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STUDY OF IRON DEFICIENCY ANAEMIA IN FARM WOMEN OF LUCKNOW DISTRICT IN UTTAR PRADESH, INDIA

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Abstract

In rural area of Lucknow district in Uttar Pradesh State, most of the farm women are unaware of iron deficiency anaemia, which is widespread problem of the whole world. They are ignorant of various measures required no improve the health and nutritional status of their own. In the present study, rural area of district Lucknow was selected for the purpose of investigation. Multistage random sampling technique was used for selecting the farm women. Total 248 farm women were selected for the purpose of investigation. Nutrition education was imparted for two years at every scheduled training programmes. During this period lectures, group discussions, posters, charts, demonstrations, flash cards and stories were used followed by individual contact to give nutrition education repeatedly and to explain each massage. Then again after two years data was collected by the investigator. Mean score knowledge of iron deficiency anaemia before and after nutrition, education to the farm women was 3.42 to 5.29. Significant positive changes were found in the knowledge regarding iron deficiency anaemia before and after nutrition education to the farm women ($t = 10.287$, $p < 0.01$).

Key words : Iron deficiency, anaemia, multi random sampling technique, folic acid.

Introduction

Rural women are key agents for achieving the transformational economic, environmental and social changes required for sustainable development. But limited access to credit, health care and education are among the many challenges they face, which are further aggravated by the global food and economic crises and climate change. Ensuring their empowerment is key not only to the well-being of individuals, families and rural communities, but also to overall economic productivity, given women's large presence in the agricultural workforce worldwide.

Nutritional anaemia is one of India's major public health problems. The prevalence of anaemia ranges from 33% to 89% among pregnant women and is more than 60% among adolescent girls. Under the anemia prevention and control program of the Government of India, iron and folic acid tablets are distributed to pregnant women.. Anaemia in women and adolescent girls has serious health implications. Severe anaemia during pregnancy significantly contributes to maternal mortality and morbidity (World Health Organization, 1993; Brabin *et al*., 2001). There is evidence that severe anaemia also increases prenatal morbidity and mortality. Anaemia in women affects their physical work capacity and reproductive physiology (Seshadri, 1997). According to a World Health Organization (WHO) report (1992), the global prevalence of anaemia among pregnant women is 55.9%. In India, the prevalence of anemia in pregnant women has been reported to be in the range of 33% to 89% (Seshadri *et al*., 1994 and Sarin, 1995). Anaemia results both from nutrition-related causes and from inflammatory or infectious diseases, as well as from blood loss. Iron-deficiency anaemia resulting from inadequate intake and low absorption of dietary iron is the most common form of anaemia in India (Rao, 1978; Toteja and Singh, 2004). India launched the National Nutritional Anaemia Prophylaxis Programme (NNAPP) in 1970. Under the program, iron and folic acid tablets are distributed to pregnant women. However, no impact of this program on the prevalence of anemia was observed in an evaluation conducted during 1985–86 (ICMR, 1989). Consequently, certain modifications were made in the NNAPP to make it more effective and efficient (Vir, 2000).

The main caused behind the malnutrition especially

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in rural areas are inadequate health education of mothers, inadequate nutrition, poor environment, hygiene, large family size etc. Human behavior is subjected to change with environmental and motivational factors. It explores and adopts new ideas that suit to its need. This is the basis for providing nutrition education to the masses. Ignorance is one of the root causes of disease, which calls for nutrition education of people. Nutrition and health education have been an effective educational measure for including desirable behavioral changes for the ultimate improvement in the nutritional and health status of individuals. It moves the individual from lack of interest and ignorance to increasing appreciation, knowledge and finally leads to action. Nutrition and health education have been widely used in almost all parts of the world, both in developing and underdeveloped countries as a measure against both malnutrition and under nutrition. Nutrition and health education are inseparable and have long-term effects.

The most commonly used methods for educating rural mothers are posters, charts, demonstration, film and television. Nutrition education can be an effective way of combating anaemia and it can help farm women in proper selection of iron rich foods for their children. Anaemia is probably the most extensive nutrition deficiency disorder in India affecting 77 per cent of farm women.

It is, therefore, important to impart nutrition education to farm women so that they can effectively make use of relevant scientific knowledge to protect the lives and improve growth of their own and family members.

Objectives

1. To assess the knowledge of farm women related to iron deficiency anaemia in their own before imparting the nutrition education to the farm women.
2. To educate the mothers about prevention of iron deficiency anaemia.
3. To study the effectiveness of nutrition education on farm women regarding iron deficiency anaemia.

Materials and Methods

Rural area of district Lucknow in Uttar Pradesh State was selected as the local for the purpose of investigation. Lucknow district is divided in eight blocks and 634 villages. Multi random sampling technique was used for selecting the subjects. Total 248 farm women were selected. Interview schedule was used to collect the data. Schedule included general information about children and their family members such as name, age, sex, address, occupation, type of family religion, numbers of siblings, family income, source of drinking water etc and specific information about nutrition education related to the knowledge about the source of nutrition education, knowledge level about iron deficiency anaemia. Iron rich food sources and causes of iron deficiency anaemia. Data was collected from door to door and again the respondents

Table 1 : General profile of the farm women.

S. no.	Information	Number	Percentage
1	**Religion**		
	Hindu	248	100
	Muslim	-	-
2	**Family Type**		
	Nuclear	166	66.94
	Joint	82	33.06
3	**Caste**		
	Upper caste	51	20.56
	Backward caste	157	63.31
	Scheduled caste	40	16.13
4	**Occupation**		
	Animal husbandry	13	5.24
	Agriculture	138	55.65
	Animal husbandry & agriculture	73	29.43
	Government Job	8	3.23
	House wives	16	6.45
5	**Education level**		
	Illiterate	70	28.23
	Primary	70	28.23
	Junior high school	47	18.94
	High school – intermediate	55	22.18
	Graduation	6	2.42
6	**Family size**		
	<5	83	33.47
	5-10	118	47.58
	>10	47	18.95
7	**Per-capita income of families (Rs/Months)**		
	<250	13	5.24
	250-500	105	42.34
	500-750	84	33.87
	>750	46	18.55

were interviewed after two years collection of pre exposure data was done in August 2014. Then nutrition education was imparted for two years. During this period lectures, group discussions, posters, charts, demonstrations, flash cards and stories were used followed by individual contact to give education repeatedly and to explain each message. Such data was collected with the help of same schedule which was used for the pre exposure of data collection, frequency, percentage, mean, standard deviation, correlation coefficient and test of significance (paired T test) was used draw valid conclusions.

Table 2 : Per cent distribution of rural mothers according to source of information regarding nutrition education.

S. no.	Source of information	Number	Percentage
1	Nutrition education programme	-	-
2	Charts/Posters	42	16.93
3	Magazines/News paper	9	3.63
4	Radio/TV	82	33.06
5	By elderly members of the family	29	11.69
6	By doctors and nurses	16	6.45
7	None	70	28.22

Table 3 : Mean score knowledge of iron deficiency anaemia before and after nutrition education to the rural mothers.

No. of mothers	Knowledge of iron deficiency anaemia						t	p
	Before Nutrition education		After Nutrition education		Change in knowledge			
	Mean	SD	Mean	SD	Mean	SD		
248	3.42	1.57	8.71	1.38	5.29	0.86	10.287	<0.01

Results and Discussion

General findings about the farm women and their family background are presented under the head "General profile". All the farm women belonged to Hindu religion about 66.94% of farm women belonged to nuclear families. Majority of farm women *i.e.* about 63.31% belonged to backward caste while 16.13% and 20.56% belonged to scheduled caste and Upper caste, respectively. Majority of the farm women (55.65%) were engaged in agriculture as main occupation while 29.43% farm women were involved in animal husbandry and agriculture. Only 2.42% farm women were educated up to graduation while 28.23% were illiterate and 28.23% had their education up to primary school. Majority of farm women (47.58%) belonged to medium size family *i.e.* having 5-10 members in their family while 33.47% farm women had less than 5 members in their family. Per capita income of most of the farm women (42.34%) ranged between Rs. 250-500 per month.

Table 2 reveals that majority of farm women *i.e.* 33.06% gained nutrition education through radio/TV and 16.93% by chart/Posters while 28.22% rural mothers had no source for nutrition education.

Table 3 shows the mean score knowledge regarding iron deficiency anaemia before nutrition education was 3.42, which was increased 8.71 after imparting nutrition education to the farm women. Significant changes were found in the knowledge regarding iron deficiency anaemia before and after nutrition education to the farm women ($t = 10.287$, $p<0.01$).

Conclusion

A study was conducted on 248 rural mothers selected by multistage random sampling technique in the rural area of district Lucknow with the aim to know the effect of nutrition education on the knowledge of iron deficiency anemia to the farm women. Knowledge regarding iron deficiency anaemia was increased significantly after nutrition education to the farm women.

Future study

- Study need to be conducted in different areas of Uttar Pradesh and different states of India.
- A large sample could be taken for further study, which would be better representation of population.
- A considerable amount of information remains to be learned about the benefits of maternal iron supplementation on the health and iron status of the mother and her child during pregnancy and postpartum.
- Importance of iron should be disseminate among rural families for improvement in future generation.

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