

Effectiveness of Structured Teaching Programme (STP) on knowledge regarding Importance of Antioxidant diet during pregnancy among Pregnant Mothers

**Prof. Jayashree Ajith,
Director JINR Gwalior**

Abstract

A pregnant women consumes about 60,000 Kcal over and above normal metabolic requirements. Lactation demands about 550 Kcal per day. child survival correlates with birth weight. And birth weight is correlated to the weight gain of about 12Kg of weight during pregnancy and several studies had indicated that weight gain of poor Indian women average 6.5 Kg during pregnancy. The pregnancy imposed the need for considerable extra and nutrient requirements. A balanced and adequate diet is therefore of at most importance during pregnancy and lactation to meet the increased needs of the mother In India where due to customs of child marriages had resulted in teenage pregnancies, therefore adolescent mothers who have not completed their own growth may needs additional food to meet their own growth requirements. If these are not met, their health may be affected, which indirectly affect the welfare of the focus.

It has been estimated that 10-20% of low birth weight babies are from yearly, have suffered malnutrition before their birth. The increasing evidences indicated that malnutrition of the mother is associated with L.B.W. neonatal mortality and birth defects. Thus, research becomes necessary to improve that relationship between antenatal mother's diet and infant mortality: objective of the study was to assess effectiveness of structured teaching programme regarding importance of antioxidant diet during pregnancy among pregnant mothers **hypothesis was** There would be significant effectiveness of structured teaching programme on knowledge regarding importance of antioxidant diet during pregnancy among pregnant mothers .structured questionnaire was structured to assess the pre and post test

The main study was to assess the effectiveness of STP on knowledge regarding importance of antioxidant diet

Epidemiology study showed that maternal body size (height, and pregnancy weight) and the amount of weight gained during pregnancy are associated with infant birth weight. It appears that underweight women may reduce their risk of adverse pregnancy outcome by attaining a higher pre pregnancy weight and or by gaining extra weight during pregnancy.

In India 60 to 80% of pregnant women are anemic. Low birth weight is a major public health problem in many developing countries. About 28% of babies born are of low birth weight (less than 2.5 kg) maternal malnutrition and anemia is mainly responsible for this condition



S.kamlam et.al; (2007) had conducted a study regarding that antenatal diet Promoting consumption of iron and folic acid supplements. iron in requirement is high own a relative short period of time like pregnancy. Therefore, it is recommended dose of iron folic acid Gestational weight gain especially during second and third trimesters is an important indicator of fetal growth. Studied showed that low weight gain at 20 weeks gestation increases the chances of delivering a low birth weight (LBW) infant. LBW babies tend to be malnourished, especially if born full-term and they have a high incidence of postnatal complications ,mortality&,development It has been estimated that 10-20% of low birth weight babies are from yearly, have suffered malnutrition before their birth. The increasing evidences indicated that malnutrition of the mother is associated with L.B.W. neonatal mortality and birth defects. Thus, research becomes necessary to improve that relationship between antenatal mother's diet and infant mortality, reduce high rate of maternal and fetal mortality rate to check whether to women receiving good regular and proper diet during pregnancy to keep healthy in under to be able to deliver a fully term baby. maintain good maternal and fetal growth and development and fulfill the nutritional requirement of mother and growing fetus.Good antenatal diet is essential for prevention of maternal and fetal complication during Antenatal, Intranatal and postnatal period.Good antenatal diet will help the mother to have good healthy and good weight baby.

Objectives of the studywasTo assess the pretest and post test knowledge regarding antioxidant diet during pregnancy among pregnant mothers. , assess the effectiveness of structured teaching programme regarding importance of antioxidant diet during pregnancy among pregnant mothers. Determine, the association between post test knowledge regarding importance of antioxidant diet during pregnancy among pregnant mothers and selected demographic variables.

Review of literature

KNOWLEDGE IN IMPORTANCE OF ANTIOXIDANT DIET DURING PREGNANCY AMONG PREGNANT MOTHERS.

Alexander J, et.al; (2010)had Conducedt a study on effect of dietary factors in pregnancy on risk of pregnancy complications: results from Norwegian mother and child cohort study.



cohort study that between 1999 to 2008 recruited 90,723 women with 106, 981 pregnancies and 108,487 children. The objective was to test specific etiologic hypothesis by estimating the association between exposure and disease with a special focus on disorders that may originate in early life. An important aspect in this regard in maternal antioxidant diet and nutritional status during pregnancy. Nutritional factors have long been considered to be important determinants of maternal and fetal health, and dietary information is currently being collected in a number of pregnancy cohorts in Europe and United States. Pregnancy complications studied in Moab are pre term birth, pre eclampsia and fetal growth. An aim of this article is to report result of recently published study of antioxidant dietary factors, in relation to those outcomes. Dietary factors, no nutrients and toxic dietary substances and epigenetic modulation on fetal development and health later in life.

Fiore G et.al; (2008) conducted a study on effects of vitamins E and C on placental oxidation stress. An in vitro evidence for the potential therapeutic or prophylactic treatment of preeclampsia. The results suggest ed that in a path physiological condition, such as PE, the deleterious effect of reactive oxygen species may be counteract by an antioxidant therapy, and there is the need to investigate the optimum dosing and timing of antioxidants administration, since an inappropriate antioxidant treatment in pregnant women may have deleterious consequences, reducing placental cells proliferation until to cell death

Sharma JB, et.al; (2006) conducted a study on oxidative stress markers and antioxidant levels in normal pregnancy and pre-eclampsia. The study showed that increased levels of oxidative stress markers and decreased levels of antioxidants in pre-eclampsia women suggest that oxidative stress markers play a significant role in the path physiology of pre- eclampsia, and that dietary supplemental antioxidants may have a beneficial role in the prevention of pre eclampsia in women at high risk for this condition.

Research Methodology

The research design selected for the study pre experimental one group pre test post test design because control group could not be selected. This is relatively forward research design in which there is an intervention group without a control group, called as pre experimental one group pre test- post test design which comes under one of the category of experimental design.

O1 x O2



GROUP (01)	PRE TEST	INTERVENTION	POST TEST (02)
Pregnant women	Structured questionnaire	Structure teaching programme	Structured questionnaire

O1= pre test knowledge scores on daily antioxidant diet is intake during pregnancy.

O2= post test knowledge scores on daily antioxidant diet is intake during pregnancy.

X (STP) = Treatment, structure teaching programme on importance of antioxidant diet during pregnancy. **SAMPLE**

Pregnant mothers in the age of group of < 20 – 40 years regarding importance of antioxidant diet during pregnancy among pregnant mothers selected District hospital Morar Gwalior (M.P.)

Sample sizeA sample of 30 from < 20 – 40 years of Age group in District hospital morar Gwalior (M.P.)

Sampling techniqueSample for the studied considered of 30 pregnant mothers and selection was done on the basis of non- probability purposive sampling technique from selected District hospital Morar Gwalior (M.P.)

Tools

Information about the demographic data of pregnant women as age, education of mother, education of husband, occupation of mother, occupation of husband, religion, monthly income, type of family, and gestational age in weeks. structures knowledge questionnaire on 40 items. Each item is multiple choices in nature with 4 responses in each question. There was one correct response that carries one mark and wrong response carried zero mark. The total score was 40 for 40.

40 Items related to importance of antioxidant diet during pregnancy,Importance of nutrition during pregnancy – 13 items,Complications of malnutrition – 6 items,Effect of antioxidant diet during pregnancy – 10 items,Effect of nutritional deficiency during pregnancy – 11 items



Validity and Reliability The entire section of the tool was validated by expert nursing persons. Their suggestions were taken into consideration and the modification were incorporated in the final preparation of the self administered questionnaire and the structured teaching programme. Content validity of the tool was obtained from 2 medical and 5 nursing experts in the field of obstetrics and gynecology. Modification was done in the tool as suggested by the experts. The structured questionnaire was administered 3 pregnant mothers in Dubey Nursing Home Sinda ki Chhawani Gwalior (M.P.) For structured knowledge questionnaire the reliability of tools was computed by Karl person's correlation formula. The reliability coefficient was found to be **0.94** which showed that the tool was highly reliable.

Result and Discussion

Result showed that the **5 pregnant mothers (16.6%)** belonged to the age group of **21 - 30** years, followed by **16 antenatal mothers (53.3 %)** belonged to the age group of **31 - 40** years & **9 pregnant mothers (30 %)** of the age group of **> 40** years and **0 pregnant mothers of (0 %)**. Regarding the education of mothers, majority of the respondent i.e., **11(36.6%)** of respondent have taken up to 5th - 8th, **5 (16.6 %)** respondent were 10th, and **10(33.3 %)** were 12th std, and graduation is **4 (13.3%)**. Education of husbands respondents pregnant mothers, **10(33.3 %)**, of 5th – 8th and 10th class of school is **6 (20 %)**and 12th std of **9(30%)** last one 5th std of **5(16.6%)**. Occupation of mothers Majority of the Samples **3(10%)** of professional, and home maker is **19 (63.3%)** were teachers, only **6 (20%)** is politician **2 (6.6%)**. Occupation of husbands antenatal mothers respondent answers, **8 (26.6 %)** were professional, and only **7 drivers (23.3%)** and labor is **12 (40%)** and politician of **3 (10 %)**. Majority of respondent **15 (50%)** were Hindu, and Muslim is only **6 (20%)** and **2 (6.6 %)** is Sikh. last one is Christian **7 (23.3%)**.

Majority respondent monthly income **9 (30%)** of **< 5,000**, and **10 (33%)** were **5,000 – 10,000** per month, Only **3 (10%)** is **10,000 – 15,000** per month and last one is **8 (27%)** were above **15,000**.

Types of family majority of antenatal mothers belongs **11 (36.6%)**, Nuclear family, **19 (63.3%)** is joint family.

Gestational age in weeks of antenatal mothers, **6 (20%)** from **0 – 14** weeks pregnant, **16 (53.3%)** were **15-28** weeks pregnant mothers, from **29 – 40** weeks pregnant is **8 (26.6%)**, and last one gestational age in weeks of **0 (0%)**

TABLE-1 frequency and percentage distribution of pre test and post test knowledge of pregnant mothers regarding antioxidant diet during pregnancy.

PRE TEST AND POST TEST KNOWLEDGE SCORE					
LEVEL OF KNOWLEDGE	RANGE OF SCORE	FREQUENCY		PERCENTAGE	
		Pre test	Post test	Pre test	Post test
Poor	0 – 10	15	0	37.5%	00%
Average	11 – 20	20	3	50%	7.5%
Good	21 – 30	5	12	12.5%	30%
Excellent	31 – 40	0	25	0%	62.5%

Pre test knowledge of pregnant mothers **15(37.5%)** had poor knowledge, pregnant mothers **20(50%)** had average knowledge, and of the pregnant mothers of **5(12.5%)** had good knowledge, and excellent knowledge is **0%** towards importance of antioxidant diet during pregnancy. The post test majority of the pregnant mothers knowledge of pregnant mothers **0 (0%)** had poor knowledge, pregnant mothers **3(7.5%)** had average knowledge, and of the



pregnant mothers of **12(30%)** had good knowledge, and excellent knowledge is **25(62.5%)** towards importance of antioxidant diet during pregnancy.

Effectiveness of STP

Table-2 analysis of observational scores in pregnant mothers

(N=30)

Group	Minimum	Maximum	Mean	Sd	't' value	'p' value
Pre test	17	25	21	1.91	9.09	0.00001 (S)
Post test	24	35	28	3.77		
Df=29						

Level of significance at **0.05**

Table 2 shows that analysis of observational scores in pregnant mothers. The pre test score was minimum **17** and maximum **25**, mean and SD was **21** and **1.91** respectively. The post test score was minimum **24** and maximum **34**, mean and SD was **28** and **3.77** respectively. The obtained 't' value **9.09** is statistically significance at **0.05** level. Tabulated value **2.05** t value > tabulated value

- **H₁ hypothesis is accepted that means STP is effective.**
- **The third objectives were there will be significance association between post test knowledge regarding structured teaching programme importance of antioxidant in diet during pregnancy among pregnant mothers.**

According to the third objective i.e. the association between post test knowledge regarding importance of antioxidant in diet during pregnancy among pregnant mothers and selected demographic variables.

Association was done between post test score and selected demographic variable such as age, education of mother, education of husband, occupation of mother, occupation of husband, religion, monthly income, type of family and gestational age in weeks.

It shows there is significant association between subject (religion, type of family & gestational age in weeks) of post test scores and demographic variables.

Therefore the research hypothesis H_2 “There will be significant association between post test score of antioxidant in diet during pregnancy” selected demographic variables (i.e. religion, type of family and gestational age in weeks) is accepted.

Therefore the research hypothesis H_{02} “There will be no significant association between post test score of antioxidant in diet during pregnancy among pregnant mothers” is rejected

NURSING IMPLICATIONS

NURSING PRACTICE

Several implications can be drawn from the present study for nursing practice. Education programme is recommended by nursing personnel at antenatal clinics so as to impart knowledge of importance of antioxidant diet during pregnancy among pregnant mothers. By home visit the nurse can encourage the pregnant mothers. The midwife can provide health education with Audio Visual aids or structure teaching programme in the hospital. programme etc.

NURSING EDUCATION

Nursing curriculum should take initiative to articles in Journals regarding importance of antioxidant diet during pregnancy. Continuing nursing education programme, state and national level conferences, workshop, seminars and symposium can be held for all nursing personal to update their knowledge.



NURSING ADMINISTRATION

The nurse administrator should take interest in providing information on antioxidant in diet during pregnancy to all nurses, working in maternity hospital, the nurse are in direct contact with the antenatal mothers having inadequate knowledge of importance of antioxidant in diet. The nurse administrator must plan formal training programme for health personnel to promote daily intake antioxidant in diet practice.

. NURSING RESEARCH

Promote for research in innovative areas of maternal & neonatal care. Nursing researches can conduct interactive sessions for maintaining healthy practice by antenatal care and provide the antioxidant diet knowledge during pregnancy to protocol may be developed as a guideline for future research in different setting.

References

Barker (1995), food nutrition and diet therapy 10th edition, Page no. 167.

B.K. MAHAJAN, "Method of biostatistics", 7th edition, published by jayapee brothers, published at New Delhi.

B.T. BASAVANTHAPA "nursing research" 2nd edition, published by jayapee brothers, published at New Delhi.

CROWLEY MERRILY FORBES " nutrition principles & application in health promotion" published by J.B. Lippincott company Philadelphing, edition 2nd Pp 4-5

D.C. DUTTA'S "Textbook of obstetrics" published by jayapee brother, edition 7th, Pp 99-101

Jacob annamma, textbook of midwifery, Calcutta, new central agency publishers, 2nd edition (2008), page no. 100-102.



Marian Maltex Eschleman, nutrition & diet therapy, 2nd edition, T.B. Lippincott Company, P_p. 261-279.

M.N DAS ; statistical methods & concepts new age international publisher.

POLIT & HUNGLAR “ nursing research” principle and methods, edition 5th, published bt Lippincott company.

RAMAN SINGH “ nutrition for nurses (B.sc nsg.) published by jayapee brother medical publisher, edition 1st 2012 P_p 54-56

Sanju sira midwifery & obstetrics, 2nd edition, lotus publishers, P_p 95-97

SHRINANDAN BANSAL “food & nutrition” published by A.I.T.B.S, publisher inded, edition 1st 2008, P_p 36-39.

.

T.K INDRANI “ nursing manual of nutrition & therapeutic diet” published by jayapee brother, edition YK Joshi, P_p 46-48.

YK JOSHI “ basic of clinical nursing” published by jayapee brother, edition 2nd P_p 160-190

Alexander j. (2010) effect of dietary factors in pregnancy on risk of pregnancy complication, Gynecological and neonatal nursing, 32 (4) page no. 267.

Ascherio A, et al;. vitamin A and E intakes with the plasma concentrations of carotenoids and tocopherols among American men and women. J P_p:1792-1801

Asfaw A. et al’ Micronutrient deficiency and the prevalence of mothers' overweight/obesity Human Biology 2007 P_p 223-244.

Aviram M.et al; Modified forms of low density lipoprotein and atherosclerosis, P_p 1-9.



Bakkers DM (2010): conduct a study to improve the knowledge of pregnant mothers.kweku- muata osri-bryson, 13 january 321(1): Pp. 7754-7761

1. Brian Fletcher et al (2005) antioxidant nutrients, feb,16 (1): Am J Epidemiol1994;139, Pp 47-49.

Bloomfield FH. (2010) a study to assess of STP on maternal nutrition related to pre term birth.

Bloomberg RD, et al; . Nutritional deficiencies following bariatric surgery: what have we learned? Obes Surg. 2005;15, Pp 145–54.

Brian Fletcher (2005) effect of dietary antioxidant and nutrients, curr opin lipido l2005 reb, 16 (1) : Pp. 47-59

Brolin RE, et al; Survey of vitamin and mineral supplementation after gastric bypass and biliopancreatic diversion for morbid obesity. Obes Surg. 1999;9, Pp 150–154.

Florescu L. popa G.(2009) zinc essential micronutrients for child health nutrition, nutrition and dietetic ns 10 (3) page no. 56-60.

Fraser GE, Sabate J, Beeson WL, Strahan TM. A possible protective effect of nut consumption on risk of coronary heart disease: the Adventist Health Study. Arch Intern Med 1992;152 Pp:1416-1424.

Fowles ER, Gabrielson M (2005) first trimester predictors of diet and birth outcomes in low income pregnant women, the journal of nursing and midwives 22 (2) page no. 35-37.

Henley et al (2004) fat – soluble existing in difference form in human α - tocopherol nutria/oxi. 31: Pp. 219-236



Hiten D mistry et al (2011) copper co-factor for enzyme volume 2011, article ID , Pp- 70-78

Koleva M, Kadiiska A, Markovska V, Nacheva A, Boev M: Nutrition nutritional behavior, and obesity. Central European Journal of Public Health. 2000, 8 Pp: 10-13

[Kontic-Vucinic O](#), [Terzic M](#), [Radunovic N](#). The role of antioxidant vitamins in hypertensive disorders of pregnancy. [J Perinat Med](#). 2008;36(4):282-90.

Kircher T, Nelson J, Burdo H. The autopsy as a measure of accuracy of the death certificate. *N Engl J Med* 1985;313 Pp:1263-1269

Koleva M, Kadiiska A, Markovska V, Nacheva A, Boev M: Nutrition nutritional behavior, and obesity. Central European Journal of Public Health. 2000, 8 Pp: 10-13

2. *Lindsay H. allen deficiency of multiple micronutrients am j clin nutria 2015 , dec 102(6): Pp_ 1468-74.*

Livingston EH. The incidence of bariatric surgery has plateaued in the U.S. *Am J Surg*. 2010;200 Pp:378–85.

Mikado et.al (1994)View in their research that proper nutrition during pregnancy. *Complementary medicine volume 7 number 2, Pp- 161-173*

Misner B: Food alone may not provide sufficient micronutrients for preventing deficiency. Journal of the International Society of Sports Nutrition. 2006, 3 Pp: 51-55.

. Nguyen NT, Masoomi H, Magno CP, Nguyen XM, Laugenour K, Lane J. Trends in use of bariatric surgery, 2003–2008. *J Am Coll Surg*. 2011;213 Pp:261–6.

Pinheiro J, seabra D (2008) in changes of food habits during pregnancy and breast feeding journal of nutrition management 34 (1),page no. 60-62.

Airo International Research Journal
ISSN: 2320-3714
Volume 20
January 2020
Issue: 1



Impact Factor: 3.69
A Multidisciplinary Peer-Reviewed Journal

Pio J (2011) a study on to assess effectiveness on SLM nutrition and health status of pregnant mothers.

Roberfroid DA (2009) dietary behavior, food and nutrients intake of pregnant women in a ruralcommunity people diet 23(8) page no. 30-35.

Rumbold A, Duley L, Crowther et al. Antioxidants for preventing pre-eclampsia