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Assessment of Energy and Protein intake of Pregnant Women with Vegetarian and Non-Vegetarian Diet

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Abstract

The present study was carried out to determine nutritional level of vegetarian and non- vegetation pregnant women for this purpose a sample of total 50 subjects was selected from Haridwar, out of 50 total subjects 25 were vegetarian and 25 were non vegetarian pregnant women. After their selection information regarding their education, area of residence, type of family, dietary recall and anthropometric status was recorded a dietary survey for three consecutive days using 24 recall methods was conducted to assess their nutrient intake.

***Key words*:** Energy, Protein, Pregnant Women, Diet.

Introduction

On comparison of nutrient intake with their corresponding RDA, it shows that energy, protein, fat and iron intake of non-veg pregnant women is excellent. This may be due to the better bio-availability of these nutrients in animal foods. Both vegetarian and non-vegetarian pregnant bodies were educated about well balanced diet and its importance.

Pregnancy is associated with physiological changes that result increased plasma volume and red blood cells and decreased concentrations of circulating nutrients binding protein and micro nutrients.

Pregnancy is an important time for the development of the foetus, Adequate energy intake during the pregnancy along with micronutrients has been shown to decease the probability of low birth weight (LBW) infant. LBW has been shown to be associated with infant mortality respiratory disorder and development metabolic problems in future. Inadequate intake of specific nutrients in pregnancy has been reported to a poor maternal nutrients status resulting in a variety of poor maternal and infant outcome. For instance, iron states in pregnancy by the demands of the foetus, temporary changes in blood volume and body mass, alteration in absorptive capability and on the bioavailability of iron in a largely vegetarian diet.

Maternal factors have associated with intrauterine growth which together with infant nutrition has further been associated with reduced capacity in adult life including reduced stature, lower physical work capacity, impaired cognitive function and educational attainment for the foetus while for the women there is an increased risk of low birth weight in the next generation.

A woman who has been well nourished before conception begins her pregnancy with reserves of several nutrients so that the needs of the growing foetus can be met without affecting her health. Infants who are well nourished in the womb have an enhanced chance of entering life in good physical and mental health. The effects of under nutrition during reproduction will vary depending upon the nutrients involved, the length of time is it lacking and the state of gestation at which it occurs.

Nutritional requirements during pregnancy:

Energy: Energy needs during pregnancy increase because of the additional energy required for the growth and physical activity of the placenta, the normal increase in maternal body size; the

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additional work involved in carrying the weight of the foetus and extra maternal tissues; the slow but steady rise in basal metabolic rate during pregnancy.

Protein: ICMR prescribed for pregnant women 65g/day. After adjusting for the dietary protein quality of NPU15, the intake during the later half of the pregnancy recommended by the nutrition expert committee is 15g/day.

Fat: in the diets of adults in India about 20% energy may be derived from fats. All levels calorie intake, invisible fat furnishes about 9 percents energy and visible fat 10 percent. This would come to 10-20 gm of fat per day depending upon the level of calories consumed.

Calcium: ICMR calcium requirement of adult women is 400mg/day. Requirement increases during pregnancy to 1000mg/day.

IRON: Normal iron requirement of adult women is 30mg/day. ICMR requirement during pregnancy are 38mg/day.

Objective of the Study:

1. To study the energy intake of vegetarian and non-vegetarian pregnant women.
2. To study the protein intake of vegetarian non- vegetarian pregnant women.
3. To study the comparison of nutrient intake with their corresponding RDA of vegetarian and non-vegetarian pregnant women.

A small study in the Delhi slum found **that** 34% and 10% of pregnant women were consuming less than the RDA for zinc and folate affected between 30-35% of pregnant women prevalence of Iron deficiency anaemia (IDA) among pregnant and lactating women was found to be over 90% in same status.

Poor quality diets before pregnancy are thought to be an important factor contributing to intra-uterine growth retardation.

Methodology

The present study was conducted to study the "Dietary intake of vegetarian and non-vegetarian pregnant women. The study was conducted in selected area of Haridwar. A sample of 50 pregnant women, 25 vegetarian and 25 non-vegetarians were randomly selected for the study. Survey method was used for the present study. a questionnaire cum interview schedule was developed to collect the present information. 24 Hours dietary recall method was used to collect information regarding dietary intake and nutrients intake. The study was conducted on a representation group of 50 vegetarian and non-vegetarian pregnant women**.**

Anthropometric parameters:

Weight: The body weight was taken to the nearest of 0.5 kg. Using platform balance. The respondents were not wearing any heavy garments due to climate and were asked to remove their slipper before weighing.

Height: The measurement of height (cm) was taken. The subject was asked to stand correct against the wall with her heals, buttocks and shoulder touching the tape with feet parallel and placed together with the arms hanging at the sides in a natural manners.

Diet Survey: It was conducted by 24 hours recall method for consecutive three days.

Result & Discussion:

Present study was conducted on vegetarian and non- vegetarian pregnant women.

Table-1 : Distribution of the subjects according to their Energy (K cal) intake

Sr.	Energy (K cal) intake	Vegetarian in Percentage	Non-Vegetarian in Percentage
1.	Below RDA	44	28
2.	Up to RDA	-	20
3.	Above RDA	56	52
Total		**100%**	**100%**

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From this table we conclude that out of total subjects of pregnant vegetarian women 11% of subjects energy intake was less than their RDA and the rest of the subjects' energy intake i.e.14% more than their RDA.

On the other hand the non-vegetarian pregnant women 28% of subjects energy intake was less than their RDA 20% subjects energy intake was up to their RDA and rest of the subjects i.e. 52% had energy intake more than their RDA.

Table -2: Distribution of the subjects according to their Protein (gm) intake+

Sr.	Protein (gm) Intake	Vegetarian in percentage	Non- Vegetarian in percentage
1.	Below RDA	24	20
2.	Upto RDA (65)	20	12
3.	Above RDA	56	52
Total		**100**	**100**

From this show that 24% of the total vegetarian pregnant women had less protein intake than their RDA, 20% had protein intake upto their RDA and rest of the subjects i.e. 56% protein intake was more than their RDA.

On analyzing the non-vegetarian pregnant women 20% of subjects had protein intake below their RDA, 12% had protein intake equal to their RDA, and the remaining 68% non-vegetarian women protein intake was more than their RDA.

Conclusion:

It can be concluded that better dietary guidance is required to pregnant women for balance dietary intake. Non-vegetarian women had better energy intake as compare to vegetarian women and non vegetarian women had better protein intakes as compare to vegetarian women because animal protein is better than plant protein which is rich inessential amino acids, also protein plays an important role in haemoglobin formation.

Reference:

1. Leung B.M., Kaplan B.J. Perinatal depression: Prevalence, risks, and the nutrition link—A review of the literature. *J. Am. Diet. Assoc.* 2009; 109: 1566–1575. doi: 10.1016/j.jada.2009.06.368.
2. Gould J.F., Best K., Makrides M. Perinatal nutrition interventions and post-partum depressive symptoms. *J. Affect. Disord.* 2017;15:2–9. doi: 10.1016/j.jad.2016.12.014.
3. Hogg-Kollars S., Mortimore D., Snow S. Nutrition health issues in self-reported postpartum depression. *Gastroenterol. Hepatol. Bed Bench.* 2011;4:120–136.
4. Cetin I., Mando C., Calabrese S. Maternal predictors of intrauterine growth restriction. *Curr. Opin. Clin. Nutr. Metab. Care.* 2013;16:310–319. doi: 10.1097/MCO.0b013e32835e8d9c.
5. Indian council of Medical Research,
6. National Institute of Nutrition
7. National Requirement and Recommended dietary Allowances for India Hyderabad; 1989.
8. Srilakshmi, B. Dietetics, VIth edition,2011