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Assessment of rural women's attitude towards nutrition, health and hygiene under Nutri Smart Village Programme in Dharwad

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Abstract

Rural women are key agents for achieving the transformational economic, environmental, and social changes required for sustainable development. Empowering them with nutritional knowledge and community health is the key to the well-being of individuals and families and to enhancing the nutritional status of rural communities. With this background, the present study was undertaken to assess the attitude of rural women towards nutrition, health, and hygiene in order to identify the gaps and design suitable, effective interventions. The present investigation was carried out in Dharwad district of Karnataka State during 2021–22. A total of 500 rural farmwomen were interviewed from five villages: Belur, Dubbadmaradi, Kalakeri, Kumbarkoppa, and Kogilgeri. The research design used was "ex-post facto". A self-structured questionnaire with an interview method was used to collect the data. The results revealed that the majority of respondents belonged to lower middle socioeconomic status, followed by upper middle class. The attitude of the majority of rural women towards nutrition, health, and hygiene was low (64.20%), followed by an uncertain attitude (32.40%). The independent variables, *viz*., age, education, occupation, and socioeconomic status, had an influence on the attitude of the rural women. Hence, nutrition intervention strategies, including the promotion of nutri-smart gardens and farming, organising training programmes, health campaigns, capacity-building programmes, and literacy programmes on nutrition, health, and hygiene, can be planned and executed.

Keywords: Attitude, rural women, nutrition, health and hygiene

Introduction

Women constitute half of the world's population. The total female population of India is 58 crore and 65 lakh, out of which only 34.54 percent of women are illiterate. About 72.20 percent of the total population of our country lives in rural areas (Census 2011) [4]. The primary workforce in emerging rural communities, which ultimately drives the development of the national economy, is made up of women. Rural women typically work in agriculture as paid labourers or cultivators who work on their own land.

Health is primarily a personal responsibility and demands personal care to enjoy it. Health is an essential requirement for all, irrespective of age, caste, creed, race, religion, and economic standard. Health means not the mere absence of disease but the "complete state of physical, mental, and social wellbeing". Nutrition is the process of taking in food and converting it into energy and other vital nutrients required for life." The nutrients are what the body needs to produce the biomolecules and energy needed to carry out its many activities. Nutrients are essential for the growth and effective operation of all living things. Hygiene is a situation or set of behaviours that support preserving health and preventing disease, particularly through cleanliness.

An attitude is "a process of individual consciousness that determines the real or possible activity of the individual in the social world". An attitude is a negative or positive evaluation of an object that influences human behaviour towards that object'(Michael Hogg). An attitude is a learned predisposition to respond in a favourable or less favourable manner towards people, an object, an idea, or a situation (Martein Fishbe and Icsk Azjein, 2011) [7]. The cognitive component of attitude refers to the thoughts, perceptions, or

ideas of the person towards the object of the attitude. The affective component is about the emotional reaction or feeling of the person towards the object of the attitude, such as like or dislike.

Further, the nutritional status of a community is influenced by a lot of interrelated and complex factors. Nutrition knowledge, attitude, and practice are also among them. Knowledge of nutrition is one of the factors that shapes the nutritional behaviour of individuals as well as communities. It is crucial for encouraging healthy eating habits, and there is also a need to promote a positive attitude and practice towards healthy eating habits.

Rural women are key agents for achieving the transformational economic, environmental, and social changes required for sustainable development. Empowering them with nutritional knowledge and community health is the key to the well-being of individuals and families and to enhancing the nutritional status of rural communities.

Hence, the present study was undertaken to assess the attitude of rural women towards nutrition, health, and hygiene so that gaps can be identified and suitable, effective interventions can be designed.

Materials and Methods

The present investigation was carried out in Dharwad district of Karnataka State, India, during 2021–22. A total of 500 rural farmwomen were interviewed from five villages: Belur, Dubbadmaradi, Kalakeri, Kumbarkoppa, and Kogilgeri. The Nutri Smart Village programme is implemented in all five selected villages. The research design used was “ex-post facto”. A pre-tested schedule with interview methods was used to collect the data. Information regarding socio-demographic characteristics, *viz*., age, education, marital status, occupation, family size, family type, number of earners in the family, land holding, family income, mass media exposure, and extension contact, was analysed using percentage, frequencies, mean, standard deviation, and correlation coefficient.

The attitude towards nutrition, health, and hygiene in the present study is operationally defined as the positive or negative feelings towards nutrition. It was analysed using a pre-tested interview schedule developed for the study. The attitude component consists of 23 statements; among them, 18 were positive and five were negative. Each positive statement was measured on a three-point continuum, namely favourable, uncertain, and less favourable, by assigning a score of 3, 2, and 1, respectively, while the negative statements were quantified by assigning a score of 1, 2, and 3, respectively.

The minimum and maximum score one could get were 23 and 46, respectively. The higher the score indicates that the women possess a favourable attitude towards nutrition, health, and hygiene, and the lower the attitude score indicates that the women possess a less favourable attitude. The summated score for all 23 attitude statements was considered the total attitude score for nutrition, health, and hygiene. The mean scores were calculated to study the attitude of the rural women. The Karl Persons correlation coefficient was calculated to study the relationship between independent and dependent variables. A step-wise multiple regression coefficient was employed to assess the percentage relationship and the contribution of each selected parameter to the attitude of rural women. The women were classified into less favourable, uncertain and favourable categories using the mean and standard deviation.

Results and Discussion

Socio demographic characteristics of the organic and conventional farmers of agro-climatic zones of northern Karnataka

The demographic characteristics of rural women are presented in Table 1. The study covered 500 rural women spread over five villages, 100 in each village. The majority of the respondents belonged to the age group of 20–40 years (61.80%), followed by the age group of 41–60 years (36.60%). Nearly one-third of the sample were illiterate (28.40%), followed by 26 percent of the respondents who had studied up to primary school (26%). Fifteen percent of each of the respondents had studied up to middle school and high school. A meager percentage of the respondents were graduates (9%). Further, the Table revealed that more than one third of the respondents (35%) were housewives, and the occupation of 34 percent of the respondents was agriculture. About 16.60 percent of the respondents were agricultural labourers, and only meager percentages of the respondents were running small businesses, *viz*., tailoring and grocery shops.

The maximum number of respondents (67.60%) belonged to schedule caste (15.40%) and schedule tribe caste (52.20%), followed by OBC (19.20%) and upper caste (13.20%). The majority of the respondents (94.60%) were married. Only three respondents were unmarried.

The maximum number of respondents (59%) belonged to nuclear families, followed by joint families (37.80%) and extended families (3.20%). Similarly, the majority of the respondents (51.80%) belonged to small families of 1-4 members, followed by medium families consisting of 5–6 members (33%), and large families with more than six members (15.20%). The family income per month of the majority of the respondents (56.80%) ranged between Rs. 10,000 and Rs. 19,000, followed by 14.40 percent of the respondents having a monthly income of Rs. 5000 to Rs.9999.

With respect to land holdings, nearly half of the samples were landless (48.80%). Among the landholders, 23.60 and 13.80 percent of the respondents possessed small and marginal, semi medium (9.40%), and large (0.20%) land holdings. The majority of the respondents (61.20%) were non-vegetarians and rest were vegetarians. Vegetarians consume plant-based foods and typically avoid meat, poultry, and seafood, while still consuming dairy products, eggs, and plant-based foods. The non-vegetarians consume animal-based foods like meat, poultry, seafood, dairy, eggs, and plant-based foods.

Socio economic status of the respondents

The distribution of the families of selected rural women according to socio-economic status categories as per Agarwal (2005) is presented in Table 2. It is clear from the data that the majority of rural families (51.80%) belonged to lower middle socioeconomic status, followed by the upper middle class (47.80%). Only two selected rural families had high socio-economic status. These results are supported by the research findings of Chand and Sharma (1999) and

Wakle *et al*. (2003) [9].

Attitude of rural women towards nutrition, health and hygiene

Further, the data on the attitude of rural women towards nutritional health and hygiene was analysed to compute the mean score for delineating the favorable/less favourable responses (Table 3).

The mean score of the attitude of the rural women towards nutrition, health and hygiene between 1.5 and 2 indicated their less favourable to uncertain attitude; further, 2 to 2.5 and 2.5 to 3 mean scores indicated their uncertain to favourable opinion and favourable attitude, respectively.

Data in Table 3 reveals the statement-wise nutritional attitude of the rural women. The rural farm women had positive attitude towards the maintenance of personal hygiene, *viz*., 'we should cut nails regularly' (mean score: 2.61). Similarly, rural women have a positive attitude towards health-related aspects, with mean scores of 2.54, 2.51, and 2.53 for the sentences 'we should consume sprouted grains', fried and baked foods should be restricted', and the daily diet should include grains, roots, and tubers', respectively. These results are on par with findings from Gifty *et al.* (2022) [3], which revealed that 75.80% of women had a good attitude regarding health and nutrition-related issues.

The rural women had an uncertain to favourable attitude, with mean scores lying between 2 and 2.5 towards consumption of a balanced diet and raw vegetables, not skipping meals, avoiding drinking direct tap water, morning walks and jogging improving health, a kitchen garden is essential to get fresh fruits and vegetables, and eggs should be included in the daily diet.

Further, the results revealed that rural women had a less favourable to uncertain attitude (mean score: 1.75) towards consumption of super foods, which are essential for getting phytonutrients. Phytonutrients, protein rich foods should be included in our diet. A similar attitude was found towards health-related aspects, *viz*., protein-rich foods should be included in diets (mean score: 1.64), diets should include cups of milk (mean score: 1.84), and nuts and oil seeds should be avoided in daily diets.

In addition to these results, the data was further classified into three groups based on mean $\pm$ (0.425*SD) as low, less favourable, uncertain, and favourable, as depicted in Table 4. The majority of rural women had had a low attitude towards nutrition, health, and hygiene (64.20%), followed by 32.40 percent of the women had uncertain attitude. Only a countable number of the respondents had a favourable level of attitude (Table 4).

Relation between independent variables and attitude of rural women towards nutrition, health and hygiene

The relation between independent variables and the attitude of rural women towards nutrition, health, and hygiene was analysed by calculating Pearson's correlation coefficient (Table 5). The relationship between age, education, and occupation of the rural women and their attitude towards nutrition, health, and hygiene was positive and found to be statistically significant. This indicates that as the age and educational level of rural women increased, their attitude changed to a favourable one. The results are on par with the studies conducted by Bariya *et al*., (2020) [1].

The percentage relationship and contribution of the selected parameters to the attitude of rural women were analysed using step-wise multiple regression and are presented in Table 6. The age of the rural women entered as the first significant predictor and dominant variable (F = 9.447) in the regression analysis. It yielded a multiple regression of 0.136, accounting for 19 percent contribution to the attitude of rural women towards nutrition, health and hygiene. With the introduction of occupation as the succeeding variable, the multiple correlation increased to 0.211 with 4.40 percent contribution. The addition of the subsequent predictor variable, i.e., education, increased the multiple correlation to 0.125, which explained an additional 1.60% contribution. The percent relation of age, education and occupation was found to be statistically significant at one per cent level. The addition of subsequent predictor variables, namely SES and income, obviously did not increase multiple correlations. The total predicted variance with the addition of these two variables increased by nearly 1.5 percent. It was statistically significant at five per cent level.

Table 1: Socio-demographic distribution of the rural women N=500

Variables	Categories	Frequency	Percentage
Age	20-40 yrs	309	61.80
	41-60 Yrs	183	36.60
	61-80 yrs	08	1.60
	Total	500	500.0
Education	Illiterate	142	28.40
	Primary	130	26.00
	Middle school	76	15.20
	High school	75	15.00
	Intermediate	45	9.00
	Graduation & above	32	6.40
	Total	500	500.0
Occupation	Agriculture	170	34.00
	Labour	83	16.60
	Service (Govt/Private)	57	11.40
	Small business	15	3.00
	House wife	175	35.00
	Any other	-	-
	Total	500	500.0

Caste	Upper caste	66	13.20
	OBC	96	19.20
	SC	77	15.40
	ST	261	52.20
	Total	500	500.0
Marital status	Single	3	0.60
	Married	473	94.60
	Widow	20	4.00
	Divorcee	-	-
	Separated	04	0.80
	Total	500	500.0
Family type	Nuclear	295	59.00
	Joint	189	37.80
	Extended	16	3.20
	Total	500	500.0
Family size	Small (1-4 members)	259	51.80
	Medium (5-6 members)	165	33.00
	Large (>6 members)	76	15.20
	Total	500	500.0
Family income/month	>50,000	-	-
	20,000-49,999	56	11.20
	10,000-19,999	284	56.80
	5000-9999	72	14.40
	2500-4999	37	7.40
	1000-2499	51	10.20
	<1000	-	-
	Total	500	500.0
Veg /Non vegetarian	Vegetarian	194	38.80
	Non vegetarian	306	61.20
	Total	500	500.0
Land holding (hectres)	Landless	244	48.80
	Marginal holding	69	13.80
	Small holding	118	23.6
	Semi-medium holding	47	9.40
	Medium holding	21	4.20
	Large holding	01	0.20
	Total	500	500.0

Table 2: Socio-economic status of the rural women N=500

SES	Frequency	Percentage
Upper high	-	-
High	02	0.40
Upper middle	239	47.80
Lower middle	259	51.80
Poor	-	-
Very Poor / Below poverty line	-	-
Total	500	500.0

Table 3: Nutritional Health & Hygiene Attitude N=500

Sl. No	Statements	Favorable		Uncertain		Less favorable		Mean
		N	%	N	%	N	%	
1	Consumption of super foods is essential for getting phytonutrients	228	45.60	67	13.40	205	41.00	1.75
2	Millets helps in management of lifestyle disorders	150	30.00	281	56.20	69	13.80	1.44
3 (-)	Nutri Thali is not essential for all age group	170	34.00	295	59.00	35	7.00	1.51
4	We should consume balanced diet	141	28.20	54	10.80	305	61.00	2.09
5	We should not skip meals	106	21.20	167	33.40	225	45.00	2.30
6	We should cut nails regularly	96	19.20	52	10.40	352	70.40	2.61
7	We should maintain personal hygiene	80	16.00	76	15.20	344	68.80	2.46
8 (-)	There is no need to maintain ideal body weight	139	27.80	320	64.00	41	8.20	2.04
9	We should include green leafy vegetables in daily diet to prevent anaemia	144	28.80	49	9.80	307	61.40	2.42
10	We should avoid drinking direct tap water	93	18.60	132	26.40	275	55.00	2.29
11 (-)	We should not wash hands before food intake	107	21.40	347	69.40	46	9.20	2.03
12	Morning walk and jogging improves the health	133	26.60	109	21.80	258	51.60	2.34
13	Kitchen garden is necessary to get fresh fruits and vegetables	168	33.60	07	1.40	325	65.00	2.34
14	Protein rich food should be included in our diet	193	38.60	226	45.20	76	15.20	1.64

15	We should consume sprouted grains	115	23.00	32	6.40	353	70.60	2.54
16	Fried, baked foods should be restricted	108	21.60	40	8.00	352	70.40	2.51
17	Consuming raw vegetables is good for health	92	18.40	54	10.80	354	70.80	2.41
18 (-)	Junk and road side food are healthy and hygienic	147	29.40	328	65.60	24	4.80	1.91
19	There is no need for diet diversification Diet should include variety of foods	132	26.40	107	21.40	261	52.20	2.14
20	Diet should include cup of milk	132	26.40	310	62.00	58	11.60	1.84
21	Egg should be included in daily diet	127	25.40	205	41.00	168	33.60	2.03
22	The daily diet include grains, root and tubers	91	18.20	54	10.80	155	31.00	2.53
23 (-)	Nuts and oilseeds should be avoided in daily diet	156	31.20	301	60.20	43	8.60	1.92

N=

Table 4: Classification of the level of attitude towards nutrition, health and hygiene N=500

Levels of nutritional, health & hygiene attitude	Number	Percentage
Less favorable	321	64.20
Uncertain	162	32.40
Favorable	17	3.40

Table 5: Relation between independent variables and attitude of rural women towards nutrition, health and hygiene N=500

Independent variables	R value
Age	0.136**
Income	0.009
Education	0.125**
Occupation	0.211**
SES	0.685**

** Significant at the 0.01 level (2-tailed)

* Significant at the 0.05 level (2-tailed)

Table 6: Percentage relationship and influence of independent variable to the attitude of rural women towards nutrition, health and hygiene N=500

Independent variables	R	R^2	Percent contribution	F value
Age	0.136	0.19	19.00	9.447**
Income	0.081	0.007	0.70	3.273*
Education	0.125	0.016	1.60	7.956**
Occupation	0.211	0.044	4.40	23.135**
SES	0.087	0.008	0.80	3.769*

** Significant at the 0.01 level

* Significant at the 0.05 level

Conclusion

It can be concluded from the study that the rural farm women had a positive attitude towards the maintenance of personal hygiene, while they had a less favourable to uncertain attitude towards consumption of super foods, which are essential for getting phytonutrients. The independent variables *viz*., age, income, education and occupation had an influence on the opinion of rural women towards health and hygiene.

The nutritional status of a community is influenced by a lot of interrelated and complex factors. Nutrition knowledge, attitude, and practice are also among them. The study reveals the less favourable attitude of rural women towards nutrition and health. It is crucial for encouraging healthy eating habits and promoting a positive attitude and practice towards healthy eating habits.

Hence, based on the magnitude and causes of the problem, nutrition intervention strategies, including the promotion of nutri-smart gardens and farming, organising training programmes, health campaigns, capacity-building programmes, and literacy programmes on nutrition, health, and hygiene, can be planned. These nutrition intervention goals refer to corrective measures that are undertaken to rectify the occurrence of overall malnutrition and the well-being of rural families. The nutrition intervention strategies are to be selected to change nutritional intake, nutrition-related knowledge or behaviour, environmental conditions, or access to supportive care and services.

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