Devi (2021) [16, 19]

and Sharma *et al.* (2022) [8, 21].

Access to Anganwadi services: The majority of respondents (68.33%) had medium access to Anganwadi services, followed by high (22.50%) and low (9.17%) access. This indicates moderate utilization of Anganwadi services among farm families. The finding is supported by Kaur and Kaur (2020), Hegde *et al.* (2023) and Deshmukh and Tembhare (2024) [3, 4, 7].

Occupation status: Farming was the major occupation of respondents (41.67%), followed by agricultural labour (33.33%). Business (10.00%), service (8.33%) and other occupations (6.67%) constituted smaller proportions. This confirms the predominantly agrarian nature of the study area. The finding supports Jadhav and Shinde (2019) and Pawar and More (2023) [5, 11, 14].

Information Seeking Behaviour: The highest proportion of respondents (39.17%) had a high level of information-seeking behaviour, followed by low (34.17%) and medium (26.66%) levels. This indicates that a considerable number of respondents actively seek information related to farming and nutrition. The finding is in line with Meena *et al.* (2019) and Jaiswal and Tiwari (2023) [6, 9].

Awareness on child nutrition: The findings of Table 2 revealed that respondents had a good level of awareness regarding child nutrition. The highest awareness was observed for regular immunization (79.17%), followed by the importance of a balanced diet (75.00%) and the effect of malnutrition on learning and physical development (73.33%). Awareness was comparatively lower regarding regular growth monitoring (58.33%) and the importance of green leafy vegetables and fruits (65.00%). The finding supported by the results of Sharma and Meena (2021) and Nayak and Mishra (2023) [9, 12, 20].

The practices followed by farm families in feeding and child nutrition: The findings indicate that the majority of respondents (73.33%) followed a medium level of child nutrition practices, while 14.17 per cent followed a high level and 12.50 per cent followed a low level. This shows that most farm families were moderately following recommended feeding and child nutrition practices, with considerable scope for improving their practices towards a higher level. This finding is supported by Chauhan *et al.* (2019), Rathod and Patil (2020), Sharma and Tiwari (2022), Rao and Mishra (2024) and Patel and Singh (2025) [1, 13, 17, 18, 20].

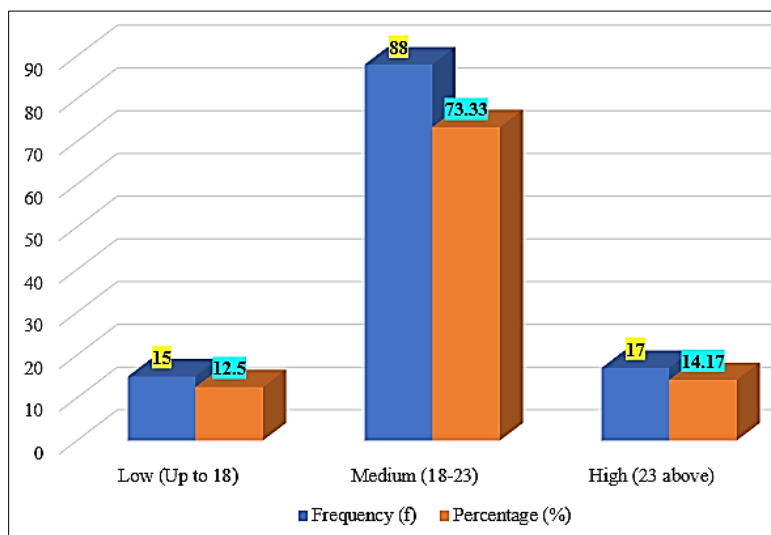
Table 1: Distribution of respondents according to selected variables (n=120)

S. No.	Variable	Category 1: f (%)	Category 2: f (%)	Category 3: f (%)	Category 4: f (%)	Category 5: f (%)	Category 6: f (%)	Category 7: f (%)
1	Age	Young age (Up to 35 years): 38 (31.67%)	Middle age (36.01-55 years): 57 (47.50%)	Old age (Above 56.01 years): 25 (20.83%)	—	—	—	—
2	Education level of mother	Illiterate: 15 (12.50%)	Up to Primary: 30 (25.00%)	Up to Middle: 20 (16.67%)	Up to HSSC: 25 (20.83%)	Up to UG: 15 (12.50%)	Up to PG: 10 (8.33%)	Up to Primary: 5 (4.17%)
3	Family size	Nuclear: 70 (58.33%)	Joint: 50 (41.67%)	—	—	—	—	—
4	Landholding	Marginal (Up to 1 ha): 28 (23.33%)	Small (1.01-2.00 ha): 34 (28.33%)	Semi-medium (2.01-4.00 ha): 22 (18.33%)	Medium (4.01-10.00 ha): 26 (21.67%)	Large (Above 10.01 ha): 10 (8.33%)	—	—

5	Annual income	Low (Up to ₹91,538): 32 (26.67%)	Medium (₹91,538.01- ₹1,81,970): 57 (47.50%)	High (Above ₹1,81,970.01): 31 (25.83%)	—	—	—	—
6	Extension contacts	Low (Up to 18): 8 (6.67%)	Medium (18-21): 75 (62.50%)	High (Above 21): 37 (30.83%)	—	—	—	—
7	Access to health services	Low (Up to 13): 18 (15.00%)	Medium (13-17 years): 78 (65.00%)	High (Above 17): 24 (20.00%)	—	—	—	—
8	Access to Anganwadi services	Low (Up to 17): 11 (9.17%)	Medium (17-20): 82 (68.33%)	High (Above 20): 27 (22.50%)	—	—	—	—
9	Occupation	Farming: 50 (41.67%)	Agricultural labour: 40 (33.33%)	Service: 10 (8.33%)	Business: 12 (10.00%)	Others: 8 (6.67%)	—	—
10	Information seeking behaviour	Low (Up to 15): 41 (34.17%)	Medium (15-17): 32 (26.66%)	High (Above 17): 47 (39.17%)	—	—	—	—
11	Practices followed by farm families (Depended variable)	Low (Up to 18): 15 (12.50%)	Medium (18-23): 88 (73.33%)	High (Above 23): 17 (14.17%)	—	—	—	—

Table 2: Awareness on child nutrition

S. No.	Awareness statement	Aware: f (%)	Partly Aware: f (%)	Not Aware: f (%)
1	Exclusive breastfeeding should be given for the first six months	85 (70.83%)	25 (20.83%)	10 (8.33%)
2	Complementary feeding should start after six months of age	80 (66.67%)	30 (25.00%)	10 (8.33%)
3	Balanced diet is essential for child growth and development	90 (75.00%)	20 (16.67%)	10 (8.33%)
4	Green leafy vegetables and fruits are important sources of vitamins and minerals	78 (65.00%)	32 (26.67%)	10 (8.33%)
5	Protein-rich foods (pulses, milk, eggs) help in proper body growth	82 (68.33%)	28 (23.33%)	10 (8.33%)
6	Regular immunization helps protect children from diseases	95 (79.17%)	18 (15.00%)	7 (5.83%)
7	Growth monitoring (weight and height check) should be done regularly	70 (58.33%)	35 (29.17%)	15 (12.50%)
8	Malnutrition can affect learning and physical development	88 (73.33%)	22 (18.33%)	10 (8.33%)

**Fig 2:** Distribution of the respondents according to their practices followed by farm families in feeding and child nutrition

Correlation between socio-economic variables and practices on child nutrition (n=120)

The correlation analysis revealed that eight variables had a positive and significant relationship with practices on child nutrition. Age ($r = 0.152$) and landholding ($r = 0.218$) showed a positive and significant relationship at the 5 per cent level, indicating that practices improved slightly with increasing age and landholding. Education level of mother ($r = 0.652$), annual income ($r = 0.371$), extension contacts ($r = 0.583$), access to health services ($r = 0.447$), access to Anganwadi services ($r = 0.492$), information-seeking behaviour ($r = 0.605$) and awareness on child nutrition ($r = 0.671$) were

positively and highly significantly associated with child nutrition practices at the 1 per cent level. Among these, awareness on child nutrition ($r = 0.671$) recorded the highest correlation, followed by education level of mother ($r = 0.652$) and information-seeking behaviour ($r = 0.605$), whereas family size ($r = 0.128$) showed a non-significant relationship. Overall, the findings suggest that better awareness, maternal education, information-seeking behaviour, extension contact and access to health and Anganwadi services were associated with better adoption of child nutrition practices among farm families.

Table 3: Correlation between socio-economic variables and practices on child nutrition (n=120)

S. No.	Independent variable	Correlation Coefficient (r)
1.	Age	0.152*
2.	Education level of mother	0.652**
3.	Family size	0.128 ^{NS}
4.	Land holding	0.218*
5.	Annual income	0.371**
6.	Extension contacts	0.583**
7.	Access to health services	0.447**
8.	Access to Anganwadi services	0.492**
9.	Occupation status	0.163*
10.	Information Seeking Behaviour	0.605**
11.	Awareness on child nutrition	0.671**

*= significant at 0.05 probability level; **= significant at 0.01 probability level; NS= non-significant

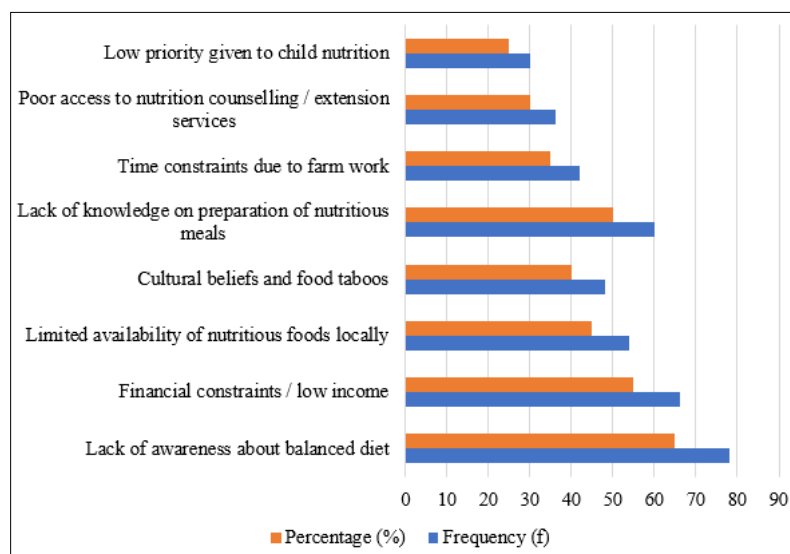
Constraints faced by respondents in adopting recommended practices

The data in Table 4 indicated that the major constraint faced by respondents was lack of awareness about a balanced diet, reported by 78 respondents (65.0%). This was followed by financial constraints/low income (55.0%) and lack of knowledge on preparation of nutritious meals (50.0%). Further, 45.0 per cent of respondents reported limited local availability of nutritious foods, while 40.0 per cent faced

cultural beliefs and food taboos. Time constraints due to farm work were reported by 35.0 per cent of respondents, followed by poor access to nutrition counselling/extension services (30.0%). The least reported constraint was low priority given to child nutrition, mentioned by 30 respondents (25.0%). Overall, the findings show that awareness, financial limitations and lack of knowledge regarding nutritious meal preparation were the prominent challenges in adopting recommended child nutrition practices among farm families.

Table 4: Constraints faced by respondents in adopting recommended practices

S. No.	Challenge Faced	Frequency (f)	Percentage (%)
1	Lack of awareness about balanced diet	78	65.0
2	Financial constraints / low income	66	55.0
3	Limited availability of nutritious foods locally	54	45.0
4	Cultural beliefs and food taboos	48	40.0
5	Lack of knowledge on preparation of nutritious meals	60	50.0
6	Time constraints due to farm work	42	35.0
7	Poor access to nutrition counselling / extension services	36	30.0
8	Low priority given to child nutrition	30	25.0

**Fig 3:** Constraints faced by respondents in adopting recommended practices

Conclusion

The study concluded that the majority of farm families in Balaghat district followed a medium level of recommended child feeding and nutrition practices (73.33%). Awareness, maternal education, information-seeking behaviour, extension contact, annual income and access to health and

Anganwadi services were positively associated with better child nutrition practices. The major challenges identified were lack of awareness about a balanced diet (65.00%), financial constraints (55.00%) and lack of knowledge regarding nutritious meal preparation (50.00%). The findings indicate the need for strengthened nutrition education,

counselling and extension support to improve the adoption of recommended child feeding and nutrition practices among farm families.

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