



Evaluation of Dietary Intake among Pregnant Women in Ajmer, Rajasthan, India-A Cross-Sectional Questionnaire Study

Deepika Singh* and Bharti Prakash

Department of Zoology, S.P.C. Government College, M.D.S.U. Ajmer, Rajasthan, India

*Corresponding e-mail: angeldeepika1989@gmail.com

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ABSTRACT

Introduction: During pregnancy, a healthy diet is important for the development and growth of the fetus. A balanced and healthy diet must provide sufficient energy and nutrients to the mother as well as the growing fetus. **Aims and Objectives:** The study aimed to evaluate the dietary intake among pregnant women of Ajmer. **Materials and Method:** A questionnaire was prepared to evaluate dietary intake among 1200 pregnant women of the different trimesters. The resulting data were analyzed using statistical software. **Results:** About 60% of pregnant women intake fewer servings than the recommended amounts for all food groups. **Conclusion:** The results suggest that pregnant women do not take sufficient nutrients in, a balanced diet rich in protein, carbohydrates, zinc, calcium, vitamins, and iron.

Keywords: Fetus growth, Balanced diet, Nutrition, Pregnancy, Women

INTRODUCTION

A healthy diet during pregnancy provides sufficient energy and nutrients to the mother and the growing fetus. An iron deficiency which is known as anemia is the most common (80%) micronutrient deficiency in pregnant females accounting for 19% of all maternal deaths. Zinc deficiency is also common in pregnant women [1]. In India, about 55% female population and one-fourth of the total population constitute nutrition deficiencies among women of reproductive age [2]. Pregnant women in India are more to have inadequate dietary intake which leads to deficiencies of macronutrients and micronutrients in them [3]. Vitamin D deficiency in pregnancy may lead to high bone turnover, osteomalacia, and hypovitaminosis D myopathy in the mother. These nutritional deficiencies not only affect the quality of life of pregnant women but also affect the birth weight of the newborn [4]. An appropriate diet also helps the mother to recover from delivery and supports successful breastfeeding [5]. Furthermore, the socioeconomic status of pregnant women plays a major role. Pregnant women living in rural areas have poor access to health care and proper nutrition as compared to urban areas. It is important to increase the proper nutritional intake of pregnant females for better wellbeing. This study was conducted to assess the intake of a nutritional and balanced diet during the pregnancy period.

MATERIALS AND METHODS

The present study was a cross-sectional survey conducted among 1200 pregnant women selected by convenience sampling technique. The respondents were selected from two tertiary care government hospitals, one private hospital, and one community health center in Ajmer city. These institutions were randomly selected for the study. Ethical clearance was obtained from the Institutional Ethical Committee. Informed written consent was obtained from all the respondents. A self-administered structured questionnaire was prepared which was validated by two experts and used to collect data regarding dietary intake from 1200 pregnant women through a survey in government and private hospitals and community health centers.

The respondents were asked to give information on the consumption of a recommended number of servings of food groups such as protein foods, fruits, vegetables, grains, dairy products, beverages, fast food, sugary snacks (sweets, cookies, chocolate, etc.) regularly and also to give information about the number of servings they consumed of the various food groups.

The resulting data have been analyzed using the Statistical Package for the Social Sciences (SPSS) for Windows (version 21; SPSS Inc; Chicago IL, USA).

RESULTS

Table 1 illustrates the demographic characteristics of respondents. The majority of respondents were in the age group of 25-30 years. Most of the respondents belonged to an urban area (643, 53.5%) and most of them were not working (846, 70.5%).

Table 1 Demographic characteristics of respondents

Characteristics	n (%)
Age	
<20	165 (13.7)
20-25	420 (35)
25-30	480 (40)
>30	135 (11)
Education	
Illiterate	220 (18.3)
Primary	390 (32.5)
Secondary	350 (29.1)
Higher	240 (20)
Trimester	
First	323 (26.9)
Second	486 (40.5)
Third	391 (32.5)
Occupation	
Employed	354 (29.5)
Unemployed	846 (70.5)
Gravida status	
Primigravida	422 (35.1)
Multigravida	778 (64.8)
Residence	
Urban	643 (53.5)
Rural	557 (46.4)

Figure 1 shows that 87% of the pregnant women said that they consumed fruits and vegetables while 13% of them did not consume fruits and vegetables. 79% of pregnant women consume carbohydrates-rich food (bread and rice) while 21% of them did not consume it. 85% of pregnant women take more proteins (such as milk, egg, and almond) while 15% of them do not take more protein products. About 69% of pregnant women take dates, spinach, and fruit juice daily as an iron supplement. As per the doctor's advice about 72%, of pregnant women follow a specific dietary regimen, and 28% of them do not follow any specific dietary regimen. 73% of pregnant women take any special diet advised or prepared by their family members while 27% of them do not take it.

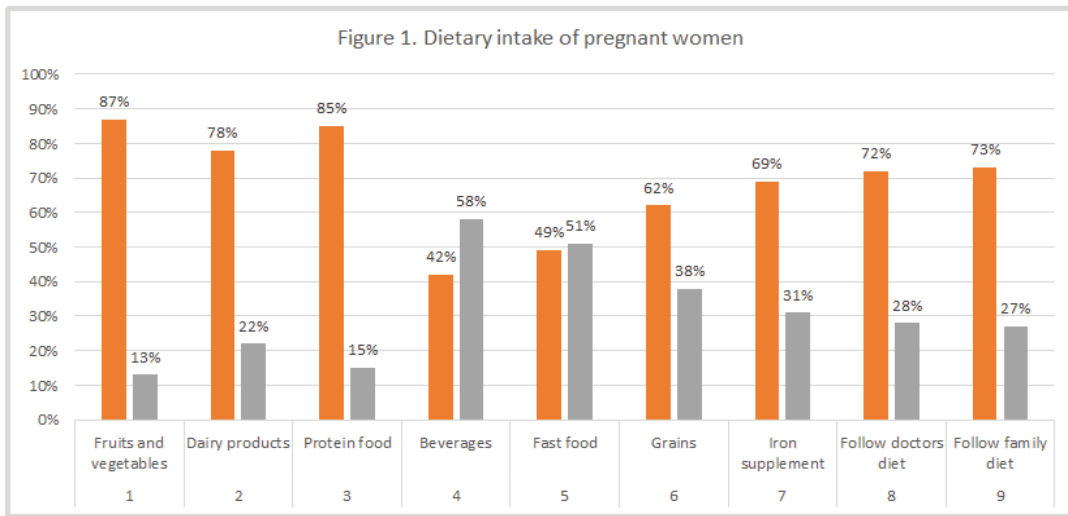


Figure 1 Dietary intake of pregnant women

More than two-thirds of pregnant women from rural and urban areas consumed green leafy vegetables, pulses, milk, and milk products and fruits, however, consumption of eggs and sprouts (64%) was more in pregnant women of urban areas as compared to rural areas (36%) (Figure 2). Consuming of fast food like (Maggie, pasta, burger, chowmin, etc.) and beverages like cold drinks was higher (72%) in pregnant women in urban areas.

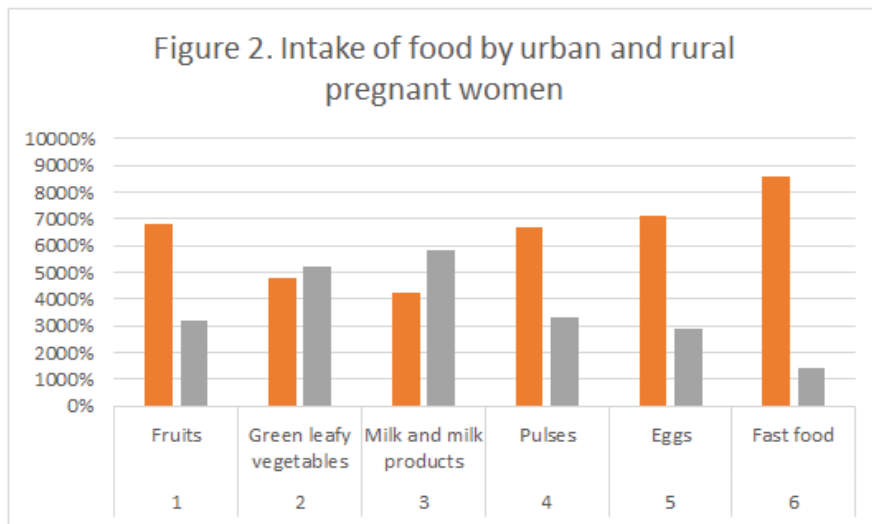


Figure 2 Intake of food by urban and rural pregnant women

DISCUSSION

Intake of nutrients and a well-balanced diet are important determinants of optimum health during pregnancy [6]. Research has shown that inadequate dietary intake during pregnancy results in an increased risk of short-term consequences such as infant mortality and morbidity, preterm birth, low birth weight, and could have pathophysiologic or metabolic problems which is a disorder of child growth and development [7].

This study revealed that most pregnant women consumed more pulses, fruits, eggs, milk, and milk products. 17% of the pregnant women from rural areas consumed milk and eggs every day as compared to urban pregnant women. The results were comparable to the study by Nagi R, et al. in which 10% of the pregnant women from rural areas

consumed milk and eggs every day compared to urban inhabitants [8]. It was also observed that pregnant women rarely consumed raw and cooked salad and fruits and they drank tea more frequently than milk. Similar results were shown in the study of Ansari AA, et al. in which intake was of fewer servings than the recommended in all food groups [9]. Similar findings were shown by Forbes LE, et al. in which pregnant women consumed more sweets food and added sweet beverages and sweet items to their diet [7]. The same results were observed in the study done by Hinkle SN, et al. that only one-third of pregnant women take dairy products and one-quarter take plant proteins [10]. Therefore, in this study, among the respondent's higher number of negative changes were observed concerning the amount and frequency of consumption of fruits and vegetables. In this study, consumption was decreased the number of fruits, sprouts, proteins, and cereal products in the diet during pregnancy. Similar findings were observed in the study done by Symington EA, et al. those pregnant women lacking sources containing iron and calcium supplements, and vital micro and macro-nutrients in their diet [11].

As India is a developing country and most of the population lives in rural areas, they don't take a proper balanced nutritional diet due to many reasons. So, government agencies and social welfare societies should come forward to treat these problems. Several studies have been done on nutritional awareness during pregnancy. There is so much evidence that shows that lack of nutrition in pregnant women contributes to various adverse pregnancy outcomes. Some studies show rural pregnant women have less nutritional knowledge as compared to urban pregnant women. There is a perception in India that intake of a nutritional and balanced diet is not considered so important in India. The study done by Sharma A shows that one in three women in the world is anemic while one in two women is anemic in India [12].

CONCLUSION

This study observed a lack of nutritional intake among pregnant women. Nutritional and balanced diet educational programs for women who plan a pregnancy or those already pregnant should be conducted. Obstetricians and prenatal healthcare workers and medical and health centers should recommend the proper amount of food servings for pregnant women, especially in rural areas. Pregnant women should be made aware of the nutritional and balanced diet to have a healthy baby. These findings give insight into the intake of diets and nutrition during pregnancy and will help researchers and practitioners to inform pregnant women to optimize their proper nutrition intake during pregnancy.

Recommendations

It is recommended that nutritional health for pregnant women also be integrated into their general health in all reproductive hospitals in the country.

DECLARATIONS

Conflict of Interest

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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Ethical Clearance

Ethical clearance was sought from the ethical committee of JLN Hospital.

Authors Contribution

This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.

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