ASSESSMENT OF FOOD HABITS AND DIETARY PATTERN OF COLLEGE GOING GIRLS (18 – 21 YEARS) DURING MENSTRUAL CYCLE – COIMBATORE

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Abstract

Adolescence is a transitional stage of physical and psychological development that normally occurs throughout the period from puberty to legal adulthood. Their physical, psychological or social-terms may begin earlier and end later. It is characterized by massive hormonal changes i.e., 75% of girls experience menstrual problems. The aim of this present study is to assess the nutritional status of college going girls who having menstrual abnormality problems. A cross-sectional questionnaire-based study was conducted in adolescent girls among both UG and PG students of Private College where 100 students are participated. In this study, the selected subjects were offered with structural designed questionnaire as a survey tools which dealt with socioeconomic data, anthropometric data, menstrual history and diet. From the selected sample, the subject was grouped as two categories i.e., 18-19 years old (78%) and 20-21 years old (22%). Most of the respondents (45%) were consuming broiler chicken among other non-vegetarians. The correlation between the BMI and Diet pattern has positive significant, which shows the diet pattern plays a major role. Premenstrual symptoms were significantly more common among girls who were overweight, eating junk food regularly, eating less food (dieting) in order to lose weight and girls who were not doing regular physical activity. So, the study shows that dietary habit and sedentary lifestyle of one individual may affect the menstrual cycle. Lifestyle modifications should be emphasized with regular physical activities like yoga, exercises, proper intake of healthy foods, avoiding of junk foods and do not skip any meal regularly.

Keywords: College Going Girls, Diet Pattern, Junk Food, Overweight, Menstrual Cycle.

Introduction

Nutrition is the most basic requirement of an individual for the protection of health and promotion of well being, there by influencing the quality of life of an individual. Especially in adolescent girls, nutritional requirement is very important. In the age of 18 to 21 years, the girls may face many challenges towards the society and personally with gradual and sustained life expectancy in all over the world. Adolescence is an intense anabolic period when requirements for all nutrients increases (Chandrakumari, 2019). Nutrient consumption exposed that the dietary pattern of the girls was contained deficient in all macro and micronutrients except fat, which was consumed in excess amount (Vasanthamani, 2009). Apart from healthy food habits, inadequate physical activity is also a common feature running of most public health problem across the world. Instead of playing indoor games, youth of the past were involved in outdoor games which led to development of both physical and mental health which improved the school performance (Hemal, 2017).

Due to lacking of these two factors like unhealthy food habits and inadequate physical activities, adolescents face more health challenges and chronic health issues like asthma, anemia, neurological abnormalities, emotional and behavioral problems, chronic physical disabilities, early age menarche or irregular menstruation, birth defects, and developmental delays. As adolescent girls have different type of food habits, dietary patterns and beginning of menstrual cycle at this age may varies. So, their health needs to be given lot of priority. In this motto, the present study was aimed with relating the nutritional status and psychological problems of college going girls during menstrual cycle selected in a private college at Coimbatore along with certain objectives.

Methodology

Selection of area: The study was carried out in the college campus of a private college near aerodrome, Coimbatore. The private college located in urban area and it is in northern-east zone of Coimbatore district of Tamil Nadu. The college consist of both UG and PG degrees.

Selection of sample: The study is all about the food habits and dietary pattern of college going girl's students during their menstruation. The college girls between 18 to 21 years old were selected as sample which included 100 samples using random sampling technique. The study was conducted for one year. To evaluate their nutritional and psychological status by using structural designed questionnaire, this included the questions on food patterns and irregularity problems in menstrual cycle.

Dietary assessment: The most important survey tools were used to collect the data of food patterns is dietary survey which includes qualitative oral questionnaire, diet history, 24-hour dietary recall, food habits, meal pattern, food frequency and junk food dairy.

Diet history: According to Medical Research Council (2019), A dietary history is a retrospective structured interview method consisting of questions about habitual intake of foods from the core food groups (e.g. meat and alternatives, cereals, fruit and vegetables, dairy and 'extras') and dietary behaviors (e.g. skipping breakfast, dieting). This diet history method obtains details of

individual foods, and comprehensive information about foods eaten less regularly. It is used to describe usual food and nutrient intakes over months or a year.

The questionnaire has been used as an open-ended question to determine foods and drinks consumed at each meal, followed by specification of amounts. It can be combined with a 3-day record or a 24-hour recall.

24-hours diet recall: According to Medical Research Council (2019), the 24-hour dietary recall is a retrospective assessment method carried out by a trained interviewer. This method can also be self-administered with no interviewer. The 24-hour recall is normally undertaken in chronological order of consumption (i.e., from morning to night). This method is to identify population-level statistics of variations and prevalence of individuals meeting certain consumption levels (recommended levels of intakes), multiple 24 - hours recall is necessary.

Statistical analysis and Interpretation: The data were analyzed using SPSS version 20.0 and $P < 0.05$ was used to determine the statistical significance. The difference among the distribution of food patterns were analyzed by analysis of variance. Correlation analyses were used to investigate associations between food patterns and menstrual problems among selected subjects.

Nutrition Intervention

Nutrition education were given to the samples, it can be defined as any set of learning experiences designed to facilitate the voluntary adoption of eating and other nutrition-related behaviors conducive to health and well-being.

Nutrition Education Goals
➢ To create positive attitudes toward good nutrition and physical activity and provide motivation for improved nutrition and lifestyle practices which promotes and maintains the best attainable level of wellness of an individual.
➢ To provide adequate knowledge and skills regarding diet and health so the individual can identify good resources and make healthy food choices.

Result and discussion

Table 1: Distribution of Diet pattern percentage among selected subjects

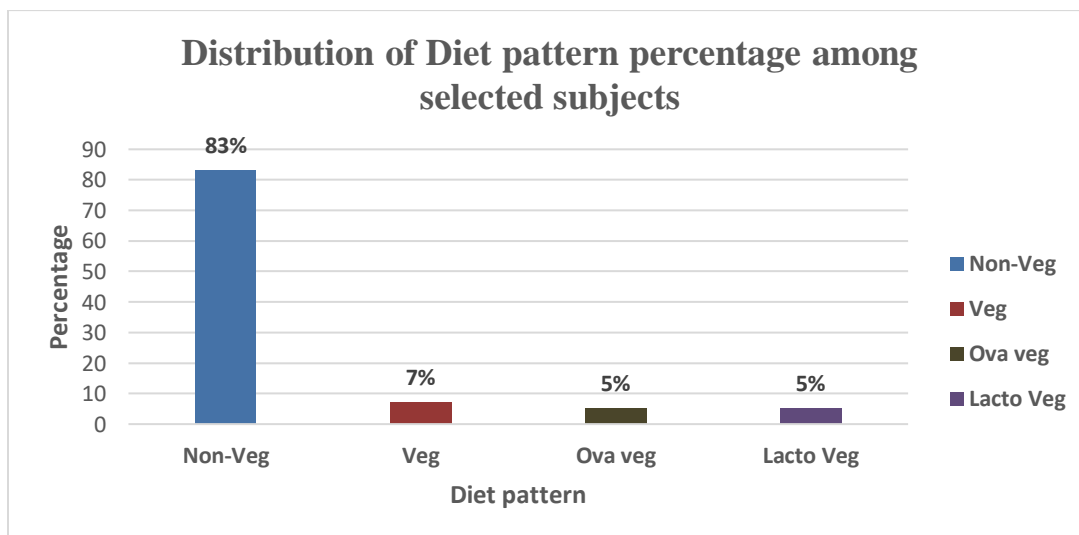| Profile	Range	Frequency	Percent (%)
Diet pattern	Non-Veg	83	83
	Veg	7	7
	Ova-Veg	5	5
	Lacto-Veg	5	5

Figure 1: Distribution of Diet pattern percentage among selected subjects

Table 1 and figure 1 describes the diet pattern. Diet pattern of the selected subject is divided into 4 categories which is 83% of selected subjects are non-vegetarians,7% of selectedsubjects are Vegetarians, 5% of selectedsubjects are Ova vegetarians and 5% of selected subjects are Lacto vegetarians.

Table 2 and Figure 2: Distribution of Non-Veg source percentage among selected subjects

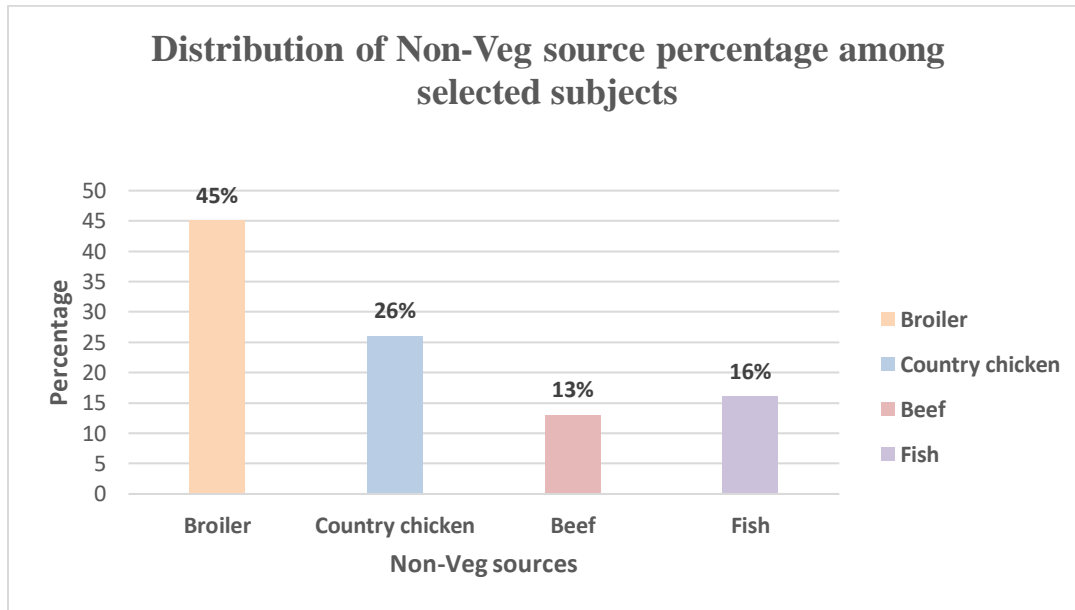| Profile	Range	Frequency	Percent (%)
Non-Veg source	Broiler	45	45
	Country chicken	26	26
	Beef	13	13
	Fish	16	16

Figure 2: Distribution of Non-Veg source percentage among selected subjects

Table 2 and figure 2 denotes the responses for Non veg sources consumed by the selected subject. 45% of non-vegetarians consume Broiler chicken, 26% of the non-vegetarians consume Country chicken, 13% of the non-vegetarians consume Beef and 14% of the non-vegetarians consume Fish frequently.

Table 3: Correlation between BMI and Diet pattern

		BMI	Diet Pattern
BMI	Pearson Correlation	1	**.067**
	Sig. (2-tailed)		.712
	N	100	100
Diet pattern	Pearson Correlation	**.067**	1
	Sig. (2-tailed)	.712	
	N	100	100

The above **Table 3** depicts correlation between BMI and Diet pattern. It shows that BMI (**r=0.067**) is positively correlates with Diet pattern which means food habit plays a major role in Body Mass Index. Thus, Balanced diet is very important to maintain Body weight and BMI. Balanced diet includes "Consuming a diet with balanced nutrient intake is not only necessary to prevent and manage chronic diseases, but also essential for children and adolescents to ensure their healthy development." (J.Obesity Metabolic Syndrome. 2018 March).

Correlation between Food habit and Menstrual problems.

The food frequency of the food habit was analyzed by the relationship with the menstrual problems. Where frequency data can explain much of the variation in dietary intake, and Food Frequency Questionnaire's (FFQ's) can provide sufficient accuracy to rank individuals in term of subsequent health outcomes**. (Nutritional journal 23 May 2019)**

Table 4: Correlation between Junk food and Cycle regularity

		Junk food	Cycle regularity
Junk food	Pearson Correlation	1	**.074**
	Sig. (2-tailed)		.463
	N	100	100
Cycle regularity	Pearson Correlation	**.074**	1
	Sig. (2-tailed)	.463	
	N	100	100

The above **Table 4** depicts the correlation between Junk food and Cycle regularity. It shows that Junk food **(r=0.074)** is positively correlated with Cycle regularity. Thus, Junk food is very much involved in Cycle regularity. So, avoiding Junk food is important to avoid irregular menstrual cycle.

Table 5: Correlation between Junk food and Mood swings

		Junk food	Mood swings
Junk food	Pearson Correlation	1	**.092**
	Sig. (2-tailed)		.362
	N	100	100
Mood swings	Pearson Correlation	**.092**	1
	Sig. (2-tailed)	.362	
	N	100	100

The above table 5 defines the correlation between Junk food and Mood swings. It shows that Junk food **(r=0.092)** is positively correlated with Mood swings. Thus, junk food involved in Mood swing during menstrual cycle. So, avoiding Junk food is important to avoid Mood swing during menstrual cycle.

Table 6: Chi-Square test between Avoiding specific food and Bleeding days.

	Value	Df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.126[a]	1	**.723***		
Continuity Correction	.005	1	.943		
Likelihood Ratio	.124	1	.725		
Fisher's Exact Test				.779	.461
Linear-by-Linear Association	.125	1	.724		
N of Valid Cases	99				
*Chi square is significance at the level of 0.05 (*S)					

The above Chi square table 6 shows the test's sig value 0.723, it is greater than 0.05 and thus we accept our null hypothesis. Therefore, there is no association between Avoiding specific foods and bleeding days. So, avoiding specific foods during menstrual cycle doesn't depend on Bleeding days.

Conclusion

This article concludes that 86% of girls in the age of 18 to 21 years old are non-vegetarian eaters and most of them (79%) are skipping meal and also, they are sedentary workers. Consuming junk foods and lack of physical activity which impacts in weight gain as increase in BMI will leads to cycle irregularity. Junk foods are highly involved in mood swings and cycle irregularity. So, dietary habit and sedentary lifestyle of one individual may affect the menstrual cycle pattern. This can be prevented by maintaining good dietary habits like proper intake of healthy foods, healthy way of cooking meals (like steaming, boiling, poaching), avoid junk foods and trans-fat foods, do not skip any meal regularly and do not avoid any specific foods during menstrual cycle. Also, some lifestyle modifications by doing regular physical activities like yoga, aerobic and anaerobic exercises, playing with pets, dance and mainly should not sit in one place for longer time. This study can be further conduct after one month of nutritional education given. And more than 100 samples can also be assessed in future.

Reference

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