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Research Article

Anthropometry of Female Athlete: An Epidemiological Observational Study

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Abstract

Every one of human being is an athlete. In our country many women are serving and exercising regularly. The aim of this research was to explore dietary pattern and nutritional status of female athletes in Bangladesh. This study was a cross-sectional study. About 100 samples were taken randomly and interviewed with pretested structured questionnaire. WHO BMI cut off value for Asian was used. The mean age of respondents was 22±3 years. No underweight and obese was seen. About 76% respondents were normal regarding nutritional status and 24% were overweight. The study result should not be generalized and need further large scale research.

Keywords: anthropometry; athlete; WHO; BMI; RMR

Introduction

Eating habits have influence on athlete's performance. Several factors should be considered in order to plan a suitable nutritional planning, among them the energetic suitability of the diet, the macronutrients distribution and the supply of adequate quantities of vitamins and minerals. Moreover, the athlete's diet should be established according to individual needs, frequency and training intensity and duration [1]. It is known that the high increase of the physical exertion derived from daily exercise and dietetic inadequacy expose the physical activity practitioners to organic problems [2]. Anemia, bone mineral loss and eating disturbs cases related to athletes of both sexes have been registered, as well as amenorrhea, as the main dysfunctions that occur with athletes [3-6]. Generally, eating disturbs are not uniform among athletes, what actually occurs is an expected behavior of deficiencies according to the modality evaluated, especially fights [7], Olympic gymnastics [8] and marathon [9]. Aiming to identify such nutritional deficiencies, one of the proposed strategies is the verification of the energetic consumption and its distribution, besides the macronutrients amount consumed, especially calcium and iron [2]. The aim of this work was to assess anthropometrical measurement of female athletes in Bangladesh.

Methods

This cross-sectional study was conducted at Gazipur and the population of the study was the female athletes of academy. Face to face interview was taken to collect data. Convenient sampling technique was used. SPSS 20.0 version was used to analyze data. Sample was 100 which seem to be representative regarding the study topic. Firstly, a questionnaire was developed in accordance with the study objective to obtain relevant information on the socioeconomic status, food frequency and anthropometric measurement. The questionnaire was pretested. I took interview individually. Our group members asked them the questions and filled the answers and also measured them physically. Weight machine and Height measuring stand were used. After data collection, data were sent to the researcher, which was sorted, scrutinized by the researcher by the selection criteria and then data were analyzed by personal computer by SPSS version 22.0 program.

Results

The mean age of respondents was 22±3 years. Most of them passed SSC examination and married. Mean income of respondents was 7000.44 BDT/month (Table 1). No underweight and obese was seen. About 76% respondents were normal regarding nutritional status and 24% were overweight (Figure 1). In breakfast almost all took ruti/bread, egg, fruits and tea and during lunch rice, fish, dal, leafy vegetables, non-leafy vegetables, potato, meat and fruits were taken 56%, 36%, 62%, 36%, 36%, 20%, 14% and 16% respondents respectively. In dinner rice, dal, vegetable, meat, milk, salad were taken 60%, 50%, 60%, 60%, 56%, 66% respondents respectively (Table 2).

Items	Frequency (%)	Mean (±SD)
Mean age in years		22±3

Educational level		
SSC	72(72.0)	
HSC	20(20.0)	
Graduate	8(8.0)	
Marital status		
Single	76(76.0)	
Married	24(24.0)	
Monthly Income in Taka		7000.44 (±400)

Table 1: Socio-demographic characteristics of the study subjects.

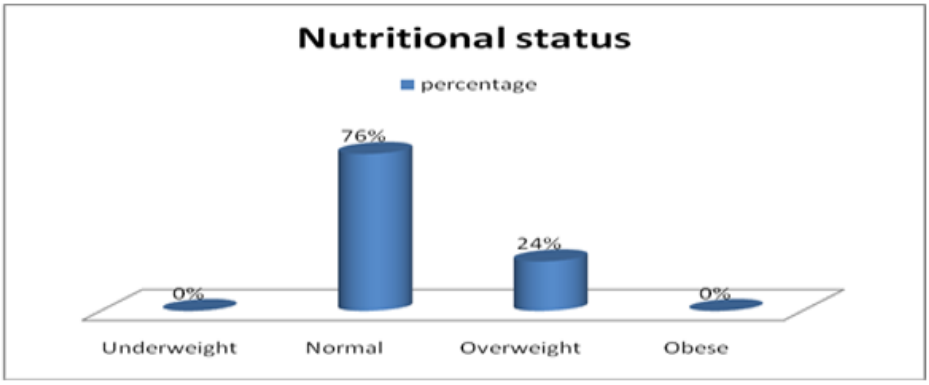

Figure 1: Anthropometry of respondents.

Food items	Percentage		
	Breakfast	**Lunch**	**Dinner**
Rice	0	56	60
Ruti/bread	100	0	20
Fish	0	36	20
Dal	0	62	50
Leafy vegetables	20	36	60
Non leafy vegetables	20	36	60
Potato	0	20	10
Meat	0	14	60
Milk	0	0	56
Egg	100	0	0
Juice	0	0	16
Salad	0	6	66
Fruits	100	16	14
Tea	78	0	0

Table 2: Food habit of respondents.

Discussion

No underweight and obese was seen in present study. About 76% respondents were normal regarding nutritional status and 24% were overweight. But US women, including female athletes, are under ever increasing pressure to be thinner. This pressure to achieve and maintain a low body weight leads to potentially harmful patterns of long-term dieting or disordered eating, which can affect long-term health [10]. Some of the health consequences of long-term energy restriction in female athletes may include poor energy and nutrient intakes, poor nutritional status, decreased RMR and total daily energy expenditure, increased psychological stress and risk for a clinical eating disorder, and increased risk for exercise-induced amenorrhea and osteoporosis [10]. Female athletes participating in thin-build sports may be at risk for the disorders of the female athlete triad: disordered eating, amenorrhea, and osteoporosis [10]. This triad of disorders can also produce severe health consequences that can influence present and future health [10]. Strategies for helping active women get off the dieting "bandwagon" requires the identification of an appropriate and healthy body weight, good eating and exercise habits, and techniques for maintaining these habits throughout life10. The present study showed that in breakfast almost all took ruti/bread, egg, fruits and tea and during lunch rice, fish, dal, leafy vegetables, non-leafy vegetables, potato, meat and fruits were taken 56%, 36%, 62%, 36%, 36%, 20%, 14% and 16% respondents respectively. In dinner rice, dal, vegetable, meat, milk, salad were taken 60%, 50%, 60%, 60%, 56%, 66% respondents respectively. A study was done to compare the body weight concerns and dieting practices of female collegiate athletes participating in aesthetic, endurance, and team/anaerobic sports. Participants consisted of 425 female athletes from 7 universities across the United States. Body weight concerns and dieting practices were assessed by the Eating Attitudes Test (EAT-26), the Eating Disorder Inventory Body Dissatisfaction Subscale (EDI-BD), and a weight and dieting history questionnaire [11].

Conclusion

Actually, we did study on small sample and this is why study result may not be reflected all over country. To get more precise result large scale study can be done.

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