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Raising Nutrition Awareness and Assessing Nutritional Deficiencies Among Rural Women: A Community-Based Study in Raipur District, Chhattisgarh

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Nutrition awareness is closely linked with the ability of rural women to make informed food choices for themselves and their families. The present study assessed nutritional knowledge and dietary practices and documented a community-level awareness intervention among 250 rural women in selected villages of Dharsiwa block, Raipur district, Chhattisgarh, during 2025–26. Primary information was collected through personal interviews and a structured questionnaire. Nutritional knowledge was assessed using 22 teacher-made statements, while nutritional practices were assessed using 21 practice statements. Frequency and percentage were used for descriptive analysis. The respondent profile showed that 63.20 per cent were aged 20–40 years, 31.20 per cent were illiterate, and agriculture was the main occupation for 46.00 per cent. Most respondent families were in the lower-middle socio-economic category. The practice assessment showed that 71.60 per cent of women fell in the poor-practice category, 21.60 per cent in the average category and 10.80 per cent in the good category when the reported frequencies were converted to percentages. Although 67.60 per cent reported awareness that a balanced diet is essential for good health, only 41.60 per cent reported consuming a balanced diet daily. Green leafy vegetable consumption was reported by 77.20 per cent, while only 40.00 per cent reported consuming sufficient fruits and vegetables. Nutrition awareness activities included village surveys, group discussions and education on balanced diets, superfoods, green leafy vegetables and essential nutrients. The findings suggest that awareness alone does not always translate into healthy dietary practices and that repeated, practical, community-based nutrition education may help rural women adopt more diverse and balanced diets.

Keywords: rural women; nutrition awareness; balanced diet; nutritional practices; dietary diversity; nutritional deficiencies; Raipur; Chhattisgarh.

Introduction

Nutrition is a basic component of health and human development. A balanced diet supplies the body with energy and essential nutrients required for growth, tissue repair, immunity and day-to-day activities. Rural women have a particularly important role in household nutrition because they commonly participate in food selection, preparation and distribution. Their nutritional knowledge and practices can therefore influence not only their own health but also the food habits of other household members. Despite improvements in food availability, nutritional problems continue to coexist in India. Women may experience inadequate dietary diversity because of economic constraints, limited nutrition information, cultural practices and unequal access to nutritious foods. Deficiencies of iron and other micronutrients are especially important because they can affect health, productivity and quality of life. The thesis background also notes the continuing burden of anaemia and undernutrition among women and the importance of dietary assessment and nutrition education. In rural

communities, nutrition education is most useful when it is practical and based on locally available foods. Information about cereals, pulses, green leafy vegetables, fruits, milk products and other nutrient-rich foods can help women plan more varied meals. The present study was therefore designed to assess nutritional knowledge and practices and to document nutrition-awareness activities carried out with rural women in selected villages of Raipur district.

Objectives

To assess the level of nutritional knowledge among rural women.

To study the nutritional practices followed by rural women.

To create awareness among rural women regarding the importance of a balanced diet and essential nutrients for reducing nutritional deficiencies in rural areas.

Review of Literature

Earlier studies reviewed in the thesis indicate that nutritional knowledge and dietary adequacy among rural women are influenced by education, socio-economic conditions and food-consumption patterns. Sunitha et al. (2024) reported multiple micronutrient deficiencies among adolescent girls in rural South Tamil Nadu, highlighting the need for strengthened nutrition support. Geetha et al. (2023) reported that a substantial share of rural women had moderate nutritional knowledge and that nutritional practices remained comparatively weaker. Ravi and Ravindra (2017) examined dietary patterns among farm women in Karnataka, emphasizing the importance of understanding actual food consumption in rural households. Bharti and Singh (2018) reviewed nutrition, diet intake and dietary patterns among women. These studies support the need for community-based nutrition education and practical interventions. The present study extends this evidence by combining a profile assessment, statement-wise nutrition responses, practice assessment and field-level awareness activities.

Materials and Methods

Study area and respondents: The study was conducted in selected villages of Dharsiwa block, Raipur district, Chhattisgarh, during 2025–26. The thesis identifies Nakti and Pirda as the principal study villages and states that 250 rural women were selected randomly for assessment of health, balanced-diet awareness and nutritional deficiencies.

Data collection: Respondents were interviewed personally using a structured questionnaire. Profile characteristics were summarized using frequency and percentage. The nutrition knowledge instrument contained 22 statements, with one point assigned to a 'Yes' response and zero to a 'No' response; the thesis describes classification using the mean and standard deviation. Nutritional practices were assessed using 21 statements and classified as poor, average or good. Because several knowledge statements are negatively worded, the statement-wise percentages are presented here as reported responses rather than as a validated knowledge score.

Statistical treatment: Descriptive statistics, principally frequency and percentage, were used to summarize the respondent profile, nutrition-related responses and practices.

Results and Discussion

Profile of respondents

Table 1. Socio-demographic profile of the 250 rural women respondents

Profile variable	Category	Frequency	Percentage (%)
Age	20–40 years	158	63.20
	41–60 years	84	33.60
	61–80 years	8	3.20
Education	Illiterate	78	31.20
	Primary	59	23.60
	Middle school	35	14.00
	High school	35	14.00
	Intermediate	24	9.60
	Graduation & above	19	7.60

Occupation	Agriculture	115	46.00
	Agricultural labour	41.5	16.60
	Service	28.5	11.40
	Small business	7.5	3.00
	Housewife	57.5	23.00

The respondent group was dominated by women aged 20–40 years (63.20%). Illiteracy was reported for 31.20% of respondents, while agriculture was the main occupation (46.00%). These characteristics indicate the importance of simple, practical and locally relevant nutrition communication.

Table 2. Socio-economic status of respondent families

Socio-economic category	Frequency	Percentage (%)
High	1	0.40
Upper middle	119	47.80
Lower middle	130	52.00

Nearly half of the families were classified as upper middle (47.80%), while the remaining majority were lower middle according to the source table. The original thesis reports 130 families as lower middle; this corresponds to 52.00% of 250 and has therefore been recalculated for internal consistency.

Nutritional knowledge-related responses

Table 3. Statement-wise nutrition-related responses among rural women (n=250)

S.No.	Statement	Frequency	Percentage (%)
1	Awareness of super foods	40	16.00
2	Millets better than rice/wheat	90	36.00
3	Nutri Thali as balanced diet	186	74.40
4	Balanced diet essential for good health	169	67.60
5	Skipping meals is good for health	210	84.00
6	Timely nail cutting is hygienic	190	76.00
7	Anaemia due to vitamin A deficiency	39	15.60
8	Ideal body weight necessary for good health	12	4.80
9	GLV intake enhances vitamin C	75	30.00
10	Tap water is not good for health	108	43.20
11	Handwashing before eating is not good	79	31.60
12	Morning walking/jogging is good	194	77.60
13	Cereals are rich in carbohydrates	243	97.20
14	Sprouting does not improve nutrient availability	20	8.00
15	Obesity may be due to excess fat intake	93	37.20
16	Egg is complete protein	237	94.80
17	Regular junk food is good for health	179	71.60
18	Milk products provide calcium for bone health	150	60.00
19	Females need more dietary iron than males	170	68.00
20	GLV are a source of folic acid	140	56.00
21	Supplement diet necessary to overcome deficiencies	100	40.00
22	Protein necessary for good Hb status	147	58.80

The highest reported response was for the statement that cereals are a rich source of carbohydrates (97.20%), followed by the statement that egg is a complete protein (94.80%). Awareness that a Nutri Thali represents a balanced diet was reported by 74.40%, while 67.60% reported that a balanced diet is essential for good health. Awareness of superfoods was comparatively low at 16.00%, and only 30.00% reported the statement concerning green leafy vegetables and vitamin C. These results indicate uneven nutrition knowledge across specific topics. Interpretation should be cautious because the questionnaire contains both positively and negatively worded statements. For example, 'skipping meals is good for health'

and 'regular consumption of junk food is good for health' are not desirable practices. Thus, a high affirmative response to these items should not be interpreted as good knowledge.

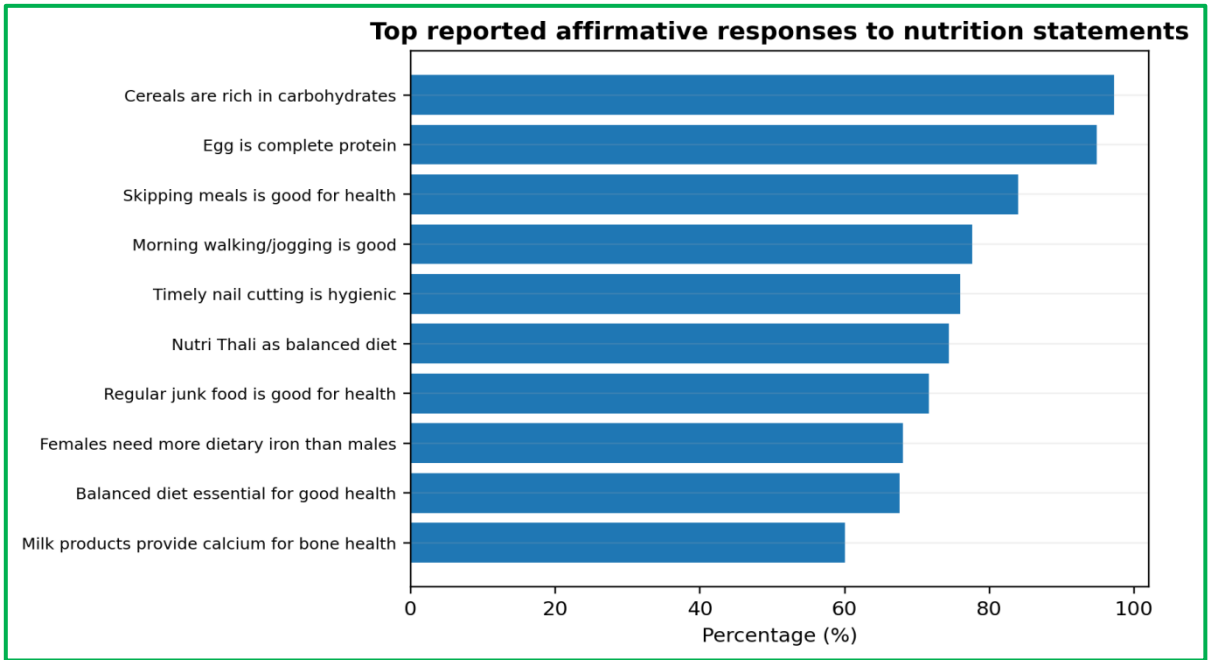

Figure 1. Ten nutrition statements with the highest reported affirmative responses.

Nutritional practices

Table 4. Overall nutritional practice level among rural women (n=250).

Level of practice	Frequency	Percentage (%)
Poor	179	71.60
Average	54	21.60
Good	27	10.80

Based on the frequencies recorded in the thesis, 179 respondents were classified as having poor nutritional practices, 54 as average and 27 as good. These correspond to 71.60%, 21.60% and 10.80%, respectively. The percentages printed in the thesis table (68.60%, 21.20% and 9.20%) do not sum to 100%; the percentages in this paper have therefore been recalculated directly from the reported frequencies and n=250.

Overall nutritional practice level

Table 5. Nutritional practices reported by rural women (n=250)

S.No.	Nutritional practice	Frequency	Percentage (%)
1	Use chia/quinoa/flax seeds	21	8.40
2	Use millets daily	33	13.20
3	Daily diet includes all five food groups	13	5.20
4	Consume balanced diet daily	104	41.60
5	Skip meals	120	48.00
6	Cut nails regularly	98	39.20
7	Maintain personal hygiene	189	75.60
8	Yoga/exercise for ideal body weight	27	10.80
9	Consume green leafy vegetables daily	193	77.20
10	Drink direct tap water	221	88.40
11	Wash hands before food	180	72.00
12	Maintain kitchen garden	98	39.20
13	Consume cereals daily	189	75.60
14	Consume sprouted grains	23	9.20
15	Consume fried/baked foods daily	170	68.00
16	Eat enough fruits and vegetables	100	40.00
17	Consume milk/milk products daily	110	44.00
18	Consume roots/tubers daily	86	34.40

S.No.	Nutritional practice	Frequency	Percentage (%)
19	Take dietary supplements	34	13.60
20	Eat egg daily/frequently	23	9.20
21	Eat fish/meat	49	19.60

Green leafy vegetable consumption was reported by 77.20% of respondents and cereal consumption by 75.60%. Handwashing before eating was reported by 72.00%, whereas only 41.60% reported consuming a balanced diet daily and 40.00% reported eating enough fruits and vegetables. Only 5.20% reported that their daily diet contained all five food groups. The combination of relatively high consumption of some food items with low dietary diversity suggests that availability of individual foods does not necessarily translate into a fully balanced diet.

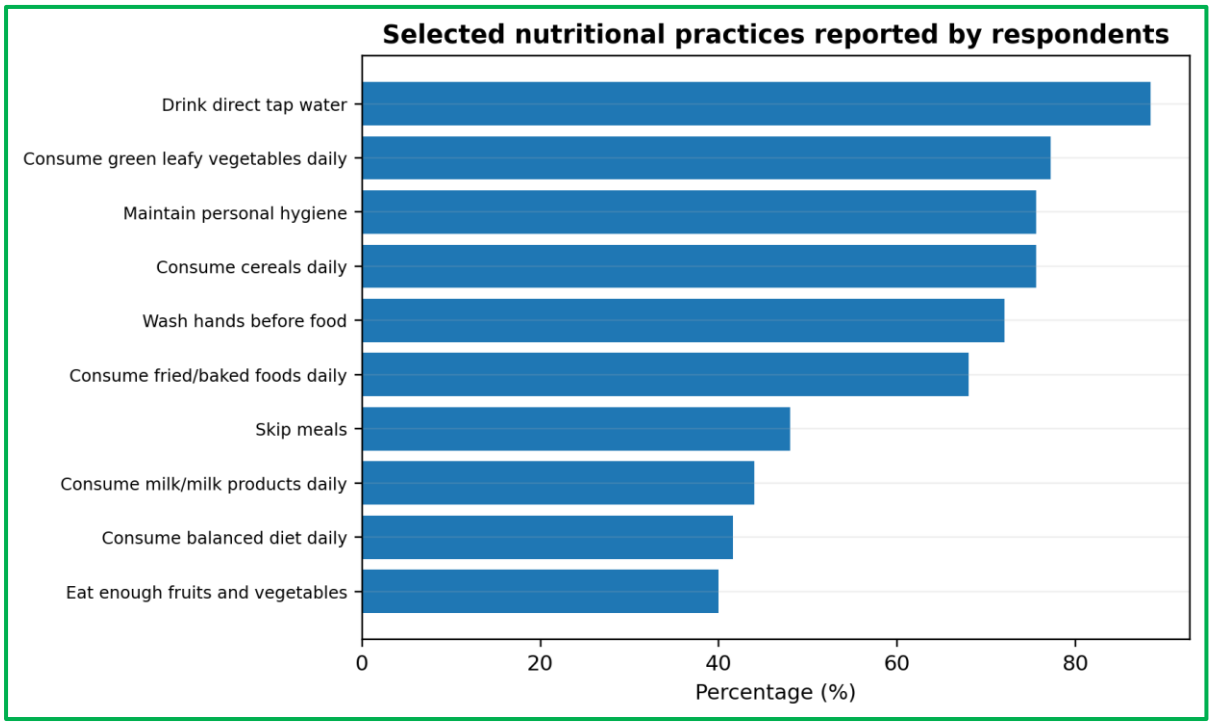

Figure 2. Selected nutritional practices reported by respondents

Community nutrition awareness activities

Table 6. Nutrition-related field activities documented in the thesis

S.No.	Activity	Date	Women	Purpose
1	Primary data collection – Nakti	22 Feb 2025	50	Profile characteristics survey
2	Nutrition awareness – Nakti	23 Feb 2025	27	Nutrition awareness
3	Socio-economic survey – Nakti	24 Feb 2025	38	Socio-economic survey
4	Primary data collection – Pirda	13 Jan 2026	25	Profile characteristics survey
5	Nutrition awareness – Pirda	14 Jan 2026	31	Nutrition awareness
6	Nutritional practice survey	15 Jan 2026	18	Nutritional practices
7	Nutritional practice survey – Pirda	16 Jan 2026	13	Nutritional practices
8	Balanced diet & essential nutrients education	17 Jan 2026	9	Nutrition-deficiency awareness
9	Group discussion on mitigating deficiencies	18 Jan 2026	16	Community discussion
10	Balanced diet/superfoods/green vegetables campaign	18 Jan 2026	21	Nutrition awareness

The field programme combined household-level data collection with awareness activities. The recorded activities included nutrition awareness in Nakti and Pirda, nutritional-practice surveys, education on balanced diets and essential nutrients, group discussion on mitigating nutritional deficiencies, and a campaign on balanced diets, superfoods and the health benefits of green leafy vegetables. This approach is consistent with the thesis recommendation that demonstrations, training and group discussions can strengthen rural women's nutrition knowledge.

Discussion

The findings show a clear gap between awareness of selected nutrition concepts and the adoption of balanced dietary practices. Although more than two-thirds of respondents reported that a balanced diet is essential for good health, only about two-fifths reported consuming a balanced diet every day. Similarly, green leafy vegetables were widely reported in the diet, but only 40% reported eating enough fruits and vegetables. This pattern suggests that nutrition interventions should move beyond information delivery and focus on practical meal planning, food-group diversity, affordability and household decision-making. The results are broadly consistent with the literature reviewed in the thesis. Geetha et al. (2023) reported moderate nutritional knowledge and comparatively weaker practice levels among rural women, while Sunitha et al. (2024) highlighted micronutrient deficiencies in rural adolescent girls. Together, these findings reinforce the importance of continuous nutrition education, dietary diversity and community-based support.

Conclusion

The study demonstrates that rural women possess varying levels of nutrition-related awareness, but healthy dietary practices are not always consistent with that awareness. The most important concerns identified from the reported data were limited dietary diversity, low inclusion of all five food groups, limited use of millets and sprouts, and relatively low consumption of fruits and several protein-rich foods. Community-level awareness activities provided a practical platform for discussing balanced diets, essential nutrients and locally available nutritious foods.

Recommendations

- Conduct repeated, practical nutrition education sessions at village level rather than relying only on one-time awareness campaigns.
- Promote meal planning around the five major food groups and encourage greater dietary diversity.
- Encourage affordable local sources of iron, protein, calcium, vitamins and other micronutrients.
- Use demonstrations, posters, group discussions and locally understandable examples to communicate nutrition messages.
- Strengthen kitchen-garden initiatives so that households can improve access to fresh vegetables and herbs.
- Include women, Anganwadi workers, health workers and NSS volunteers in community nutrition programmes.
- Future studies should include anthropometric assessment, 24-hour dietary recall and, where feasible, biochemical indicators so that nutritional deficiencies can be measured directly rather than inferred from awareness and practice responses.

Limitations

The study was conducted in selected rural villages and used a relatively small community sample of 250 women; therefore, the findings should not be generalized to all rural women in Chhattisgarh. Much of the information was self-reported and may be affected by recall or response bias. The present dataset also does not provide laboratory measurements of haemoglobin or micronutrient status, so the study assesses nutrition-related knowledge and

practices rather than clinically confirmed nutritional deficiency. In addition, some percentages in the original thesis tables were arithmetically inconsistent; this paper recalculates such percentages from the reported frequencies and clearly identifies the correction.

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Data note: All respondent-level figures and field-activity figures in this paper were taken from the uploaded NSS thesis. Where a printed percentage did not match the stated frequency and n=250, the percentage was recalculated mathematically rather than altering the frequency.