JETIR.ORG ISSN: 2349-5162 | ESTD Year : 2014 | Monthly Issue
JOURNAL OF EMERGING TECHNOLOGIES AND INNOVATIVE RESEARCH (JETIR)
An International Scholarly Open Access, Peer-reviewed, Refereed Journal

"Association of impact of Regional dietary pattern on nutritional and health status of pregnant women"

Dr. Jyoti D. Solunke

Associate Prof. & HOD Dept. Of Home Science,
Sant Tukaram College of Arts & Science, Parbhani.

❖ **Abstract**:

Evaluating regional dietary patterns could provide an overall view of food and nutrients consumed regularly. Awareness and knowledge of dietary patterns in pregnant women may be considered acceptable means to identify unhealthy dietary practices and their association with undesirable' pregnancy outcomes, which necessitates urgent intervention. This study aims to determine, the impact of regional dietary patterns on the nutritional and health status of pregnant women. A purposive sampling technique was used to select pregnant women whole gestation period. The total selected respondents were 480, from urban and rural areas of the Marathwada Region. The result concluded that the impact of proteins (0.27) and vitamin C (1.00) was significant on the body weight of selected pregnant women. Results also revealed that protein (0.55), Calcium (0.36), Iron (0029), and vitamin C (0.58) had a significant effect on increases in the hemoglobin percent from the blood of the Selected pregnant women from urban areas.

In brief, it can be suggested that pregnant women of the Marathwada Region need effective implementation of the timely intervention program of nutrition.

❖ **Keywords:**

Pregnant Women, Anthropometric Measurement, Hemoglobin.

❖ **Introduction**:

Pregnancy is a critical period for the offspring's metabolic development (Barker Etal – 2008). Dietary patterns before and during pregnancy have implications for the health of both mother and baby.

During pregnancy the need for nutrients especially micronutrients, increases compared to other stages of life leading in turn to higher nutritional requirements. Inadequate maternal nutritional intake during pregnancy may lead to negative short- and long-term health consequences for both the mother and her child. Nutrition plays an important special and definite role during pregnancy for the maintenance of sound maternal health. (Gopalan and Rao -1972).

Diet during pregnancy is one of the most important factors in achieving a successful outcome of pregnancy in terms of a healthy baby and maintenance of her health maintenance of an optimum nutritional status of the expectant mother is of almost important because of the overall development of a child is determined primarily by the type of nourishment it receives right from its conception.

Marathwada region of Maharashtra state is a backward region in social educational and economic development. Due to this reason, people of these reasons are greatly influenced by the prevalence of deep- rooted customs, traditions, and cultural practices.

According to M.S. Swaminathan in India malnutrition among children, women and men is the lack of adequate purchasing power to permit access to a balanced diet and clean drinking water.

Comprehensive improvement in the nutritional and health status of women before and during pregnancy will contribute to optimal fetal growth, better outcomes in childbirth, improved prenatal survival, and the potential for better long-term health in both the mother and child. Comprehensive holistic and scientific data from urban are rural areas on the nutritional and health status of pregnant women of the Marathwada region is essential for planning effective strategies to improve maternal and child nutrition.

❖ **Objectives:**

Find out the impact of urban and rural regional dietary patterns on the nutritional and health status of pregnant women through anthropometric measurement.

❖ **Method:**

The present study was conducted to evaluate the impact of regional dietary patterns on the nutritional status of selected pregnant women.

A purposive sampling technique was used to select pregnant women whole gestation period. The total selected respondents were 480 from urban and rural areas of the Marathwada region. Women selected from urban areas were those who attended civil hospitals and private nursing homes and from rural areas selected from those who were attending internal clinics either primary health centers or the nearest rural cottage Hospital. All 480 selected pregnant women were personally interviewed by pure-tested questionnaire, Body weight (kg), and body height (cm) of the pregnant women where the two measurements were recorded. The collected data was tabulated and analyzed statistically by using simple arithmetic mean, percentage, and standard division.

❖ **Result & Discussion:**

The impact of regional dietary patterns on the nutritional and health status of pregnant women from urban and rural areas of the Marathwada region was investigated.

❖ **Table 1 - Impact of different nutrients on body weight of the selected pregnant women from urban areas of Latur and Parbhani districts.**

Different nutrients	'a'	'b'	y=a + b	'r' value	$(r)^2$
Energy	51.56	0.00007	51.56	0.28*	0.784
Protein	51.96	0.0023	51.96	0.33*	0.1089
Calcium	53.44	-0.003	53.44	0.80**	0.64
Iron	53.04	-0.00002	53.04	0.62**	0.3844
B- carotene	51.43	0.00005	51.43	0.29*	0.0841
Thiamine	53.17	0.0096	53.17	0.47**	0.2209
Riboflavin	53.01	-0.0035	53.01	0.010	0.000100
Niacin	52.83	0.0004	52.83	0.076	0.0005776
Vit. C	51.98	0.0018	51.98	0.13	0.0169

*Significant at a 5% level of probability.
**Significant at 1% level of probability.

❖ **Table - 2 - Impact of different nutrients on body weight of the selected pregnant women from rural areas of Latur and Parbhani district.**

Different nutrients	'a'	'b'	y=a + b	'r' value	$(r)^2$
Energy	45.43	0.00033	45.43	0.11	0.0121
Protein	50.73	-0.00007	50.73	-0.27*	0.0729
Calcium	48.26	0.000018	48.26	0.10	0.01
Iron	50.85	0.0001	50.85	0.077	0.0005929
B- carotene	48.60	-0.30	48.30	-0.19	0.0361
Thiamine	48.48	-0.0002	48.48	-0.19	0.0361
Riboflavin	48.44	0.0088	48.44	0.064	0.004096
Niacin	48.43	0.16	48.27	0.090	0.0081
Vit. C	47.80	0.0012	47.80	1.00**	1.00

**Significant at 1% level of probability.
*Significant at a 5% level of probability.

❖ **Impact of different nutrient intake on body weight of selected pregnant women**

The impact of different nutrient intakes on the body weight of the selected pregnant women from urban and rural areas of both districts is given in Tables 1 and 2.

In the present study, the impact of various nutrient intake on the body weight of the selected pregnant women was investigated. The results revealed that the energy (0.28 kcal), protein (0.3g), calcium (0.08g), iron (0.62g%), β- carotene (0.29m), and thiamine (0.40m) intake significantly affected the body weight of the selected pregnant women from urban area. Whereas in rural areas the result concluded that the impact of only protein (0.27) and Vitamin-C (1.00) was significant on the body weight of selected pregnant women.

❖ **Impact of different nutrient intake on the body mass index of selected pregnant women**

The impact of different nutrient intake on body mass index of the selected pregnant women from urban and rural areas of both districts are given in Tables 3 and 4. From the results, it was found that the energy (0.32 Kcal), protein (0.45%), calcium (0.99), iron (0.92), and ß-carotene (0.27) showed the

❖ **Table - 3 - Impact of different nutrient intake on body mass index of the selected pregnant women from urban areas of Latur and Parbhani district.**

Different nutrients	'a'	'b'	y=a + b	'r' value	$(r)^2$
Energy	34.09	0.000049	34.09	0.32*	0.1024
Protein	34.21	0.0020	34.21	0.45**	0.2025
Calcium	36.26	-0.00026	36.26	-0.99**	0.9801
Iron	35.15	0.000021	35.15	0.92**	0.8464
B- carotene	34.15	0.000035	34.15	0.27*	0.0729
Thiamine	35.14	-0.0026	35.14	-0.021	0.000441
Riboflavin	35.12	-0.0033	35.12	-0.015	0.00225
Niacin	34.95	0.000048	34.95	0.12	0.144
Vit. C	34.63	0.00086	34.63	0.099	0.9801

*Significant at a 5% level of probability.
**Significant at 1% level of probability.

❖ **Table 4 - Impact of different nutrient intake on body mass index of the selected pregnant women from rural areas of Latur and Parbhani district.**

Different nutrients	'a'	'b'	y=a + b	'r' value	$(r)^2$
Energy	32.14	0.00060	32.14	0.054	0.0002961
Protein	35.19	-0.006	35.19	-0.18	0.0324
Calcium	32.99	-0.000010	32.99	-0.003	0.00006
Iron	35.05	-0.24	34.81	-0.23*	0.0529
B- carotene	33.02	-0.00003	33.02	-0.022	0.000484
Thiamine	33.03	-0.00024	33.03	-0.026	0.000676
Riboflavin	33.08	-0.015	32.93	-0.056	0.0003136
Niacin	33.11	-0.0019	33.11	-0.018	0.00324
Vit. C	32.74	0.00057	32.74	0.095	0.0009025

*Significant at a 5% level of probability.
**Significant at 1% level of probability.

❖ **Table 5 - Impact of different nutrient intake on Hemoglobin content in the blood of the selected pregnant women from urban areas of Latur and Parbhani districts.**

Different nutrients	'a'	'b'	y=a + b	'r' value	$(r)^2$
Energy	9.88	-0.00027	9.88	0.009	0.00008
Protein	10.39	-0.0012	10.39	0.55**	0.3025
Calcium	9.53	0.0006	9.53	0.36*	0.1296
Iron	9.83	0.0001	9.83	0.29*	0.0841
B- carotene	9.77	0.00005	9.77	0.093	0.008649
Thiamine	9.92	-0.004	9.92	0.178	0.0289
Riboflavin	9.76	0.006	9.76	0.157	0.0225
Niacin	9.84	-0.00004	9.84	0.064	0.0004096
Vit. C	9.69	0.0002	9.69	0.58**	0.3364

*Significant at 5% level of probability.
**Significant at 1% level of probability.

❖ **Table 6 - Impact of different nutrient intake on Hemoglobin content in the blood of the selected pregnant women from rural areas of Latur and Parbhani districts.**

Different nutrients	'a'	'b'	y=a + b	'r' value	$(r)^2$
Energy	9.64	-0.00005	9.64	-0.12	0.0144
Protein	9.04	-0.0003	9.04	-0.028	0.00784
Calcium	8.96	-0.00001	8.96	-0.087	0.0007569
Iron	9.39	0.0056	9.39	0.14	0.0196
B- carotene	8.89	0.00004	8.89	0.079	0.006241
Thiamine	8.90	0.0010	8.90	0.032	0.0001024
Riboflavin	8.95	-0.004	8.95	-0.047	0.0002209
Niacin	9.33	-0.0063	9.33	-0.15	0.0225
Vit. C	8.76	0.00033	8.76	0.16	0.0256

*Significant at a 5% level of probability.
**Significant at 1% level of probability

Significant effect on the body mass index of pregnant women from urban areas. Other nutrients like thiamine, niacin, riboflavin, and vitamin-c did not show significant effects. Whereas in rural areas only iron (-0.23) shows a significant effect ($P<0.01$) on body mass index.

❖ **Impact of different nutrient intake on hemoglobin content in the blood of selected pregnant women.**

The impact of different nutrient intakes on hemoglobin content in the blood of the selected pregnant women from urban and rural areas of both districts are given in Tables 5 and 6. From the result, it was found that the protein (0.55), calcium (0.36), iron (0.29), and vitamin-c (0.58) had a significant effect on the increase in the hemoglobin percent from the blood of the selected pregnant women from urban areas.

In a rural area to increase the hemoglobin percent in the blood of the pregnant women no single nutrient had significant value. It may be due to inadequate intake of nutrients by the pregnant women.

Overall, it can be observed that the nutrients like energy, riboflavin, and Vit. C from urban areas and protein, iron,B-carotene, and Vit. C from rural areas affected significantly to body weight of the selected pregnant women.

❖ **Conclusion and suggestion:**

In the present study, the impact of various nutrient intake on the body weight of the selected pregnant women was investigated. The result revealed that energy, protein, calcium, iron, and B- carotene intake significantly affected the body weight and body mass index of the selected pregnant women from urban areas. Whereas in rural areas the result concluded that the impact of only protein and vitamin-c was significant on the body weight of selected pregnant women. Other nutrients like thiamine, niacin, and riboflavin did not show a significant effect on body weight and body mass index. Whereas in rural areas only iron shows a significant effect ($P < 0.01$) on body mass index.

The impact of different nutrient intake on hemoglobin content in the blood of the selected pregnant women. The study revealed that the proteins, calcium, iron, and vitamin-c had a significant effect on the increase in hemoglobin percent from the blood of the selected pregnant women from urban areas.

This study has shown that the nutritional status of pregnant women as indicated by maternal anthropometry and biochemical profile was associated with the health of pregnant women and its outcomes. Baby born to a poor poverty mother as compared to a baby healthy of a better-nourished mother.

Hence the pregnant mother's diet must contain equal and balanced nutrients to increase the health of pregnant women and its outcomes. Therefore, different strategies such as intensive health education should be planned and carried out to improve the nutritional status and health of pregnancy to reduce pregnancy risk.

❖ **Reference:**

1) Goldstein RF, Abell SK, Ranasinha S Misso ml, Boyle JA, Harrison CL. Etal, Gestational weight gain across continents and ethnicity systematic review and meta-analysis of maternal and infant outcomes in more than one million women BMC. med. 2018;16(1):153 (Google Scholar).

2) Duboisl, Diasparra m, Bedard B, Cala- pinto ck, Fontaine Bissan B Tremblay Ref, et al, Adequacy of nutritional intake during pregnancy BMI, result from the so cohort study, Bor J Nutr. 2018; 12005):335- 44.

3) Food and Agriculture Organization, 2011 Guideline for measuring household and individual dietary diversity, FAO Rome (Google Scholar).

4) Nguyen H. A. - 2019, Undernutrition during pregnancy complication of pregnancy. Intech open, London. (Google Scholar).

5) World Health Organization (WHO), 2003, Diet nutrition and prevention of chess chronic disease, WHO technical support series 916 WHO Geneva (PubMed) (Google scholar).