

Effectiveness of Individual Teaching Programme on Knowledge Regarding Antenatal Diet among Multigravida Mothers with Iron Deficiency Anaemia

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ABSTRACT

Background: Lacking appropriate nutritional elements in the pregnant women's diet, a number of maternal deficiencies can often occur including calcium, phosphates, vitamins and iron. It has been estimated that about 375 mg of iron is needed by the foetus to form its blood and an additional 600 mg is required by the mother to form her own extra blood. Anaemic condition in pregnancy develops when Hb concentration is below 10 g/dL. Therefore, without sufficient iron in blood, a pregnant woman usually develops anaemia. It has been reported that iron deficiency in pregnant women remains the most common nutritional deficiency, in both developing and developed countries. Iron deficiency in pregnant women usually results from the combination of low iron stores induced by menstrual losses, inadequate iron intakes and the high demands of the foetus.

Results and Interpretation: The mean pre – test knowledge Score is 17.28 was less than the post – test knowledge score 24.38. The ‘t’ value computed between the pre – test and post – test score was statistically at 0.001 [t = 14.73, df =39]. The findings also show significant correlation between the demographic variables and knowledge of the multigravida mothers with IDA.

Conclusion: The teaching has an important method in improving the knowledge of multigravida mothers with IDA. Importance of health-related information to the multigravida mothers with IDA at the Antenatal OPD is a useful way to improve their knowledge and awareness and thus contribute in the prevention of IDA and its effect on the foetus.

Key Words: Individual teaching programme, Antenatal Diet, Multigravida mothers with Iron deficiency anaemia.

INTRODUCTION

Anaemia is the most common indirect cause of maternal mortality in India. Prevalence of anemia among pregnant women in India is 57%. Iron-deficiency anaemia (IDA) is responsible for 95% of anaemia during pregnancy. During pregnancy, there is a great demand for iron to meet the requirement of red blood cell mass expansion in the mother, fetal and placental blood loss at delivery.

Pregnancy anaemia is one of the important public health problems in India. Anaemia in pregnancy may have deleterious effects to mother and fetuses. Each pregnancy (both primi and multi) depletes 500mg to 1000mg of iron from the mother's body. This means that, in order not to pass on iron deficiency to her new born baby, the ferritin in the mother's body should be brought up to 200 mg/ml, with corresponding haemoglobin of 14.5 gm/dl

prior to the date of planned conception. Iron needs during pregnancy are very high due to the physiological changes and development of fetus which is poorly known by the pregnant women. It is estimated that during pregnancy <850 mg absorbed 'Fe' is needed to meet the requirements for the fetus, placenta, and maternal red cell expansion. Such demands are 3 – 4 times the iron requirements of non pregnant women.

Multiparity, poor socio economical and educational statuses are the principal reasons for high prevalence of anemia in development areas. It is estimated that 20 – 50% of the world population is suffering from iron deficiency anemia. Iron deficiency is believed to be the most common cause of anemia in pregnancy. Iron deficiency anemia does not only affect the mother but also has impact on cognitive and psychomotor functions and anemia in infant. The WHO classifies the countries with prevalence of anemia higher than 40% as the countries, where anemia is a problem of public health significance. It is defined by the WHO as Hemoglobin less than 11gm% in pregnancy, and is divided into three degrees; mild (9.0 –10.9gm %), moderate (7-08.9gm %) and severe degree (< 7.0 gm %)

Nutrition has a direct impact on early embryonic development particularly, of the nervous system. Good nutrition can reduce the risk of having an LBW infant. Diet teaching should include information regarding calorie intake and the intake of the proper balance of nutrients. Women who are well nourished before pregnancy and who eat a healthy diet during pregnancy are better prepared to handle the physical and psychological challenges of pregnancy.

If a healthy diet is adopted pre conceptually and maintained throughout pregnancy, this would give a good balance of the nutrients needed to maintain the mother's health during pregnancy, as well as helping her baby grow and develop normally. The five basic food elements are Proteins, fats, Carbohydrates', Fruits and Vegetables and Dairy products. It has been

estimated that a pregnancy involves an energy expenditure of about 1000 KJ (239Kcal) per day, however since most women reduce or adopt their activity because of fatigue or restrictions of their increased size and weight, it is necessary to encourage a well balanced diet with plenty of fiber.

Objective: To evaluate the effectiveness of Individual Teaching Programme regarding antenatal diet among multigravida mothers.

MATERIALS AND METHODS

It is an interventional study and an Evaluative research approach is selected for this study. The research design adopted for the study is Pre experimental research with one group pre – test post – test design. The populations of this study were multigravida mothers with Iron deficiency anaemia who were attending antenatal OPD in SRMS Hospital, Bareilly. The sample consisted of 80 multigravida mothers with Iron Deficiency Anaemia selected by convenient sampling method and those who fulfilled the following criteria:

- Multiparous mothers with iron deficiency anaemia irrespective of gestational age.
- Mothers who are willing to participate in the study.
- Mothers without any other associated conditions other than iron deficiency anaemia.

The investigators developed a structured interview schedule to assess the effectiveness of individual teaching program on knowledge of multigravida mothers with IDA regarding antenatal diet. Reliability of the tool was established and the tool was found to be reliable at $r=0.8$. The data was collected for a period of 8 weeks. After obtaining the consent of the samples to participate in the study, they were interviewed using the structured interview schedule. An individual teaching programme was conducted for 1 hour after the pre – test and after “7” days of teaching

programme, post test was conducted. The data was analyzed on the basis of objectives and hypothesis of the study by using descriptive and inferential statistical tests. The effectiveness between pre – test & post – test were analyzed using paired “t” test. The association between the demographic

characteristics and knowledge were analyzed by Chi square test.

RESULT

The knowledge of the multigravida mothers with IDA, regarding Antenatal Diet was assessed by a structured questionnaires of ‘34’ items.

Table – 1 Pre-tests and post tests knowledge score of multigravida mothers with IDA. (N=80)

LEVEL OF KNOWLEDGE	SCORES	LEVEL OF KNOWLEDGE			
		Pre-test (f)	Percentage (%)	Post test (f)	Percentage (%)
Inadequate	0-12	6	7.5	0	0
Moderately adequate	13-23	70	87.5	26	32.5
Adequate	24-34	4	5.0	54	62.5
TOTAL	34	80	100	80	100

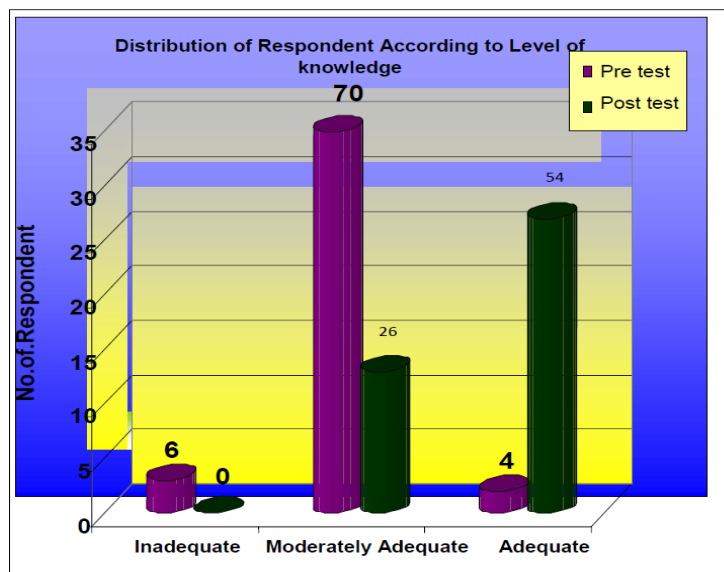


Figure – 1, clearly states that, out of 80 multigravida mothers with IDA anaemia, in pre- test score, 6(7.5%) are having inadequate knowledge, 70 (87.5%) mothers had moderately adequate knowledge & 4(5%) had adequate knowledge. In post test score 26(32.5%) mothers had moderately adequate knowledge & 54(62.5%) had adequate knowledge.

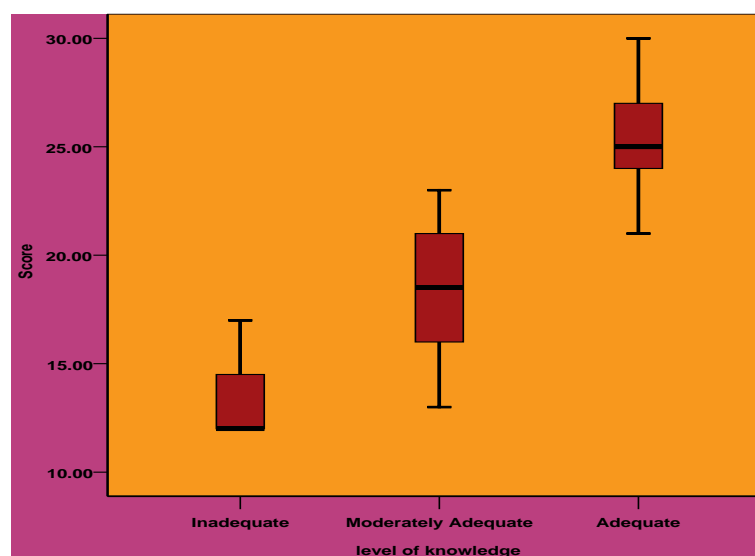


Figure – 2

Table – 2 Mean, standard deviation, standard error of pre tests and post tests knowledge scores.

Knowledge	Mean	N (Total No. of sample)	Standard deviation	SD error of mean	p-values (t-value)
Pair					
Pre tests	17.28	80	2.74	0.4392	0.0001 (14.79)
Post tests	24.38	80	7.95	0.4727	

The data presented in figure – 2, reveals that the Multigravida mothers with IDA knowledge scores was high in the post tests than that in the pre tests mean pre tests score was 17.28 and mean post tests score was 24.38 which is significant as p-value was 0.0001. So there is enough evidence that teaching program is effective in enhancing the knowledge of the Multigravida mothers with IDA.

DISCUSSION

In total majority of the multigravida mothers with Iron deficiency anaemia 52.5% were in the age group of 25-29 years. The Maximum numbers of the multigravida mothers with Iron deficiency anaemia, 87.5% were Hindu by religion. The Maximum numbers of the multigravida mothers with Iron deficiency anaemia, 35% were non-formal education. Majority number of the multigravida mothers with Iron deficiency anaemia, 47.5% were house – wife. Most of the multigravida mothers with Iron deficiency anaemia, 57.5% had family income between Rs.2000 – 3000 per months. The Maximum number of the multigravida mothers with Iron deficiency anaemia, 42.5 % had one child. Maximum numbers of the multigravida mothers with Iron deficiency anaemia, 50 % were normal about past obstetrical history, maximum numbers of the multigravida mothers with Iron deficiency anaemia, 55 % were vegetarian. The Maximum number of the multigravida mothers with Iron deficiency anaemia, 52.5% belongs to joint family. Maximum numbers of the multigravida mothers with Iron deficiency anaemia, 60 % were one year spacing between the children. . The Maximum number of the multigravida mothers with Iron deficiency anaemia, 47.5% had the source of knowledge through family members.

The level of knowledge scores regarding Antenatal diet among

multigravida mothers with Iron deficiency anaemia was assessed. In pre test knowledge on Antenatal diet out of 80 multigravida mothers with Iron deficiency anaemia 6 (7.5%), had inadequate knowledge, 70 (87.5%) had moderately adequate knowledge, and only 42 (5%) had Adequate knowledge respectively. In post – test knowledge on Antenatal Diet, 26(32.5%) multigravida mothers with Iron deficiency had moderately adequate knowledge, 54 (62.5%) multigravida mothers with iron deficiency anaemia had adequate knowledge respectively.

The present study reveals that the overall mean knowledge in pre – test score was 17.28% and 24.38%. These findings are consistent with the findings of other studies.

The findings are supported by another study done in St. John’s Medical College and Hospital antenatal mothers, regarding Knowledge, attitude & Practice on Antenatal Diet revealed that 42.7% mothers did not have adequate knowledge and 9.3% had their Haemoglobin level below 10gm/dl which indicated anaemia. One of the recommendations of this study was to conduct structured teaching Programme, to improve the knowledge of antenatal mothers.

The mean post – test knowledge score was 24.38% was apparently higher than their mean pre –test knowledge score 17.28%, suggesting that the Individual teaching Programme was highly effective in increasing the knowledge of multigravida mothers with Iron deficiency anaemia on antenatal diet. The mean difference between the post test and pre test knowledge score of multigravida mothers with Iron deficiency anaemia on antenatal diet was found to be significant ($t= 14.93$, $P<0.005$). This confirms that Individual Teaching Programme is an effective Strategy. Hence hypothesis H_1 was accepted.

An association of selected demographic variables in relation to their knowledge was studied using By Chi square test. The associations between Variables like age, past obstetrical history was found to be significant associated with pre – test and post – test at 0.05 level.

Other variables like religion, education, occupation, Family income, Number of children, Type of Diet, type of family, spacing between children and source of information with pre – test and post – test knowledge score was found to be non significant.

CONCLUSION

The high frequency of iron deficiency anaemia in the developing world has substantial health and economic costs. Women in developing countries are always in a state of precarious iron balance during their reproductive years. Their iron stores are not well developed because of poor nutritional intake, recurrent infections, menstrual blood loss, and repeated pregnancies. Gender discrimination in a country like India resulting girls lacking access to a balanced diet, adequate health care and proper education. Thus, the average Indian woman enters her reproductive years, and particularly pregnancy, with iron and folate deficiency.

The antenatal diet, also called the prenatal diet, is vitally important for the health and welfare of baby in utero. A proper diet should promote optimum health and nutrition in the mother to prepare her for delivery and for nursing after the baby is born.

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REFERENCES

1. Gautam C, Sana L, Sekhi. Iron deficiency anaemia in pregnancy and the rationality of

iron supplements prescribed during pregnancy. *Medscap J med* 2008 December; 10 (12): 783.

2. Ketut Suega, Tjok G. D., Made S, Made B, Iron deficiency anaemia in pregnant women in Bali, Indonesia: A profile of risk factors and epidemiology. 2002 September; 33(3): 604 – 7.
3. Jill Mantle, Jeanette.Haslam, Sue Barton. *Physiotherapy in obstetrical and Gynecology*, second edition. Butter worth Heinemann. China; 2004:120.
4. My Doctor. *The Complete Family Health Magazine*. Women and child care March 2011; 18(10): 55-8.
5. Deepti S, Sunetra I, Sindhu B, and Amreen S. Effectiveness of Intravenous Iron Sucrose in management of Iron – deficient Anaemia of pregnancy at Rural Hospital Set up. *The journal of Obstetrics and Gynecology of India*, March – April 2012; 62 (2): 154 – 7.
6. Ugwja EI, Akubagwo EI, Ibium UA, Onyechiet O. Impact of maternal Iron deficiency and anaemia on pregnancy and its outcomes in a Nigerian population. *The Internet journal of nutrition and wellness* 2010; 10(1).
7. Lawrence P McMahon, MD FRACP. Iron deficiency in pregnancy, Eastern Health, Department of Renal Medicine, EHIRS, Victoria 3128, Australia, and January 2010.
8. P. U. Okeke, Anaemia in pregnancy – is it a persisting public Health problem in Porto Novo – Cape Verde. *Research Journal of Medical Sciences*, 2011; 5 (4): 193 – 199.
9. Dutta DC. *Obstetrics and Gynecology*. 6th ed. Calcutta: New central Book agency (p) Ltd; 2006.
10. Shamaila Khalid, Syed Iqbal Ahmad, Correction of IDA in pregnancy and its effects on superoxide Dismutase, *Pakistan Journal of Pharmaceutical Sciences*, April 2012; 25(2):423 – 27.

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