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Chandana Eswar
Research Scholar, University
College of Physical Education,
Bangalore University Bangalore-
560056, Karnataka, India

Sundar Raj Urs
Professor, University College of
Physical Education, Bangalore
University Bangalore - 560056,
Karnataka, India

Menstruation: Level of awareness on premenstruation and the prevalence of menstrual syndromes among college going women athletes and non-athletes

Chandana Eswar and Sundar Raj Urs

Abstract

This study assesses the level of awareness of Premenstrual Syndrome (PMS) and the prevalence of menstrual syndromes in college going women athletes and non athletes. A structured questionnaire was used to collect data on the respondents socio-economic and physical activity profile, details of their menstrual cycle and awareness on PMS. The Menstrual Distress Questionnaire (MDQ) was incorporated in this to understand prevalence of menstrual syndrome across the different phases of menstruation. Forty two students in pre university from BMS College for Women, Bangalore, aged between 15-17 years were selected of which 30 were athletes and 12 were non-athletes. The results showed that none of the students except for one was aware about PMS, yet prevalence results showed that students had reported symptoms during all three phases of menstrual cycle. However, comparing results among athletes and non-athletes, it was seen that there was not much of a difference in symptoms reported during the Premenstrual and Intermenstrual phases, where as there was a prominent difference in Pain and Control reported during Menstrual phase. The study highlights the need to increase the awareness among students about menstruation and it also shows the importance of including physical activity in daily routine for a healthy lifestyle.

Keywords: Premenstrual syndrome (PMS), awareness, prevalence, psycho-physiological symptoms

1. Introduction

India has one of the fastest growing populations in the world, Girls below 19 years of age comprise one quarter of India's rapidly growing population. In the period of adolescence, individuals go through physical and psychological maturity and acquire their adult identity and hence special attention and care is required. Menstruation is one of the most significant phases of a women's life. On an average a women menstruates quarter of her fertile life, during this period she is able to bear children.

Menstruation is a natural monthly cycle associated with reproduction in humans and other mammals during which vaginal discharge and psycho-physiological discomfort occurs. The bleeding can last from two to seven days. Menstruation is experienced by women between puberty and menopause and can start between the age of 8 and 18 and last until ages 40 to 60 years. The menstrual cycle on an average is about 28 days, though it can vary considerably from one individual to another. The menstrual cycle consists of three phases - Menstrual phase, which lasts for 2 - 7 days is when the blood flows; Premenstrual phase, lasts for 5-10 days prior to the menstrual phase and usually go away once menstruation occurs, Premenstrual Syndrome (PMS) can affect menstruating women of any age and the effect is different for each woman; and Intermenstrual phase is the remainder of the cycle. Each phase of the menstrual cycle has a different function and are regulated by several hormones, which can explain the variations in cycle length. Change in hormones during menstruation, chemical changes in the brain, stress and emotional problems, low vitamins and minerals level, food habits and lifestyle may make it worse. Increased family tension, poor knowledge and poor experience with menstruation, lack of acceptance of the feminine psychological role in women leads to inability of her to cope with her daily life, with a drop in her level of productivity and absence of interest in any kind of social interactions which has a huge impact on her emotional wellbeing.

Correspondence

Chandana Eswar
Research Scholar, University
College of Physical Education,
Bangalore University Bangalore-
560056, Karnataka, India

PMS was defined in 1983 as "marked change in intensity of symptoms measured daily from cycle days 5 to 10, compared to the intensity within the six-day interval prior to menses, for at least two consecutive cycles". In a study by P. Leher, S. A. Pal and L. Dennerstein on Pakistani women show that premenstrual symptoms predominate in the premenstrual experience have a significant impact on their daily life activities. There are studies which show that 30% to 90% of the women report some or the other physical or emotional premenstrual symptomatology, however, only 2% to 15% report severe symptoms.

A study in Saudi Arabia conducted by Rasheed *et al.* to study the prevalence and predictors of PMS among 464 college-age women at a university in Dammam. A self report questionnaire was used as the tool to determine which bio-psychosocial and dietary factors influenced the PMS score. It was seen that at least one PMS symptom was experienced by 448 women (96.6%), and 176 (37.5%) had a high symptom severity score. PMS frequency was significantly associated with a maternal history of premenstrual syndrome, self-perception of mental stress, physical activity, consumption of sweet-tasting foods, and coffee, but these factors only explained 14% of the variability in the multiple regression model.

2. Purpose of the Study

It is important that young girls know what are the psycho-physiological changes which occur in their body during adolescence. The first objective of the study was to obtain information on the level of awareness on PMS. Also, the extent to which the symptoms are experienced during the three menstrual phases, is different for every individual. This is influenced to an extent by one's lifestyle choices such as involving in physical activity. Thus the second objective of the study is to understand the prevalence of menstrual syndromes during the different phases of the menstrual cycle and the influence of physical activity on this.

2.1 Methodology

There were 42 respondents which consisted of athletes (n = 30) and non-athletes (n = 12). The respondents were students from BMS College for Women, Bangalore studying in pre university. All respondents were aged between 15-17 years. To assess awareness on PMS a structured questionnaire was used to collect data on the respondents socio-economic and physical activity profile, details of their menstrual cycle and awareness on PMS. The Menstrual Distress Questionnaire (MDQ) which assesses 8 psycho-physiological menstrual symptoms i.e. Pain, Water Retention, Autonomic Reaction, Negative Affect, Impaired Concentration, Behavior Change, Arousal and Control was incorporated in this to understand prevalence of menstrual syndrome across the different phases of menstruation. The questionnaire was administered after an awareness talk on menstruation was given. The subjects were given instructions on how to fill the questionnaire and any doubts were clarified immediately.

3. Results

3.1 Awareness about PMS

The results showed that none of the students except for one was aware about PMS. In response to the question on what is their understanding of PMS, the responds have given varied answers which does not encompass the notion that PMS is a phase that occurs just before menstrual flow. Though the respondents seem to relate PMS to the menstrual cycle, as in their answers they mentioned about PMS being a women's issue, it helping in reproduction, it occurs regularly, it having an age limit, and that it is related to good health. This also implies that the respondents have some knowledge but do not have complete knowledge about menstruation. The only respondent who was considered to be aware, had mentioned that PMS occurs before the menstrual phase.

3.2 Prevalence of symptoms in the different phases of Menstrual Cycle

3.2.1 Menstrual Phase

Table 1: Prevalence of Menstrual symptoms among Athletes and Non-Athletes in Percentage

	Pain	Water Retention	Autonomic Reaction	Negative Affect	Impaired Concentration	Behavior Change	Arousal	Control
Athletes	30	13.33	40.00	40.00	70.00	73.33	16.67	16.67
Non-Athletes	66.67	25.00	41.67	41.67	66.67	66.67	25.00	50.00

From the above table the following aspects related to the menstrual phase has been obtained, Impaired Concentration and Behavior Change is reported by maximum number of respondents (approximately 70% of athletes and 67% of non-athletes). Autonomic Reaction and Negative Affect is reported by approximately 40% of athletes and non-athletes. A

prominent difference is seen in Pain and Control among the two groups. While 30% of athletes report pain 66.67% of non-athletes have reported pain. Similarly in the case of control 16.67% athletes and 50% of the non-athletes have reported it as depicted in the figure below.

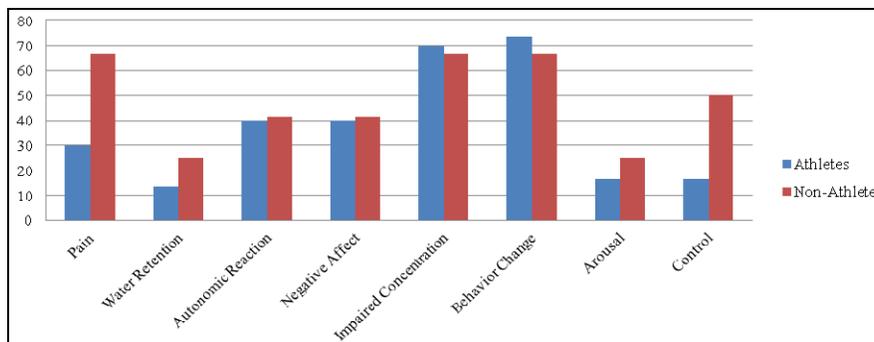


Fig 1: Prevalence of Menstrual symptoms among Athletes and Non-Athletes in Percentage

3.2.2 Premenstrual Phase

Table 2: Prevalence of Premenstrual symptoms among Athletes and Non-Athletes in Percentage

	Pain	Water Retention	Autonomic Reaction	Negative Affect	Impaired Concentration	Behavior Change	Arousal	Control
Athletes	30	3.33	43.33	33.33	36.67	40.00	16.67	23.33
Non-Athletes	25	0	50	25	33.33	41.67	16.67	41.67

From the above table the following aspects related to the premenstrual phase has been obtained, among athletes 30% reported pain, 43.33% reported autonomic reaction and 40% reported behavior change. The same among non-athletes reported at 25%, 50% and 41.67% respectively. Water

retention is the least reported by 3.33% athletes and none of the non-athletes. Thus in the Premenstrual phase nearly all of the symptoms are prevalent to the same extent except for water retention as depicted in the figure below.

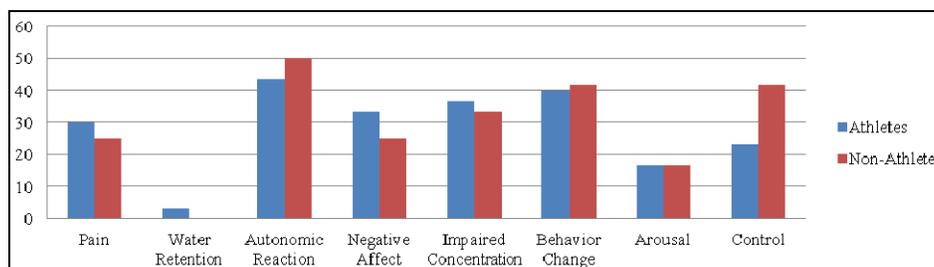


Fig 2: Prevalence of Premenstrual symptoms among Athletes and Non-Athletes in Percentage

3.2.3 Intermenstrual Phase

Table 3: Prevalence of Intermenstrual symptoms among Athletes and Non-Athletes in Percentage

	Pain	Water Retention	Autonomic Reaction	Negative Affect	Impaired Concentration	Behavior Change	Arousal	Control
Athletes	23.33	3.33	16.67	10.00	26.67	13.33	60.00	23.33
Non-Athletes	25	8.33	25.00	8.33	25.00	16.67	58.33	33.33

From the above table the following aspects related to the intermenstrual phase has been obtained, arousal is the most prominent symptom reported by approximately by 60% of the

athletes and 58.33% of non-athletes. This is followed by pain, impaired concentration and control as depicted in the figure below.

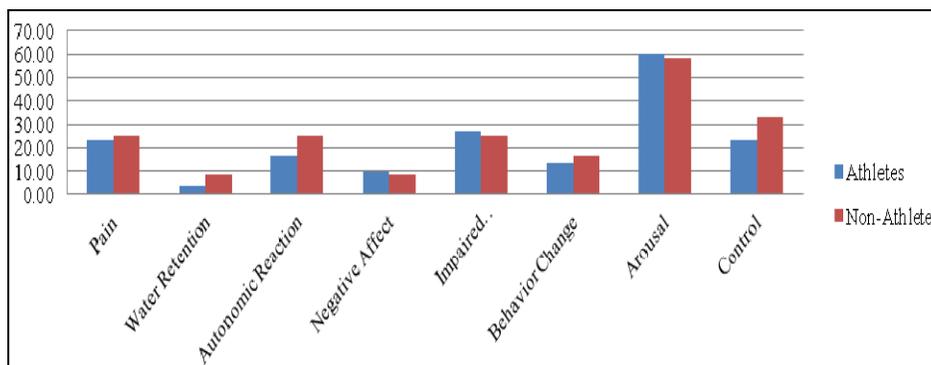


Fig 3: Prevalence of Intermenstrual symptoms among Athletes and Non-Athletes in Percentage

Thus there is a change in the symptoms reported during the different phases of the menstrual cycle. Water Retention is the least reported in all three phases. On comparing results among athletes and non-athletes, it is seen that there is not much of a difference in symptoms reported during the Premenstrual and Intermenstrual phases, where as there is a prominent difference in Pain and Control in the Menstrual phase reported.

4. Conclusions

Although the respondents were not aware about PMS or menstruation, they have reported symptoms during all three phases of the menstrual cycle. This puts forth the need to

immensely increase the awareness among students which will help them to take remedial action for better health. This study found that there was a prominent difference between the prevalence of psycho-physiological symptoms amongst athletes and non-athletes during the menstrual phase. This is probably because exercising regularly has most of the time helped in keeping the mind and body in harmony which in turn keeps the individual healthy. Participation in sports has also been linked to enhancement in willpower and mental toughness which might have a high possible reason for the obtained results. Thus this shows the importance of including physical activity in daily routine for a healthy lifestyle.

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