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Prevalence of menstrual problems associated with stress in female students

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ABSTRACT

Background

The aim of my research is to identify the prevalence of menstrual problems associated with stress in female students. This research mainly focuses on the menstrual problems and the PMS experienced by a female which can be predominantly caused due to high-stress levels. Extensive research on this specific topic would help bring about more awareness in the young naïve female population. These ill effects may usually be experienced by the female in the form of variation of the cycle length, menstrual problems, PMS. The most common menstrual problems are: Dysmenorrhea, Menorrhagia, Oligomenorrhea, Amenorrhea, Premenstrual problems. PMS include: Mood swings, breast tenderness, fatigue, depression.

Methods

A survey study was conducted globally via e – survey between October 2021 and November 2021. 78 female students completed the perceived stress scale questionnaire, menstrual problems, and premenstrual syndrome identification questionnaire. Out of the 78 participants, 48 participants fall into the category of moderate stress levels and the remaining 30 participants fall into the category of high-stress levels. The entire population that suffers from high-stress levels experiences menstrual problems and premenstrual syndrome.

Results

The study shows that the females with higher stress levels show multiple menstrual problems and experience premenstrual syndrome symptoms compared to the population of the females with lesser stress levels.

Conclusion

Based upon the response, females with high-stress levels suffer multiple menstrual problems and also experience PMS. Educating young females to get a better understanding of the working of the female reproductive system, menstrual cycle, the problems faced by females during menstruation.

Keywords: Global e-survey, menstrual problems, PMS, perceived stress scale, high stress levels.

INTRODUCTION

Unlike men, a female's reproductive system undergoes regular cyclic alterations that might be viewed as teleologically as periodic preparation for pregnancy and fertilisation. The cycle is a menstrual cycle in primates and humans, and the most noticeable aspect is the periodic vaginal bleeding that occurs with the loss of uterine mucosa (menstruation). The length of the menstrual cycle varies widely, but on average, it lasts 28 days from the start of one period to the start of the next. Beginning with the first day of menstruation, the days of the cycle are indicated by number. It begins during puberty, which occurs between the ages of 10 and 16, and stops with menopause, which occurs at the age of 51 on average. Menstruation as it should be,

The endometrial layer, which has changed over the menstrual cycle, is unable to maintain itself when hormone levels drop. This is known as menses, and it lasts from the first to the fifth day of the next menstrual cycle. Menstruation can last anywhere from a few days to a few weeks. Menstrual blood is primarily arterial, with venous blood accounting for only 25% of the total volume. Prostaglandins, tissue debris, and a significant amount of fibrinolysis from endometrial tissue are all present. Because fibrinolysis breaks down clots, menstruation blood rarely contains clots unless the flow is particularly thick.

Menstrual flow usually lasts 3-5 days, although it can last as little as 1 day or as long as 8 days in a healthy woman. Blood loss might range from little spotting to 80 mL, with 30 mL being the average. A blood loss of more than 80 mL is deemed abnormal. Medications, the thickness of the endometrium, blood disorders, and blood coagulation disorders, among other things, can all impact the volume of blood flow. [I]

MENSTRUAL ISSUES

Dysmenorrhea, premenstrual symptoms, menorrhagia, polymenorrhea, atypical vaginal bleeding, amenorrhea, oligomenorrhea, and irregular menstruation are all examples of menstrual disorders.

3 Studies have revealed that a high number of women of reproductive age suffer from menstruation-related health problems.

4-6 Menstrual issues are not only costly, but they are also one of the leading causes of absenteeism and poor academic performance among young women.

7-9 Dysmenorrhea is one of the most common menstruation issues in adolescence, 5-7 and it can lead to bed-bound women. 10 Devis et al11 found that 20-90 percent of adolescent girls suffer from dysmenorrhea, with over 15 percent of those suffering from severe dysmenorrhea. Premenstrual syndrome is another menstruation issue that might interfere with a woman's daily activities (PMS). The pooled prevalence of PMS was determined to be 47.8% in a systematic review. 12 Menstrual problems include menorrhagia, irregular uterine bleeding, and polymenorrhea account for about 12% of gynaecological referrals and are typically associated with a high likelihood of surgical intervention. 13 According to Coulter et al14, 60% of women had a hysterectomy within 5 years of receiving a referral for menorrhagia.

Age, ethnicity, family history, smoking, physical activity, and nutritional choices are among factors that can impact menstrual patterns. 15 Stress has been linked to different menstrual irregularities, including menorrhagia, oligomenorrhea, dysmenorrhea, and PMS, and has been linked to stress. 16,17 Furthermore, students pursuing medicine and health studies have been found to have a significant rate of menstrual issues. 6,18,19 The majority of health science students said they are under constant and chronic academic stress as a result of their studies and exams,20 leading to unfavourable health outcomes such as menstrual issues in women.

In the literature, there are a few studies on the prevalence of menstruation issues and their link to psychological stress. Most existing research, on the other hand, either used a small sample size or did not use a validated stress questionnaire. As a result, the current study was created to fill this void. Using a validated perceived stress scale questionnaire, the purpose of this study is to see if there is a link between psychological stress and menstruation issues (PSS10). 21 The findings will aid in the investigation of this link as well as the development of methods to improve psychological and reproductive health. [II]

METHODS AND METHODOLOGY

A cross-sectional study was conducted from October 2021 to November 2021 globally. This survey included females who are currently receiving education, the individuals first completed the Perceived stress scale and then they filled in an questionnaire for their menstrual health and problems. Both the questionnaires were co-related. The population was divided into 3 groups according to the Perceived stress scale classification. Then the symptoms are co-related according to the score on the perceived stress scale.

DATA COLLECTION TOOLS

The data collection sheet consist of a two questionnarie's, first quest, The respondents were informed about the aim of the study as well as the fact that participation in the questionnaire was completely voluntary.

The data collection sheet consists of two questionnaires, the first questionnaire assessed the stress of the individual using the Perceived stress scale, the stress was calculated at the end of the questionnaire. The entire population was then divided into 3 groups according to the Perceived stress scale classification. Secondly, the individual took a questionnaire regarding their menstrual health, problems faced by the individual during menses, and also the premenstrual symptoms they experience. The findings of both the questionnaires of an individual were co-related. The symptoms were then co-related to the stress score of the individual. The menstrual health questionnaire was validated by the Institutional ethics committee. All the data was entered into a database on Microsoft Excel, Microsoft Word and Microsoft Excel was used to generate tables and graphs.

Questionnaires

PERCIVED STRESS SCALE

For each question choose from the following alternatives:

0 - never 1 - almost never 2 - sometimes 3 - fairly often 4 - very often

1. In the last month, how often have you been upset because of something that happened unexpectedly?
2. In the last month, how often have you felt that you were unable to control the important things in your life?
3. In the last month, how often have you felt nervous and stressed?
4. In the last month, how often have you felt confident about your ability to handle your personal problems?
5. In the last month, how often have you felt that things were going your way?
6. In the last month, how often have you found that you could not cope with all the things that you had to do?
7. In the last month, how often have you been able to control irritations in your life?
8. In the last month, how often have you felt that you were on top of things?
9. In the last month, how often have you been angered because of things that happened that were outside of your control?
10. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?

MENSTRUAL HEALTH QUESTIONNAIRE

1. How regular are your menses?
   a. Regular
   b. Often delayed
   c. Occur prior to date
   d. Skipped

2. Cycle length
   a. < 21 days
   b. 21 - 27 days
   c. 28 - 35 days
   d. > 35 days

3. Duration of flow in days
   a. <3 days
   b. 3 - 5 days
   c. 5 - 7 days
   d. > 7 days

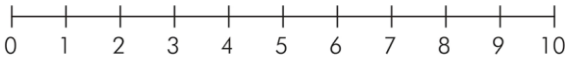
4. Menstrual blood loss
   a. Light
   b. Moderate
   c. Heavy

5. Do you experience premenstrual symptoms
   a. Yes
   b. No

6. If 'YES', which of the following symptoms do you experience?
   a. Mood swings
   b. Headache, generalized pain
   c. Breast tenderness
   d. All

7. Do you experience cramps during your menses?
   a. Yes
   b. No

8. On a scale of 0 - 10 mark the intensity of pain



DEMOGRAPHIC VALUES

Variables	Number of participants	% of participants
AGE		
10 – 15	1	1.3 %
16 – 20	29	37.7 %
21 – 25	46	59.8 %
26 – 30	1	1.3%
PSS SCORE	**Number of participants**	**% of participants**
Mild Stress	0	0 %
Moderate Stress	46	46 %
High perceived stress	33	33 %

RESULTS

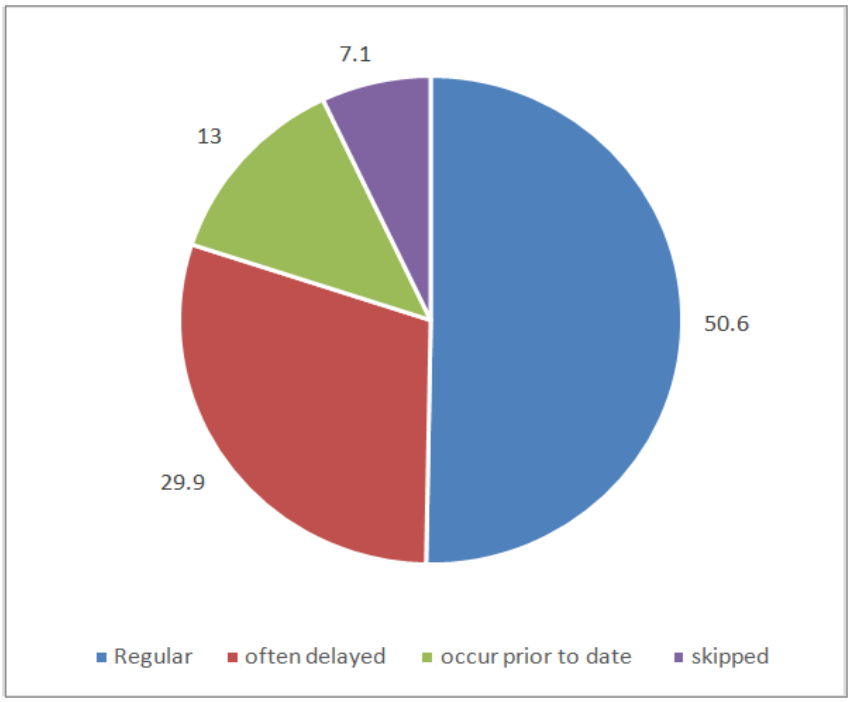


Fig 1: Regularity of the menstrual cycles

50.6% of the population have a regular cycle length. 29.9% of the population have a longer cycle. 13% of the population have a shorter cycle length. And 7.1% of the female student population skip their expected date.

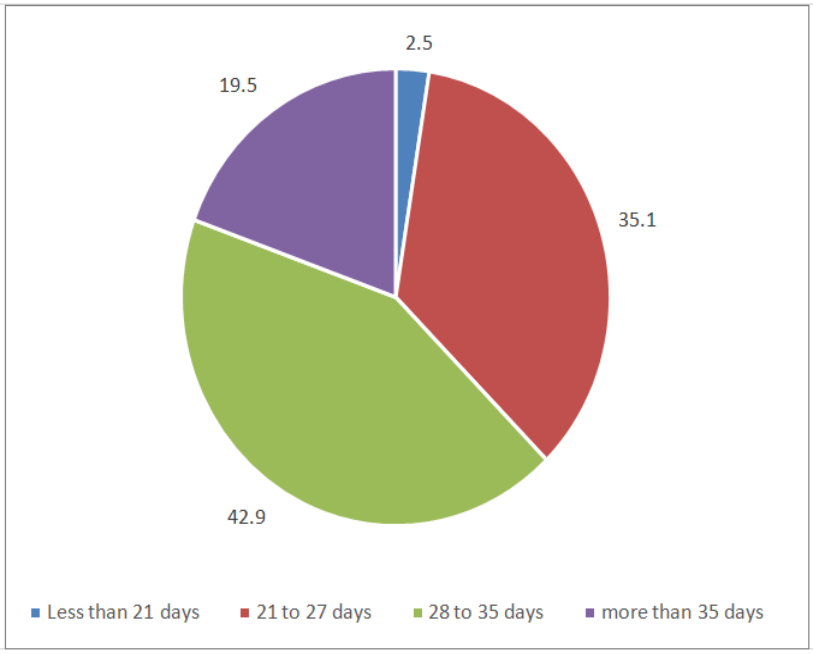


Fig 2: length of the cycle

35.1% of the population has a normal cycle length that is of 21 days to 27 days. 42.9% of the population has a cycle length of 28 days – 35 days, that is a slight increase in cycle length. 19.5% of the population have a larger cycle length ie. more than 35 days. Only 2.5% of the female student population have a shorter cycle length of 21 days.

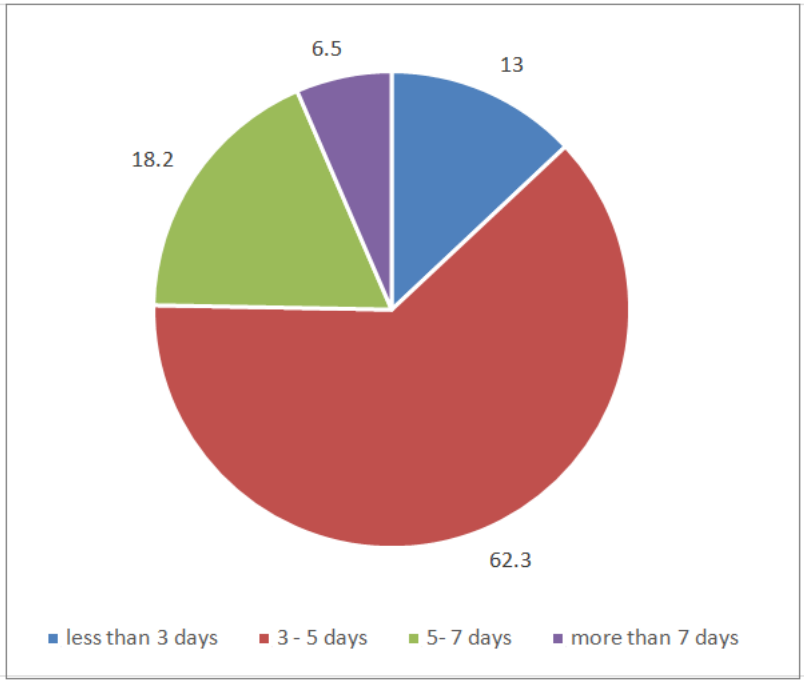


Fig 3: Duration of menstrual

Fig 3 shows duration of menstrual flow in days of the female student population. 6.5% of the female population experiences flow more than 7 days. 18.2% of the population experiences floe between 5 days – 7 days. A majority of the population ie. 62.3% experiences flow between 3 – 5 days. And, 13% of the population experiences flow for less than 3 days.

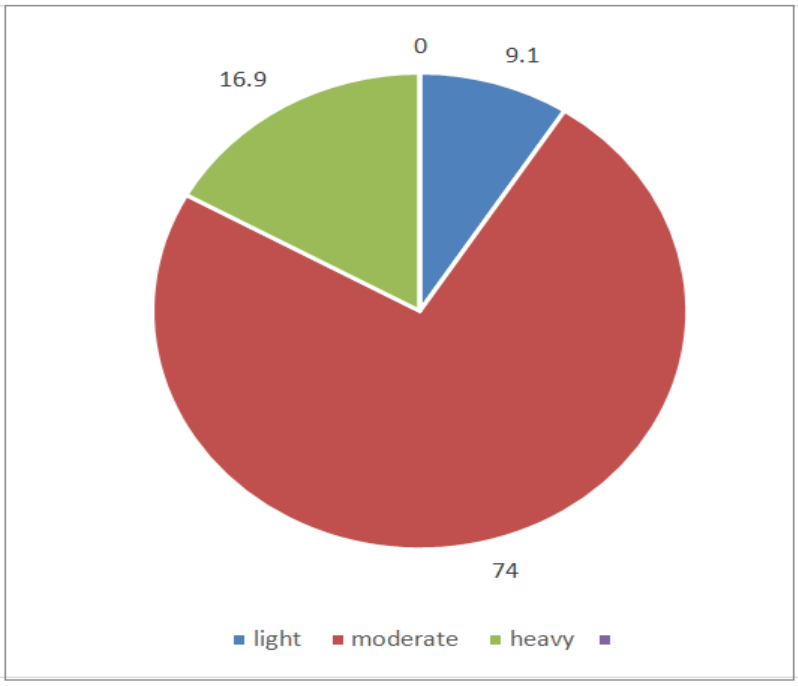


Fig 4: Blood loss

Fig 4 shows the amount of blood loss in the female student population. Majority of the population ie. 74% has moderate menstrual blood flow. 16.9% of the population experiences heavy menstrual blood loss. And, 9.1% of the female student population experiences light menstrual blood flow.

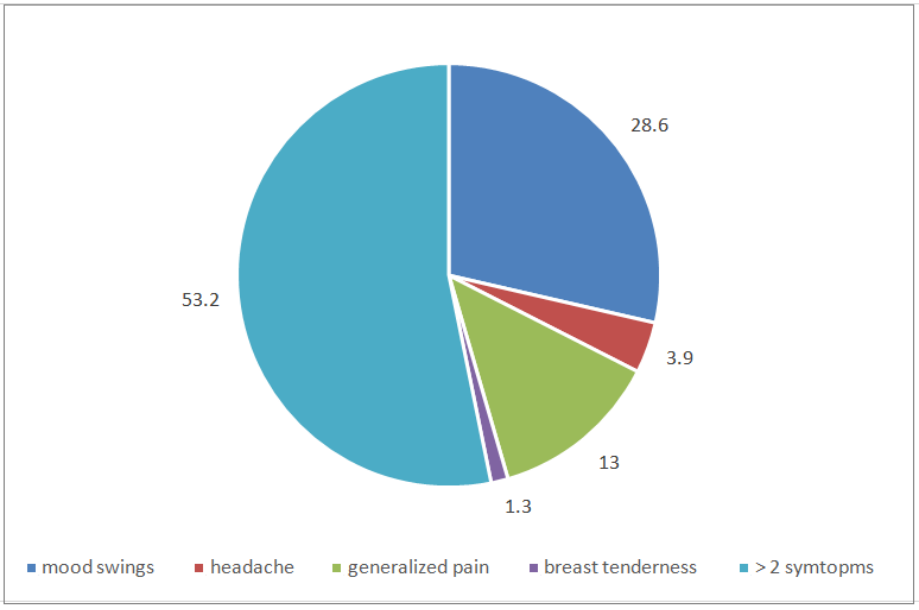


Fig 5: Various symptoms

Fig 5 shows the various symptoms experienced by the female student population during the premenstrual phase. 28.6% of the population experiences mood swings. 13% of the population experience any kind of generalized pain. 3.9% of the female student population experiences headaches during PMS. 1.3% of the population experiences breast tenderness. And, majority of the population experiences more than 2 of the above-mentioned symptoms.

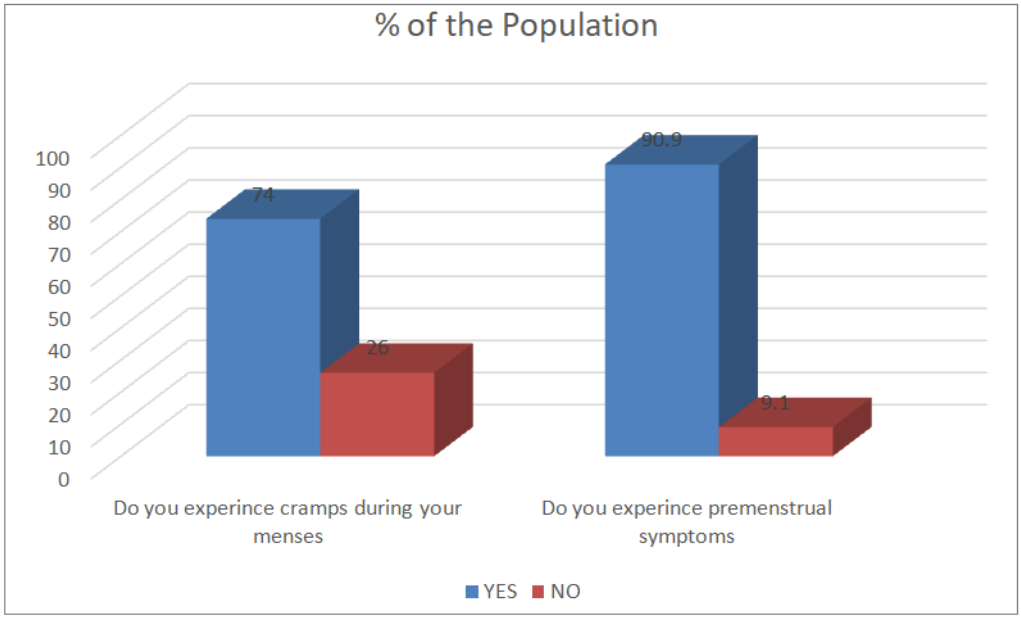


Fig 6: % of the population

Fig 6 shows the percentage of the population who experience cramps during menses, ie. 74% of the female student population experiences cramps during menses and the remaining 26% of the population doesn't experience cramps during their menses. This table also shows the percentage of the population who experiences premenstrual symptoms. 90.9% of the population experiences PMS and the other 9.1% of the population doesn't experience premenstrual syndrome.

DISCUSSION

In the present study, we aimed on assessing the menstrual problems associated with stress in the female student population.

The study assessed the stress of the student female population, and also their menstrual health and premenstrual symptoms were assessed by a questionnaire directed towards menstrual cycle information of the subject and if they experience premenstrual symtopms, if yes – then what kind. The entire population was divided into 3 categories according to the stress they percived and their menstrual problems and premenstrual symtopms were co related.

The study shows that stress does have a significant effect on a female's menstrual health. The female students who are under a higher amount of stress experience more and severe menstrual problems the same applies to the premenstrual symptoms they experience. Thus the study moves our attention towards educating the female student population on how stress affects their menstrual health and how they can take various measures to manage stress in turn preventing further excessive menstrual problems.

This project successfully developed a validated questionnaire to asses menstrual problems and premenstrual symptoms associated with stress.

CONCLUSION

According to the responses collected the study indicated that stress does affects the female menstrual health. This necessaries awareness regarding stress management. If such a awareness is created amongst the female population and this will prove helpful in reducing menstrual problems. This practice would thus lead to an improve quality of life.

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