Knowledge on health and nutrition among self-help groups affects the nutritional status

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■ **ABSTRACT :** The study addresses the knowledge on health and nutrition among self-help groups affects the nutritional status in Gajapati district of Odisha. Three of the tribal blocks *i.e.* Nuagada, Rayagada, R. Udayagiri consisting of 150 SHG members among tribal farming community were selected for the study. Respondents were also selected based on the criteria such as rural women only who were involved in agricultural activities having land holding of their own. The required information was obtained with the help of pre-tested schedule using personal interview method. Among all the respondents, 92.00 per cent were under poor knowledge level on health and nutrition before joining the SHG and which was not remarkably changed after joining SHG *i.e.,* 86.33 per cent. So the study areas of Gajapati have more percentage of malnourished women indicating chronic nutritional deficiency. Low education, derisory employment, scanty income, deficient savings, and meagre assets were all illustrative of this. Government, private organisations and Mass media should also help the tribal women for easy understanding of the need and importance of good health and nutrition condition of the family.

■ **KEY WORDS:** Knowledge, SHG, Nutrition

Self-help group is a method of organising the poor people and the marginalized to come together to solve their individual problem. The SHG method is used by the government, NGOs and others worldwide. The poor collect their savings and save it in banks. In return they receive easy access to loans with a small rate of interest to start their micro unit enterprise. Thousands of the poor and the marginalized population in India are building their lives, their families and their society through Self-help groups. The 9th five year plan of the government of India had given due recognition on the importance and the relevance of the Self-help group method to implement developmental schemes at the grassroots level (Sundaram, 2012). India ranks second in tribal population of the world; next to Africa. In spite of the many affirmative action's, tribes in India face lots of problems due to their low socio-economic conditions, poverty, unemployment, displacement, lack of opportunities, accessibility and awareness of the government programmes. Most of the tribal areas are hilly, inaccessible undulating plateau lands in the forest areas of the country. Due to this, infrastructure and development facilities in tribal areas for education, roads, healthcare, communication, drinking water, sanitation etc. lagged behind compared to other areas which have resulted in further widening the gaps of development between the tribals and the general population for a long time. The tribals constitute 47 per cent of the population in Gajapati district. On the basis of occupational pattern of the district, it is found that about 86.99 per cent of its people are living in the pursuit of agriculture. Women's work is regarded as crucial for the survival of tribal households in terms of provisioning for food, income, earning and management of financial resources. Food gathering is a vital economic activity for women among agricultural tribes. They are the major earners from the sale of NTFPs especially in forest dependent livelihood systems. Since the 1950s the link between diet and chronic diseases such as cancer and cardiovascular disorders has been

increasingly well recognised world-wide (WHO, 1990). In the UK, attempts to improve the nation's health through dietary change have tended to centre around education. Underlying this approach is the assumption that providing people with the information necessary to choose healthy foods will ultimately lead to an improvement in diet. Some efforts were made to determine the effect of nutrition instruction, using the curriculum guides on improving the nutrition knowledge, selected food nutrition attitudes and dietary behaviours (Byrd-Bredbenner *et al.*, 1984). Parmenter and Wardle (1999) developed a general nutrition knowledge questionnaire for adults. The overall goal of nutrition education is to improve dietary behaviour. Because there are many intervening factors, the goal is difficult to accomplish. The knowledge gain and attitude improvement may impact on women food intake.

■ RESEARCH METHODS

The study was conducted in 15 villages of three tribal blocks (Nuagada, Rayagada and R. Udayagiri) of Gajapati district. From each of the identified villages, a list of beneficiaries from farming community was prepared. The SHGs have been selected by using convenience sampling technique. From this list, 150 beneficiaries were selected randomly from self-help group (SHG). The questionnaire was developed based on the earlier studies conducted by various researchers. The information related to the study was collected using a well-defined and pre-tested questionnaire by the personal interview method. The study was based on the expressed opinions of the respondents, which may not be free from their individual perceptions and biases in spite of the researcher's efforts to get them as objectively as possible. Average and percentage analysis was carried out to draw the meaningful interpretation of the results.

■ RESEARCH FINDINGS AND DISCUSSION

The results obtained from the present study have been discussed in following heads :

Nutritional status :

The nutritional status of respondents were determined by measuring weight for height. According to weight for height, it is the classification of Body Mass Index of
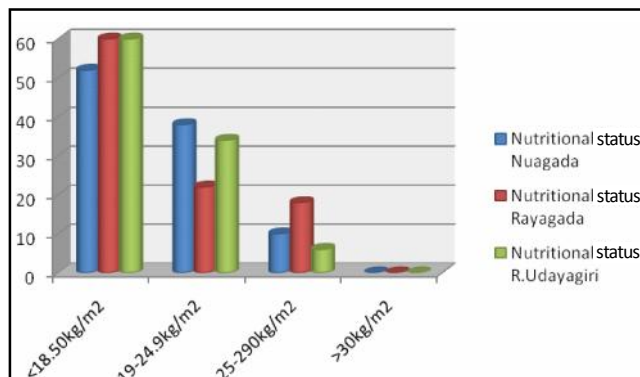

Fig. 1 : **Nutritional status distribution of the respondents of three different blocks**

respondents percentile and it was categorized by Malnourished (<18.50 kg/m^2), Normal (19-24.9 kg/m^2), Pre-obese (25-29.9 kg/m^2) and Obese (>30 kg/m^2).

The data pertaining to nutritional status of the respondents covering 3 blocks of Gajapati districts have been presented in Table 1 and Fig. 1. Regarding the classification of nutritional status, most of the respondents (52 %) in Nuagada, 60 per cent in Rayagada and 60 per cent in R.Udayagiri were malnourished. Some of them were normal *i.e.*, 38 per cent in Nuagada, 22 per cent in Rayagada and 34 per cent in R.Udayagiri. No respondents from the three blocks were obese. It is revealed from the table that, different levels of nutritional status as per WHO (2003) criteria (kg/m^2) of the respondents were statistically significant according to the Chi-square value. So, it can be inferred from the above table that nutritional status is an effective parameter for empowering tribal women among farming communities of Gajapati district of Odisha. In comparison to the data of undernourished women, percentage of Orissa and India from survey report NFHS-3, 2005-06, the study area of Gajapati also has more percentage of malnourished women indicating chronic nutritional deficiency.

Studies aiming to assess the relationship between nutrition knowledge and dietary behaviour in the UK have often been criticised on the grounds of uncertain validity and reliability of the instruments used to measure nutritional knowledge (Axelson *et al.,* 1985; Shepherd and Towler, 1992; Anderson *et al.,* 1988).

Table 1: Distribution of the respondents according to nutritional status								
Nutritional status	Score	Nuagada		Rayagada		R. Udayagiri		Chi-square
		No	%	No	%	No	%	
<18.50 kg/m^2	0	26	52.00	30	60.00	30	60.00	
19-24.9 kg/m^2	1	19	38.00	11	22.00	17	34.00	
25-290 kg/m^2	2	5	10.00	9	18.00	3	6.00	
>30 kg/m^2	3	0	0.00	0	0.00	0	0.00	
Total		50	100	50	100	50	100	5.878*

Association of nutritional status with independent variables:

To find out the relationship between dependant and independent variables, some variables like age, marital status, education, family type, occupation, family size, income and knowledge were regroup to get enough frequency for statistical analysis. Chi-square was used to determine the relationship between nutritional status and independent variables.

It is revealed from Table 2 that, the association between family type, occupation, family size and nutritional level of respondents were found to be statistically significant ($p<0.05$) and rest of the associations were found to be statistically non-significant. Most of the respondents (61.39%) of age group 25-45 year were malnourished. Because in this age, they face many responsibilities like pregnancy, lactation, child care, household activities and outside home activity for the family. Majority of the respondents were educated up to Primary School. Due to lack of education, nutritional requirement of family was not known to them. Most of the respondents' annual family income was under low and semi-medium group. The range of annual income was up to Rs.34,000 which was not sufficient to maintain a healthy family diet. Family income was not significant with nutritional status ($P>0.05$). The similar observation was also reported by the study conducted by Raheela (2002). Knowledge towards nutrition did not show any significant association with nutritional status among total number in this study ($P>0.05$). Although majority of respondents had poor level of knowledge 74 per cent in Nuagada, 90 per cent in Rayagada and 86 per cent in R.Udayagiri even after joining the SHG. Concerning the parents occupation in all the three blocks, the respondents belonged to farming communities. Major of the respondents were having occupation only farming and farming with labour work having small and marginal land holding. In this study, occupation had significant association with nutritional status ($P<0.05$).

Table 2 : Association of nutritional status with independent variables							
Independent variables		Malnourished n (%)	Normal n (%)	Pre-obese n (%)	Obese n (%)	Chi-square	P value
Age (years)	Less than 25	18(47.37)	17 (44.74)	3(7.89)	0(0.00)	4.893[NS]	0.298
	25-45	62(61.39)	26(25.74)	13(12.87)	0(0.00)		
	Above 45	6(54.55)	4(36.36)	1(9.09)	0(0.00)		
Marital status	Married	61(54.46)	39(34.82)	12(10.71)	0(0.00)	3.378[NS]	0.496
	Unmarried	19(70.37)	5(18.52)	3(11.11)	0(0.00)		
	Widow	6(54.55)	3(27.27)	2(18.18)	0(0.00)		
Education	Illiterate	0(0.00)	1(100.00)	0(0.00)	0(0.00)	8.454[NS]	0.584
	Functionally literate	35(51.47)	25(36.76)	8(11.76)	0(0.00)		
	Primary school	30(66.67)	9(20.00)	6(13.33)	0(0.00)		
	Middle school	17(62.96)	7(25.93)	3(11.11)	0(0.00)		
	High school	4(44.44)	5(55.56)	0(0.00)	0(0.00)		
	College and University	0(0.00)	0(0.00)	0(0.00)	0(0.00)		
Family type	Joint	39(49.37)	32(40.51)	8(10.13)	0(0.00)	6.543*	0.037
	Nuclear	47(66.20)	15(21.13)	9(12.68)	0(0.00)		
Occupation	Farming	36(69.23)	11(21.15)	5(9.62)	0(0.00)	8.736*	0.068
	Farming +Labour	29(43.94)	29(43.94)	8(12.12)	0(0.00)		
	Farming +Business	11(57.89)	5(26.32)	3(15.79)	0(0.00)		
	Farming +Service	10(76.92)	2(15.38)	1(7.69)	0(0.00)		
Family size	Small	39(49.37)	32(40.51)	8(10.13)	0(0.00)	7.440*	0.114
	Medium	45(66.18)	14(20.59)	9(13.24)	0(0.00)		
	Large	2(66.67)	1(33.33)	0(0.00)	0(0.00)		
Income	Low	15(57.69)	9(34.62)	2(7.69)	0(0.00)	4.071[NS]	0.667
	Semi-medium	46(52.87)	30(34.48)	11(12.64)	0(0.00)		
	Medium	19(70.37)	6(22.22)	2(7.41)	0(0.00)		
	High	6(60.00)	2(20.00)	2(20.00)	0(0.00)		
Knowledge	Good	1(33.33)	2(66.67)	0(0.00)	0(0.00)	2.271[NS]	0.686
	Fair	14(53.85)	8(30.77)	4(15.38)	0(0.00)		
	Poor	71(58.68)	37(30.58)	13(10.74)	0(0.00)		

NS= Non-significant

Knowledge about health and nutrition :

The nutritional status of the family members is mostly dependant on the knowledge, attitude and practice of the mothers. Table 3 represents the knowledge regarding health and nutrition before and after joining the self-help group.

Frequency distribution of respondents' of knowledge about health and nutrition in Table 3 showed that more than half of the respondents knew how healthy they were. But they have very poor knowledge about the meaning of nutritious food. They have very negligible knowledge about the nutrient content of different food groups. The low rate (8.00%) of correct answer was found in the statement that main nutrient in biscuit is carbohydrate. The nutrition education programme resulted an increase in the awareness of respondents' knowledge regarding healthy condition, nutritious food, sources of energy, protein, fat and vitamin after joining SHG. There was remarkable change in their

knowledge level as most of the respondents gained knowledge on meaning and use of nutritious food. Mohindra *et al.* (2008) also concluded from their study that participation in SHG may help poor women with not being excluded from health care. According to Yegammai *et al.* (2002), nutrition education helped in increasing knowledge on functions of food, maternal education, and advantage of breast-feeding and cultivating desirable infant feeding practices.

Eighteen statements pertaining to health and nutrition from each block before and after joining of SHG were recorded. The knowledge on health and nutrition was categorized into three groups, Good knowledge (> 80% of the total score), Fair knowledge (60-80% of the total score) and Poor knowledge (<60% of the total score). The range of score for all the questions was 1-18. Table 4 shows the level of knowledge of each block before and after joining SHG. Good level of knowledge was found negligible among the respondents. Fair

Table 3: Knowledge of the respondents about health and nutrition

Sr. No.	Statement	Before joining		After joining	
		No	%	No	%
1.	Answer these questions to know how healthy you are?				
	Has appropriate weight for height	28	18.67	56	37.33
	Gain weight every month	99	66.00	100	66.67
	Do heavy/moderate work	107	71.33	107	71.33
	Had good appetite	91	60.67	93	62.00
	Rarely ill	83	55.33	84	56.00
2.	What does nutritious food means?				
	Contain vitamins	23	15.33	69	46.00
	Fruits and vegetables	16	10.66	65	43.33
	Contain different food groups	18	12.00	49	32.67
	Healthy and clean foods	34	22.67	50	33.33
3.	The main nutrients in rice and potatoes are carbohydrates.	22	14.67	40	26.67
4.	The main protein resource is fish, meat, egg.	24	16.00	47	31.33
5.	The main vitamin resource is fruits and vegetable.	24	16.00	46	30.67
6.	The main nutrient in oil is fat.	25	16.67	40	26.67
7.	Eating more vegetable regularly reduce weight of individual.	23	15.33	29	19.33
8.	Fast food like fried chicken has more cholesterol.	18	12.00	23	15.33
9.	Main nutrient in biscuit is carbohydrate.	12	8.00	19	12.67
10.	Main nutrient in milk is calcium, protein and fat.	16	10.67	21	14.00
11.	Main nutrient in green vegetables is vitamin and mineral.	21	14.00	23	15.33

Table 4 : Distribution of respondents on knowledge level regarding nutrition and health

Knowledge level	Nuagada n (%)		Rayagada n (%)		R.Udayagiri n (%)		Total	
	Before	After	Before	After	Before	After	Before	After
Good knowledge: > 80% of the total score	0(00)	3(06)	0(00)	0(00)	0(00)	0(00)	0(00)	3(2.00)
Fair knowledge : 60-80% of the total score	7(14)	10(20)	3(06)	5(10)	2(04)	7(14)	12(8.00)	22(14.66)
Poor knowledge :< 60% of the total score	43(86)	37(74)	47(94)	45(90)	48(96)	43(86)	138(92.0)	125(86.33)
Mean	2.86	2.68	2.94	2.82	2.96	2.86	2.92	2.78
SD	0.35	0.58	0.23	0.38	0.19	0.35	0.27	0.45

level of knowledge (8.00 %) before joining SHG was very slowly increased to only 14.66 per cent after joining SHG. Most of the respondents in each block were having poor level of knowledge. Among all the respondents, 92.00 per cent were under poor knowledge level before joining the SHG and which was not remarkably changed after joining SHG *i.e.,* 86.33 per cent. Therefore, with nutrition education programme media should take a great role to gain in knowledge and retention of message about nutrition and health.

They have very poor knowledge about the meaning of nutritious food. They have very negligible knowledge about the nutrient content of different food groups. The low rate (8.00%) of correct answer was found in the statement that main nutrient in biscuit is carbohydrate. After joining SHG there was no remarkable change in their knowledge level as most of the respondents belonged to low socio-economic group. Majority of the respondents were educated up to Primary School. Due to lack of education, nutritional requirement of family was not known to them.

Conclusion :

The impact of SHGs on rural women has been very minimal or otherwise, it has had a superficial effectiveness, guising itself to be pervasive, but without depth. Low education, derisory employment, scanty income, deficient savings, and meagre assets are all illustrative of this. Awareness should be created regarding the importance of nutrients and nutritious foods, so that health status of all the family members can be improved. Health and nutrition education should be done by Government and private organisations by using teaching materials like leaflets, posters, and other descriptive pictures with interesting educational contents. Mass media should also help the respondents to easily understand the need and importance of good health and nutrition condition of the family.

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