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A Study on Food Security in Terms of Energy Intake and Malnutrition among Selected Female Young Adults

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Abstract:

Young adulthood is a unique period whereby youth slowly start gaining independence. They are vulnerable to develop unhealthy behaviours, which will predispose them to chronic diseases later in life. The nutritional status of female young adults is of great concern because, the multiple roles played by women, give rise to serious health and nutritional problems.

In this study, an attempt was made to understand food security in terms of the energy intake and malnutrition among female college students. 100 healthy female college students were selected for the study by purposive sampling. Interviewer-administered structured questionnaire was used to obtain general information. Anthropometric method was used for assessing body mass index. A 24-hour dietary recall method was used to collect the data regarding the energy intake.

The age of the students ranged from 20-22 years. Majority of the subjects were Hindus, belonged to nuclear families. The results of the study show that 38 per cent of the subjects' energy intake was less than the recommended values. 6.5 per cent of the students skipped their breakfast and the prominent reason cited was lack of availability of time. The nutritional status assessed by their body mass index (B.M.I) showed that 39.47 per cent were underweight, 2.6 per cent were overweight, 2.6 per cent pre-over weight and 2.6 per cent were obese. Overall, 44.74 per cent of the subjects were malnourished.

The study highlights the fact that nearly half of the subjects do not have food security in terms of energy intake. So there is an urgent need to address this issue as lack of food security of female young adults is likely to have serious consequences on their health as well as that of future generations.

1. Introduction

According to Erikson's stages of human development a young adult, is generally a person in the age range of 20 to 40 years. The danger of this phase is that in the early stages of adulthood, one must make crucially important choices regarding marriage, family, work, and lifestyle before one has the maturity or life experience to choose wisely (Levinson, 1994). A person is vulnerable to develop unhealthy behaviours, which will predispose them to chronic diseases later in life. The nutritional status of women of this stage is of great concern because the multiple roles played by women give rise to serious health and nutritional problems (Mc Guire and Popkin, 1988). The dietary patterns of female young adults have a significant influence on their health as well as that of their prospective family members (Georgiou *et al.*, 1997).

Nutrition is a basic human need and a prerequisite to a healthy life. One of the nutritional problems of public health importance in India is the widespread prevalence of malnutrition. It is largely a result of dietary inadequacy and unhealthy lifestyles. Ensuring food security is one of the most rational, sustainable and long term solutions to the problem of malnutrition. In this study, an attempt was made to understand food security in terms of the energy intake and malnutrition among female college students.

2. Methodology

2.1. Selection of the Subjects

100 healthy female college students were selected for the study by purposive sampling. Interviewer-administered structured questionnaire was used to obtain general information. The students of Smt. V.H.D Central Institute of Home Science, Bangalore were selected for the study. The study was carried out after obtaining approval from ethical committee of the institution. The inclusion criteria were female students above 18 years of age, who were generally healthy (regular attendance) and willing to participate.

2.2. Assessment of Dietary Intake

The dietary intake was assessed using 24-hour dietary recall method. Food composition table of Indian Council of Medical Research (Gopalan, 1989) was used to calculate the energy intake.

2.3. Assessment of Nutritional Status

Nutritional status was assessed using body mass index (B.M.I). Body Mass Index was calculated using the formula. Body Mass Index (BMI) =Weight (Kg)/[Height(m)]². For this weight was measured using weighing scale accurate to 0.5 Kg. Height was measured using a specially constructed instrument consisting of a steel platform to which was attached a steel measuring tape. Height was recorded to the nearest centimetres. BMI were categorized according to the World Health Organization conventions appropriate for Asian populations. BMI cut offs: <18.5 (underweight), 18.5–22.9 (normal weight), 23–24.9 (“at risk of overweight” or “pre overweight”), 25–29.9 (overweight), and ≥30 (obese).

2.4. Statistical Analysis

Suitable statistical methods were used to analyze the data. SPSS package was used for analysis.

3. Results and Discussion

3.1. General Information of the Subjects

The age of the students ranged from 20-22 years. Majority of the subjects were Hindus, belonged to nuclear families with a family size of 4 or less.

3.2. Dietary Intake of the Subjects

3.2.1. Energy Intake of the Subjects

A sedentary adult Indian female has to consume 1900 K Cal of energy/day (ICMR 2010). Table 1 shows the comparison of the energy intake of the subjects with the recommended intake.

Recommended Dietary Allowance (K Cal/day)	1900 K Cal
Mean Intake of subjects (K Cal/day)	1185 K Cal
Difference	715 K Cal

Table 1: A comparison of energy intake of subjects with recommended energy intake:

It can be observed from the table1 that on an average, each subject consumed 715 K Cal less than the recommended energy intake. Studies indicate that consuming about 500 K Cal less than the requirement for a period of one week, results in about 0.5 Kg loss of weight. If energy deficiency continues for a long time it leads to underweight.

3.2.2. Food Security in Terms of Energy Inadequacy

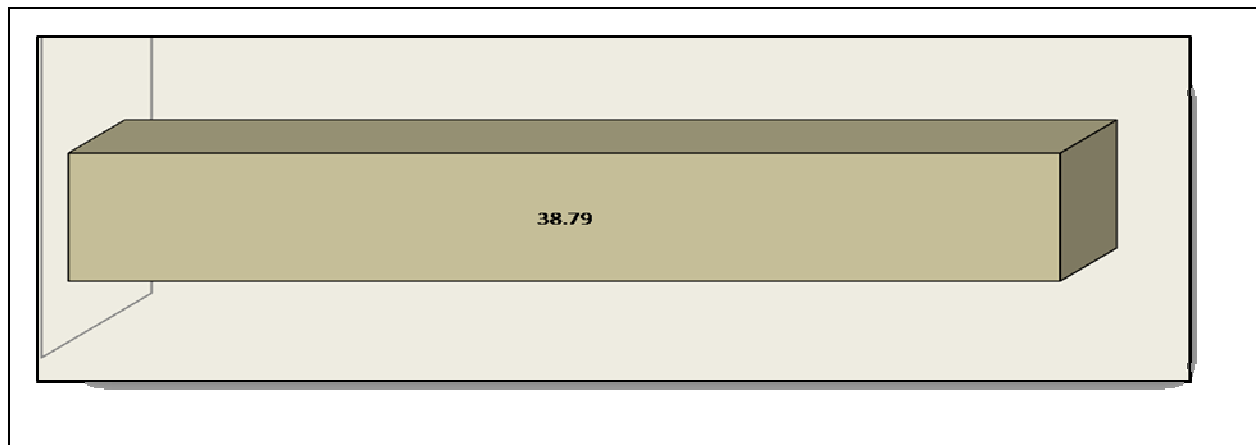


Figure 1: Mean Percent Inadequacy of Energy

The results of the study show that 38 per cent of the subjects’ energy intake was less than the recommended values. The results of the study are similar to the findings of the National Nutrition Monitoring Bureau (NNMB 2006) surveys which indicate that about 36% of adult women in India are suffering from chronic energy deficiency.

➤ Nutritional status of the subjects: The nutritional status of the subjects is depicted in Fig 2.

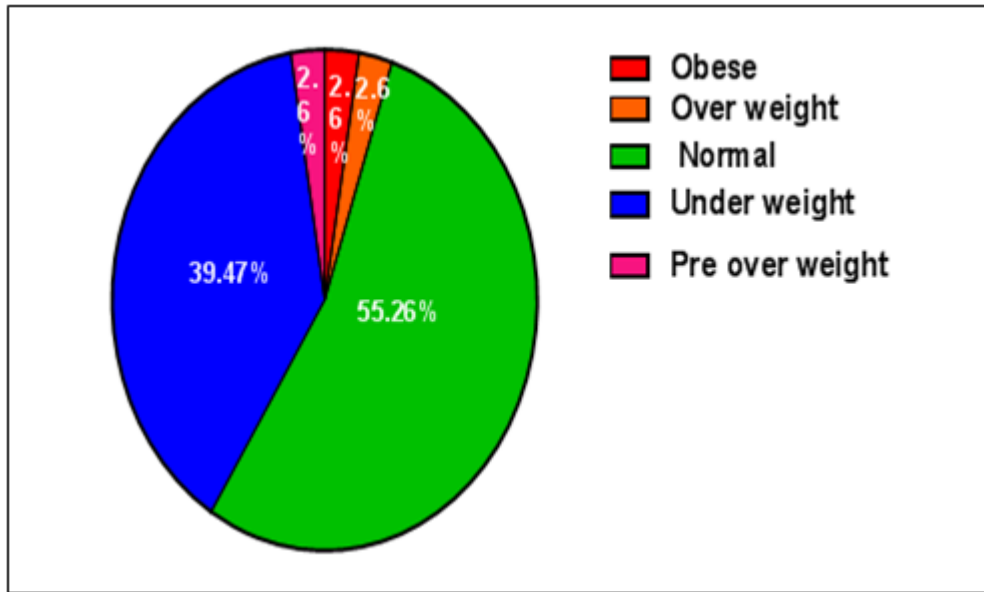


Figure 2: Nutritional status of subjects based on BMI

The nutritional status assessed by their body mass index (B.M.I) showed that 39.47 per cent of the subjects were underweight, 2.6 per cent were overweight, 2.6 per cent pre-over weight and 2.6 per cent were obese.

It is a paradox that while the problem of under nutrition continues to be a major problem, prevalence of over nutrition is emerging as a significant problem, especially in urban areas. According to the NIN reports (2011) 10.9% rural adult women and 40% urban adult women are suffering from overweight/ obesity. In contrast to this, in the present study underweight was found to be a major problem.

➤ Prevalence of malnutrition among the subjects:

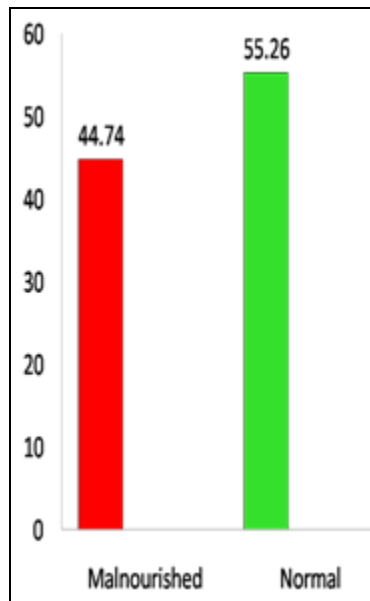


Figure 3: Prevalence of malnutrition among the subjects:

Malnutrition includes health condition resulting from both under nutrition and over nutrition. Among the subjects studied, 44.74 per cent of the subjects were malnourished. It is a proved fact that long term malnutrition directly affects the physical work output and malnutrition during the young adulthood starts a vicious cycle of low productivity, low income, low purchasing power and malnutrition. In case of females, it can initiate an intergenerational malnutrition as this is period of child bearing. So there is an urgent need to address this issue.

4. Conclusion

The study highlights the fact that nearly half of the subjects do not have food security in terms of energy intake. So there is an urgent need to address this issue as lack of food security of female young adults is likely to have serious consequences on their health as well as that of future generations.

5. References

- i. Georgiou, C.C., Betts, N.M., Hoerr, S.L., Keim, K., Peters, P.K., Stewart, B., Voichick, J. Among young adults, college students and graduates practiced more healthful habits and made more healthful food choices than did nonstudents. *J Am Diet Assoc* 1997,97, 754-9.
- ii. Gopalan C, Rama Sastri, Balasubramanian Nutritive value of Indian foods National Institute of Nutrition, Indian Council of Medical Research 1989
- iii. Indian Council of Medical Research (ICMR) 2010. Nutrient Requirements and Recommended Dietary Allowances for Indians, National Institute of Nutrition, Hyderabad.
- iv. Levinson D J "A Conception of Adult Development," in Richard D. Gross ed., *Key Studies in Psychology* (1994) 293.
- v. McGuire, J.S. and Popkin, B.M. The zero-sum game: a framework for examining women and nutrition. *Food Nutr Bull* 1988, 10: 27-32.
- vi. National Institute of Nutrition Report (2011) Dietary Guidelines for Indians-A Manual NIN, ICMR Hyderabad Page No 4.
- vii. National Nutrition Monitoring Bureau Technical Report No 24 Diet and Nutritional Status of population and prevalence of Hypertension among adults in rural areas, NIN, ICMR, Hyderabad-2006.
- viii. WHO. Expert Consultation: appropriate body mass index for Asian populations and its implications for policy and intervention strategies. *Lancet* 2004, 363,157-63.