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## Impact of nutrition education on nutritional awareness among pregnant women of Allahabad

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**Abstract**

The present study was carried out with the objectives to develop nutrition education material and impact of these materials on awareness of pregnant women. Folders, Chart and Documentary were prepared for nutrition education. The data collected by the survey schedule and knowledge test schedule in pre-intervention period. The impact of nutrition education provided to pregnant women was assessed by to comparing the score data of pre-exposure and post-exposure. Results showed that before education intervention most of respondents (51.2%) were belonging to low level of knowledge and after education intervention majority of respondents (61.2%) were belonging to medium level of knowledge therefore it is concluded from above data that there is significant impact of nutrition education on awareness of the respondents.

**Keywords:** Nutrition education, pregnant women, documentary, Anaemia

**Introduction**

Nutrition education is the foundation for any programme intended for nutritional improvement (Devadas *et al.*, 1970). It may be defined as a means of translating nutritional requirements into food and adjusting the food choices to satisfy nutritional, cultural, psychological and economic needs (Albanese, 1971). Nutrition education (NE) is an essential consideration to optimise health of women of reproductive age in addition to pregnancy outcomes. NE programmes are important as they target at enhancing subjects' dietary intakes by promoting behavioural changes such as food choice and cooking ability, goal-setting, motivation, and support the efforts for a change.. Furthermore, Rao (2010) [10] demonstrated an improvement in haemoglobin level through a nutrition awareness program comprising of informal meeting sessions, cookery activities to disseminate knowledge about use of iron rich foods and kitchen garden activity. Nutrition education helps the selected pregnant women to develop new knowledge, attitude and confidence that they need to improve their nutritional habits, and how to care themselves during pregnancy for being healthy herself and her baby also. Hence keeping these points in mind this research was undertaken with following objectives, to study existing nutritional knowledge and awareness of selected pregnant women and to impart the nutrition education programme through developed nutrition education materials.

**Materials and Methods**

**Development of survey schedule:** The survey method was used for collection of data. Selected respondents were personally interviewed and necessary information was collected through developed schedule.

**Knowledge test schedule for awareness**

A nutrition knowledge test schedule was developed for studying the pre and post nutrition education. This nutritional knowledge test schedule consisted of a set of 20 specific questions related to the nutrition awareness. The right answer of knowledge test schedule was given "3" marks for a question, while incorrect answer was given "0" mark. After that the scores obtained by the respondents were summed up to get the exact totals at pre and post exposure stages separately. These questions were prepared under the guidance of the advisor.

**Development of Nutrition Education Materials:** Nutrition education is a mechanism to enhance awareness, as a means to self-efficacy, surrounding the trigger of healthy behaviours. Three types of nutrition education materials had developed for educating the respondents such as – documentary, folders and chart.

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### Nutrition Education and its impact assessment

**Pre-exposure knowledge test:** The data collected by the survey schedule and knowledge test schedule in pre-intervention period. The test was applied to pregnant women aged between 20-40 years. Their answers were recorded in the performa by the investigator. Only one respondent was interviewed at a time in order to prevent influence of answers given by the other respondents. The general information of respondents and anthropometric measurement was done only one time because it is not change in a short period of time.

**Exposure to nutrition education material:** Nutrition education was imparted to the selected pregnant women. Following three ways of education were used: documentary, folders and chart.

**a). Nutrition education through documentary-** Prepared documentary entitled “*Garbhavastha mein sahi aahar avm poshan*” have basic information related to the nutrition for pregnant women and there was instructions related to “*Do’s and Dont’s during pregnancy*”. This documentary included little information about exercise also.

**b). Nutrition education through folders-** There were three types of folders entitled separately. First folder was “*Garbhawastha mein aahar avam poshan*”, second was “*Garbhawastha meinku poshan*” and third was “*Garbhawastha mein anaemia*”.

**c). Nutrition education through chart-** There was a chart included information related to general awareness for pregnant women.

**Post-exposure knowledge test:** The post-exposure test was done after completion of all three educational materials. On first visit of the respondents, they were educated by two educational materials i.e. folder and chart. Documentary was explained on the next week. We were requested to the respondents to come after one week and told them that the knowledgeable session is very important for their health and their baby. Then on the next visit date given by doctor we were taken post exposure test. The same set of questions of knowledge test schedule which was used at pre-exposure stage was used to find out the impact of nutrition education on

the knowledge level and daily practices related to food habits and nutrition of pregnant women.

**Score allotment:** For the evaluation of effectiveness of nutrition education on selected pregnant women the exercise of knowledge test schedule was designed with scores allotted. The same set of knowledge test schedule was given to respondents for collecting data of pre-intervention and post-interventions. The nutritional knowledge test schedule consisted of a set of 20 specific questions related to the nutrition awareness. The right answer of knowledge test schedule was given “3” marks for a question, while incorrect answer was given “0” mark.

On account of wide variation in the scores obtained by the subjects their percentage of scores were computed and placed into three different categories: 0 to 20 (Low knowledge level), 21 to 40 (Medium knowledge level), 41 to 60 (High knowledge level).

**Comparison of pre and post exposure score for impact analysis-** The impact of nutrition education provided to pregnant women was assessed by comparing the score data of pre-exposure and post-exposure.

**Assessment of gain in knowledge-** Knowledge may be defined as the sum total of all information which a particular individual possesses about a particular item at a specific time. It can be defined as a body of understood information as possessed by an individual (English and English 1961). Knowledge gain is any pre and post test change in a person’s cognitive learning behaviour resulting from a specific learning behaviour. For assessing gain in knowledge the following formula suggested by Singh *et al.*, 1993 was used.

**Gain in Knowledge** = (Score in post exposure test) – (Score in pre exposure test)

**Data analysis and application of statistical test:** The collected data were classified in the light of objectives of the study. The data collected were tabulated and analyzed statistically with the help of approved statistical techniques (Gupta and Kapoor 2002). Frequency, percentage, mean scores, paired t-test were applied.

### Results and Discussion

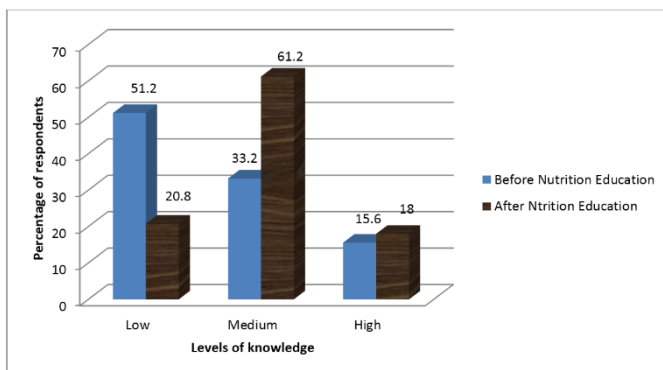
**Table 1:** Pre- exposure and post- exposure data of Nutrition Education

	Nutritional knowledge	Pre-exposure		Post-exposure	
		Yes%	No %	Yes %	No %
1.	Do you know about the basic nutritional requirement of pregnant women?	44.8	55.2	72.4	27.6
2.	Do you know the policies of iron and vitamin A supplementation through govt. for pregnant women?	15.6	84.4	57.6	42.4
3.	Do you use iron utensils for cooking?	46.4	53.6	85.2	14.8
4.	Do you know iron and vitamin A rich foods?	53.6	46.4	73.2	26.8
5.	Do you know about calcium rich foods?	42.8	57.2	61.2	38.8
6.	Do you include citrus fruits in your diet?	54.8	45.2	77.2	22.8
7.	Do you know importance of germinated food grains?	11.6	88.4	69.2	30.8
8.	Do you know folic acid rich foods?	9.2	90.8	64.4	35.6
9.	Are you aware of any nutritional deficiency diseases during pregnancy?	6.4	93.6	58.4	41.6
10.	Do you know about iodine deficiency during pregnancy?	15.6	84.4	68.4	31.6
11.	Do you take iron and folic acid supplements?	48.8	51.2	74.4	25.6
12.	Do you have knowledge about the quantity of food intake?	27.6	72.4	68.4	31.6
13.	Do you have knowledge about harmful effects of under nutrition?	25.2	74.8	66	34
14.	Do you have knowledge about source of carbohydrate, proteins, iron, vitamins and minerals?	30.8	69.2	74.8	25.2
15.	Do you know about importance of nutrition in foetus growth?	44.8	55.2	58	42
16.	Do you have knowledge about the weight gain in pregnancy?	53.2	46.8	77.2	22.8
17.	Do you know about water intake during pregnancy?	23.6	76.4	72.8	27.2

18.	Do you know about absorption of calcium and iron in our body?	22.8	77.2	59.6	40.4
19.	Do you know about need of vitamin C in the body?	23.6	76.4	38.8	61.2
20.	Do you know about need of zinc?	22.8	77.2	41.2	58.8
Mean		31.2		65.92	
Tab t value = 1.729		Calculated t-test= 7.86485 (S)*			

\*S= Significant

Table 1 shows the impact of nutritional knowledge after providing nutrition education through nutrition education materials like poster, folder and documentary. Calculated value of t-test for knowledge of the respondents regarding the nutritional awareness during pregnancy is more than tabulated value of t at 5 per cent level. Therefore it is concluded from above data that there is significant impact of nutrition education on awareness of the respondents. After intervention about 34.72 per cent rise in knowledge level of respondents.



**Fig 1:** Assessment of Nutritional Knowledge Pre and Post Education Intervention

Fig 1 shows the assessment of nutritional knowledge of respondents before and after nutrition education intervention.

**Table 2:** Comparison of pre exposure mean scores and post exposure mean scores of respondents

Levels of knowledge	Pre exposure mean score	Post exposure mean score	Difference	t-cal	t-tab	Results
Low	12.72	20.3	7.58	10.79	1.660	S*
Medium	29.31	36.1	6.8	9.64	1.664	S*
High	49.0	56.6	7.6	7.51	1.684	S*

\*S= Significant

Table 2 shows the comparison between mean score of pre exposure test and mean score of post exposure test. Significant increase in the nutrition knowledge score of low level of respondents was observed in the mean nutrition knowledge score at baseline and post-test (mean difference = +7.58). Similarly, significant increase in the nutrition knowledge score of medium level of respondents was showed in the nutrition knowledge score at pre test and post test (mean difference = +6.8) and also significantly increase in the nutrition knowledge score of high level of respondents was observed in the mean nutrition knowledge score at baseline and post-test (mean difference = +7.51). According to Cannosamy *et al.*, (2016) significant increase in the nutrition knowledge score was observed in the mean nutrition knowledge score at baseline and post-test (mean change = +17.1,  $p < 0.001$ ). Of the participants, 92% had higher nutrition knowledge at post-test and the remaining 8% had a nutrition knowledge score similar to their baseline score.

### Conclusion

The level of education and occupation were not significantly associated with nutritional status of the respondents. There is significant impact of nutrition education on the nutritional

Before education intervention most of respondents (51.2%) were belonging to low level of knowledge, 33.2 percent of respondents were belonging to medium level of knowledge and only 15.6 percent of respondents were belonging to high level of knowledge. After education intervention majority of respondents (61.2%) were belonging to medium level of knowledge, 20.8 percent of respondents were belonging to low level of knowledge and 18 percent of respondents were belonging to high level of knowledge. The present study showed significant improvement in awareness level of respondents which were significantly increased from 33.2 percent to 61.2 percent in medium level of knowledge. There was significantly decrease from 51.2 percent to 20.8 percent in low level of knowledge and also an increase showed from 15.6 percent to 18 percent in high level of knowledge. According to Fallah *et al.*, (2013)<sup>[6]</sup> The present study showed significant improvements in awareness level of pregnant women who received at least two educational sessions on healthy nutrition in which it was significantly increased from 3% before intervention to 31% after the nutritional education intervention ( $P < 0.001$ ). These results are similar to those found by Verbeke (2007) who found that education on nutrition and food consumption can resolve safety issues in population. The study also showed that the nutritional knowledge of pregnant women before intervention was very weak except for employed women.

awareness of the respondents. Before nutrition education maximum percentages of respondents (51.2%) were belongs to low level of knowledge and after providing nutrition education maximum percentages of respondents (61.2%) were belongs to medium level of knowledge. Nutritional knowledge of the respondents after intervention was significantly increased.

### Reference

1. Ali, Abdel Aziem A, Rayis DA, Ameer O, Abaker AO, Ishag Adam I. Awareness of danger signs and nutritional education among pregnant women in Kassala, Eastern Sudan, Sudan Journal of public health. 2010; 5(4):179-181.
2. Ajantha, Singh AK, Malhotra B, Mohan SK, Joshi A. Evaluation of Dietary Choices, Preferences Knowledge and Related Branches Among Pregnant Women living in An Indian Setting, Journal of Clinical and Diagnostic Research. 2015; 9(8):LC04-LC10; DOI:10.7860; ISSN 14463.6317
3. Bada FO, Falana BA. The Impact of Level of Education of Pregnant Women on Nutritional Adherence,

- Mediterranean Journal of Social Sciences. 2012; 3(3):335-339, Doi: 10.5901/mjss.2012. v3n3p335
4. Daniel S, Dhanraj GPS, Sharmine E. Effect of nutrition education among pregnant women with low body mass index : a community based intervention, International Journal of Community Medicine and Public Health. 2016; 3(11):3135-3139; ISSN 2394-6032
  5. Daba G, Beyene F, Fekadu H, Garoma W. Assessment of Knowledge of Pregnant Mother on Maternal Nutrition and Associated Factor in Guto Gida Woreda, East Wollege Zone, Ethopia, Journal of Nutrition and Food Science. 2013; 3(6):1-7, <http://dx.doi.org/10.4172/2155-9600.1000235>.
  6. Fallah F, Pourabbas A, Delpisheh A, Veisani Y, Shadnough M. Effects of Nutrition Education on Levels of Nutritional Awareness of Pregnant Women in Western Iran, International Journal of Endocrinology and Metabolism. 2013; 11(3):175-178. DOI: 10.5812/ijem.9122
  7. Hassan MI. Relationship between Socio- economic Characteristics, Health Status and Nutritional Awareness of Pregnant Women, 2012.
  8. Payghan BS, Kadam SS, Reddy RM. A Comparative Study of Nutritional Awareness among urban –Rural Pregnant Mothers, Research and Reviews: Journal of Medical and Health Sciences. 2014; 3(4):ISSN:2322-0104
  9. Sharma M, Sharma S. Knowledge, attitude and belief of pregnant women towards safe motherhard in a rural Indian setting, Social Sciences Directory. 2012; 1(1):13-18
  10. Rao MK, Balakrishna N, Arlappa N, Laxmaiah A, Brahmam GNV. Diet and Nutritional Status of Women in India, Journal of Human Ecology. 2010; 29(3):165-170.