



INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

Impact of Nutrition Education Program on Dietary Pattern and Menstrual Cycle in Adolescent in Mumbai

Fiona Sampat, Dhvani Desai and Rupali Sengupta

Department of Post Graduate Studies

Post Graduate Diploma in Sports Science Fitness and Nutrition

Dr. BMN College of Home Science (Autonomous)

338, Rafi Ahmed Kidwai Rd, Matunga, Mumbai 400019

Abstract:

Nutrition Education Program helps individuals to make healthier food choices and choose a physically active lifestyle acquiring knowledge, skills, attitude and behavioural changes necessary. The aim of this study was to examine the impact of the Nutrition Education Program on dietary patterns and the menstrual cycle on adolescent girls. It is very necessary to have a healthy lifestyle. This is directly related to a woman's menstrual cycle. Changes in the lifestyle pattern will bring changes in the menstrual cycle. The main objective of this study was to analyze the current lifestyle pattern of adolescent girls and then educate them using the Nutrition Education Program. Subsequently a comparison of before and after the NEP would be taken to analyze the changes in the lifestyle pattern and its effect on the menstrual cycle.

A questionnaire consisting of 21 questions about menstrual cycle and their lifestyle patterns was applied. Factors like their age, sleeping pattern, dietary pattern, menstrual cycle details were considered and noted. The mean age of the subjects was 17 years. From the research it was observed that 15.6% of the participants have 7 hours of sleep. Majority of the girls i.e.; 46.6% were early risers, 31.1% girls were found to be neither too early nor too late risers, 17.8% girls

were late risers and 4.4% woke up according to their schedule for the day. 4.4% girls were Jain, 53.2% were pure vegetarian and 39.9% girls were non-vegetarian. An average of 44.4% of girls' menstrual cycle lasted for 5 days whereas 28.7% had their menstrual cycle last for 6 days. 30% had heavy flow and 47.5% were not following any of the medications.

A Nutrition Education Program was conducted using the online mode and the girls were imparted awareness on the importance of healthy dietary pattern and physical activity. Through constant follow-up via email, a gradual improvement in the dietary pattern and increased physical activity was seen. The females were more conscious about the food choices. Making these changes in their lifestyle the females can help prevent menstrual disorders like amenorrhea, oligomenorrhea, PCOD etc. Physical activity helped them relieve stress which in turn improved their menstrual cycles.

Key words: Nutrition Education Program (NEP), dietary pattern, menstrual cycle, amenorrhea, oligomenorrhea and lifestyle patterns.

Introduction: Nutrition Education Program helps individuals to make healthier food choices and choose a physically active lifestyle acquiring knowledge, skills, attitude and behavioral changes necessary. According to the Washington State Department of Social and Health Sciences nutrition education 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. It should provide an individual with a diet plan according to their nutritional needs and requirements keeping in mind their dietary preferences, allergies, pre-existing health conditions, genetics. The main goals of a nutrition education program are to create a positive outlook on healthier food choices, good nutrition and physical activity. It also should provide constant motivation to promote and maintain healthier lifestyle and improved nutrition in order to achieve best attainable wellness of an individual. It should contain a list of foods including the amounts to be consumed to fulfill the daily recommendations, the processes used by the body to receive these nutrients from the foods (digestion, absorption, metabolism etc.), behavioral practices like preparation techniques, factors influencing eating habits etc. It should also provide information on physical activities in addition to a nutrition plan. It should also give information on the role of nutrition,

healthy lifestyle and physical activity in preventing and managing disorders like diabetes, blood pressure, arthritis, menstrual problems etc.

Dietary pattern is the variety, quantity, combination and frequency of different beverages and foods that are consumed on a daily basis by an individual. In India, there is a vast variety of cultures, cuisines and foods available. Factors such as agricultural practices, social identity, religion and culture, economic status, geographical placement plays a major role in the dietary patterns of an individual. Having a healthy dietary pattern will help to maintain the recommended weight according to the age, height and BMI which in turn will help to prevent or maintain various weight-related disorders, diabetes, blood pressure, menstrual disorders.

Menstruation is a natural process that every female undergoes when she hits puberty. When a female reaches the age of puberty i.e.; approximately around 12 years, the body starts preparing for pregnancy. When this is not achieved, it sheds the lining of the uterus through the vaginal opening. This shedding of the uterine line along with the blood is known as menstruation. Many times, some females face problems due to imbalance of hormones, dietary imbalance, genetics. Disorders such as Polycystic Ovarian Disorder or Syndrome (PCOD/PCOS), amenorrhea, oligomenorrhea, premenstrual syndrome (PMS) can occur. Most of these disorders are caused by hormonal imbalance which is indirectly caused due to poor food choices, unhealthy lifestyle. This imbalance can be corrected with the help of a balanced diet, appropriate portion sizes, physical activity and an overall healthy lifestyle. Menstrual pain is one of the most common symptoms faced by females, especially adolescents. In addition, it is accompanied by mood changes, low energy, lethargic feeling, nausea, vomiting, poor appetite, poor sleep quality. If one consumes appropriate foods and beverages which provide adequate energy and micro nutrients to the females, these symptoms can be reduced or controlled. When blood is lost during menses, iron is also lost subsequently. This leads to many iron deficiency related disorders like anemia in females. This deficiency can be managed with the help of iron therapy and improvement in dietary habits. If one has a family history of dealing with menstrual disorders, chances of them facing the same are also high. Though genetics cannot be modified or altered, precautions can be taken to curb and prevent these disorders. Eating healthy, maintaining a proper schedule, and performing physical activity on a daily basis will be helpful.

Methodology:

Sample size: 46

Study population: 12 – 18 year-old girls

Study design: Cross-sectional study

Theme: Comparative study

Collection of Data: Via Questionnaires

(Age, Diet preferences, Schedule, Lifestyle Pattern, Menstrual Cycle Details)

A questionnaire consisting of 21 questions about menstrual cycle and their lifestyle patterns was applied. Factors like their age, sleeping pattern, dietary pattern, menstrual cycle details were considered and noted. All these parameters were carefully analyzed.

A Nutrition Education Program was conducted using the online mode and the girls were imparted awareness on the importance of healthy dietary pattern and physical activity. Through constant follow-up via email, a gradual improvement in the dietary pattern and increased physical activity was seen. The subjects were more conscious about the food choices. Making these changes in their lifestyle the females can help prevent menstrual disorders like amenorrhea, oligomenorrhea, PCOD etc. Physical activity helped them relieve stress which in turn improved their menstrual cycles.

Results: A questionnaire consisting of 21 questions about menstrual cycle and their lifestyle patterns was applied. Factors like their age, sleeping pattern, dietary pattern, menstrual cycle details were considered and noted. The mean age of the subjects was 17 years. From the research it was observed that 15.6% of the participants have 7 hours of sleep. Majority of the girls i.e.; 46.6% were early risers, 31.1% girls were found to be neither too early nor too late risers, 17.8% girls were late risers and 4.4% woke up according to their schedule for the day. 4.4% girls were Jain, 53.2% were pure vegetarian and 39.9% girls were non-vegetarian. An average of 44.4% of girls' menstrual cycle lasted for 5 days whereas 28.7% had their menstrual cycle last for 6 days. 30% had heavy flow and 47.5% were not following any of the medications. A gradual improvement in the dietary pattern and increased physical activity was seen. The females were more conscious about the food choices. Making these changes in their lifestyle the females can help prevent menstrual disorders like amenorrhea, oligomenorrhea, PCOD etc. Physical activity helped them relieve stress which in turn improved their menstrual cycles.

Conclusion and Discussion: It is very important to have proper knowledge about nutritional education as it provides proper visual and verbal information related to nutrition that are ignored or overseen by an individual. Nutrition education program helps the young females to overcome the problems related to PCOS, PCOD, amenorrhea etc. and allows them to seek proper medical assistance and also helps to cope with the problems associated with the menarche and menstrual cycles. A good nutrition program helps in maintaining and managing physical health, and many other cognitive abilities. An effective and useful program helps the individual overcome their nutritional shortcomings and by making it easy to understand and follow them in day to day lives. Therefore, it can be concluded that it is of utmost importance to provide a nutrition education program to every individual. For young adults and adolescents, it can be added in their school learning experience so as to imbibe the value of it through a young age which can be inculcated in their daily lifestyle. Hence it can be concluded that a good nutrition during the adolescent years will not only help to achieve full growth potential but significantly helps in optimal health and prevention of adult chronic diseases.

References:

- *Dietary patterns in India: a systematic review.* (2016, July 14). PubMed Central (PMC). <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4890343/>
- *Menstrual abnormalities and their association with lifestyle pattern in adolescent girls of Garhwal, India.* (2018, July). PubMed Central (PMC). <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6132013/>
- *A study on menstruation of Indian adolescent girls in an urban area of South India.* (2018, July). PubMed Central (PMC). <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6132001/>
- Park, S. (2021, February 9). *Effects of a dietary modification intervention on menstrual pain and urinary BPA levels: a single group clinical trial.* BMC Women's Health. <https://bmcwomenshealth.biomedcentral.com/articles/10.1186/s12905-021-01199-3>
- *Menstrual differences due to vegetarian and non vegetarian diets.* (1991, April 1). A B Pedersen, M J Bartholomew, L A Dolence, L P Aljadir, K L Netteburg, T Lloyd. <https://academic.oup.com/ajcn/article-abstract/53/4/879/4715064>

- *Improving Life Style among Nursing Students Regarding Menstrual Disorders through an Educational Training Program.* (2017). Amira Refaat Said, Mervat Gaber Mettwaly. <https://fnur.stafpu.bu.edu.eg/Maternal%20and%20Newborn%20Health/1832/publications/Amira%20Rafaat%20Saeed%20Ahmed%20paper%203%20dysmenorrhea.pdf>
- Krummel, D. A., & Kris-Etherton, P. M. (1996). Nutrition in women's health. Aspen Publishers.
- Cross, G. B. (2007, March 9). *Changes in nutrient intake during the menstrual cycle of overweight women with premenstrual syndrome* / *British Journal of Nutrition*. Cambridge Core. <https://www.cambridge.org/core/journals/british-journal-of-nutrition/article/changes-in-nutrient-intake-during-the-menstrual-cycle-of-overweight-women-with-premenstrual-syndrome/79B64C88942C78A3BCF9A715787B618D>
- *Nutrition Education* / DSHS. (2021). Retrieved 4 July 2021, from <https://www.dshs.wa.gov/altsa/program-services/nutrition-education>

