RESEARCH NOTE

Impact of Nutritional Intervention on the Selected Tribes in Jharkhand

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ABSTRACT

The present study was conducted to assess the impact of interventions viz., Horticulture and Nutrition education for raising the nutritional status of selected tribes in the Ranchi district of Jharkhand. Results of study revealed that there was significant gain in knowledge, change in attitude and enhancement in skill of beneficiaries after exposure to scientific information on nutrition and health through lecture, demonstrations and training. The intake of protective food like vegetables was much below the suggested recommendation, but significant enhancement in green leafy vegetable intake was observed after Horticulture intervention. It may be inferred that both interventions were effective and should be included in the programmes aiming to improve nutritional status of the community.

Key words: *Jharkhand; Tribal; Horticulture intervention; Nutrition education;*

Jharkhand, a newly created state, is known for its unique culture and heritage as well as natural and human resources. The state is largely inhabited by persons belonging to scheduled tribes and scheduled caste forming 40% of total population. Judged from all accepted indicators its districts are almost at the bottom. Above 80% of its population is rural and subsistence farming is their way of life. The state has been termed as food insecure region with around 61% of the rural population below poverty line. These tribal are desperately poor, backward, malnourished, generally uneducated and lead a hard and miserable life. As result of poverty, the intake of various essential constituents of food is inadequate among tribal. The nutritional profile of tribal is low as compared to national average. Studies have revealed the pathetic situation with regard to chronic energy and micro nutrient deficiencies among tribal communities (*DGHS, 1996; NFHS II, 2002*). In this context, an ICAR scheme was implemented in the Ranchi district of Jharkhand with specific objective to improve the nutritional status of tribal through nutrition education and horticultural intervention. The present study was undertaken to assess the impact of nutritional education and horticulture intervention on the selected tribes mainly in terms of change in the knowledge, attitude and skill as well as increase in the consumption of fruits and vegetables.

METHODOLOGY

The present study was conducted in two purposively selected blocks namely Kanke and Murhu of Ranchi district, where the ICAR project entitled "improvement in the nutritional profile of tribal in the Ranchi district of Jharkhand" was in operation. The data was collected from 100 tribal farmers belonging to two tribes covering 4 villages through personal interview technique with the help of pre tested structured schedule. To test the level of knowledge of respondents at the pre intervention and post intervention stage, a questionnaire was prepared pertaining to various aspects viz., basic nutrition knowledge, nutrient saving methods, mother and child care, health and hygiene as well as food fads and fallacies containing 56 statements altogether. For each statement the answer was given as yes or no. Correct answer was given a score of one and incorrect answer as score of zero. To know the attitude of the beneficiaries at pre and post intervention stage, a questionnaire containing 36 statements was prepared. The respondents were asked to respond to each of the statement in terms of their agreement and disagreement on a 5 point continuum i.e. strongly agree, agree, undecided, disagree and strongly disagree. A weight of 5 was assigned to strongly agree for a positive statement, 4 to agree, 3 to undecided, 2 to disagree and

1 to strongly disagree. The weight was reversed for negative statement. The Skill of tribal in three aspects i.e. conservation of nutrients, value added processing as well as health and hygiene were assessed on a 3 point continuum i.e. good (3), average (2) and poor (1). Intake of vegetables of selected households were recorded before and after the intervention through 24 hrs recall method for 3 consecutive days and results were expressed in terms of consumption unit (CU). On the basis of scores obtained by each respondent at pre and post stage, the overall mean, standard deviation and 'Z' test was computed (*Panse and Sukhatame, 1961*).

RESULTS AND DISCUSSION

Nutrition education: The problem of malnutrition and under nutrition was found complex and sizable in the selected areas. No doubt, poverty and low purchasing power were the main reason of malnutrition, but faulty feeding habits arising from ignorance regarding right kind and right amount of food, superstitions, wrong food beliefs, lack of knowledge regarding balanced food, sanitation etc. were found equally responsible for aggravating present scenario of malnutrition. Dietary guidelines are important in order to enable the people to make a right choice of foods available for ensuring optimal health and freedom from diseases. Hence nutrition education formed an important component of the project.

Table 1. Impact of intervention on the knowledge of selected population regarding health and nutrition

Variable	Pre test	Post test	'P'
Basic Knowledge	3.59±4.37	1.77±3.46	$P \leq 0.01$
Nutrient saving methods	1.75±2.37	6.35±1.72	$P \leq 0.01$
Mother and child care	3.80±1.61	6.40±1.78	$P \leq 0.01$
Health and hygiene	10.12±1.64	11.31±2.62	$P \leq 0.01$
Food fads and fallacies	.57±3.24	13.92±2.26	$P \leq 0.01$
Tota	0.14±6.51	49.75±6.68	$P \leq 0.01$

Values are mean ±SD

'P' = level of significance of 'Z' test for comparison between pre and post training

The comparison of the knowledge components viz., basic nutrition knowledge, nutrient saving methods, mother and child care, health and hygiene as well as food fads and fallacies between pre and post test was compared by 'Z' test. The results (Table 1) revealed that in all the five components and in total knowledge, significant differences were observed. There was an increase by 2-8 scores in each of the component, with differences of 19 scores in total knowledge.

The Table 2 revealed that there was a gain of 1.5-12 scores in each of components with a difference of 30 scores in total attitude. Except food fads and fallacies significant differences were observed between per and post attitude test.

Table 2. Impact of intervention on the attitude of selected population regarding health and nutrition

Variable	Pre test	Post test	P'
Basic Knowledge	3.95±3.72	42.34±5.22	$P \leq 0.01$
Nutrient methods saving	26.05±3.15	34.60±6.26	$P \leq 0.01$
Mother and child care	48.34±6.47	60.72±8.55	$P \leq 0.01$
Food fads and fallacies	13.92±2.48	15.45±3.20	NS
Total	122.27±11.21	152.90±18.26	P

$\leq$ 0.01

Values are mean ±SD

'P' = level of significance of 'Z' test for comparison between pre and post test

The comparison of skill before and after intervention (Table 3) revealed that there was significant enhancement in the skill of beneficiaries in all three components i.e. conservation of nutrient, value added processing as well as health and hygiene

Table 3. Impact of intervention on the skill of selected population regarding health and nutrition

Variable	Pre test	Post test	P'
Conservation of nutrients	5.41±1.37	6.11±1.38	$P \leq 0.01$
Value added processing	6.64±1.21	7.51±1.27	$P \leq 0.01$
Health and hygiene	8.72±2.03	9.62±2.46	$P \leq 0.01$
Total	20.72±3.45	23.11±4.15	$P \leq 0.01$

Values are mean ±SD

'P' = level of significance of 'Z' test for comparison between pre and post skill

Horticultural intervention: A durable and sustainable solution to the problem of micro-nutrient malnutrition obviously lies in the improvement and diversification of household diets. Opportunities were offered by small scale fruit and vegetables production to improve

Table 4. Impact of horticultural intervention on the vegetable intake of selected Families

Variable	Pre-intake (g/CU)	Post-intake (g/CU)	'P'
Green leafy vegetable	72.90±44.32	109.16±42.25	$P \leq 0.01$
Roots and tuber	98.60±57.64	110.54±42.35	NS
Other vegetables	86.75±59.16	103.67±43.56	NS

Values are mean ±SD

'P' = level of significance of 'Z' test for comparison between pre and post intake

micro-nutrient status. To have a year round supply of fruits and vegetables, backyard garden is very effective, hence taken as one of the intervention. Adopted families were encouraged to cultivate fruits and vegetables in their backyards. The programme consisted training of tribal, both men and women in growing vegetables and fruit plants. Training was imparted on the principle of learning by doing. Good quality of vegetable seeds as well as fruit plants along with technical support were supplied to the selected beneficiaries for the two consecutive years, which facilitated them in establishing and sustaining the nutrition garden on crop rotation basis.

The data in Table 4 revealed that there was significant enhancement ($p \leq 0.01$) in green leafy vegetable intake. Similarly, consumption of roots and tubers as well as other vegetables increased after intervention, however the differences between pre and post intake was not found statistically significant.

CONCLUSION

Nutrition education through lectures, demonstration and training was found effective in enhancing the knowledge, attitude and skill of participants and thereby it is of importance in the nutritional upliftment of a community in the long run. Establishment of nutrition garden helped in ensuring accessibility and food security of selected tribes and its sustainability will be a measure to eliminate micro-nutrient deficiencies in population.

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