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## **A study to assess the effect of menstrual symptoms on academic performance among nursing students at selected colleges in Tamil Nadu, India**

**Janula Raju and Suguna M**

### **Abstract**

**Background and purpose:** Menstrual symptoms may play a major role in the academic performance of some adolescent female students. Menstruation related symptoms may have negative influences on academic learning outcomes.

**Materials and Methods:** In a descriptive design 200 female nursing students with convenience sampling technique were participated in this study. Self-structured questionnaire was given to each student to assess the effect of menstrual symptoms on academic performance. Data collection was done for a period of about 3 months. The inclusion criteria were the young female from 17- 23 years old, the students who are not using contraceptive methods, the students who are having no menstrual disorders and the students who are willing to participate in this study.

**Results:** The study results showed 134 (67%) were not having interest to go to the college during menstruation, and 142 (71%) were reported about lack of concentration during study hours. The menstrual symptoms were affecting the remembrance of the students also, while 116 (58%) said that they had difficulty in remembering the studied contents and 152 (76%) were said that they had a feeling of hesitation to go for practical classes.

**Conclusion:** It can be concluded that the menstrual symptoms having a major impact on academic performance of female students. So further the study findings suggested the students need counseling services and further facilities to reduce the effect of menstrual symptoms on academic performance.

**Keywords:** Menstruation, Menstrual symptoms, Academic performance

### **1. Introduction**

The menstrual cycle involves many psychological changes, such as irritability, mood liability, depression and anxiety. The most prevalent physical symptoms of the menstrual cycle include breast tenderness, diarrhea, back pain, vomiting and fluid retention [1]. In humans, the length of a menstrual cycle varies greatly among women (ranging from 21 to 35 days), with 28 days designated as the average length [2]. Many women may feel different kinds of pain, including sharp, throbbing, dull, nauseating, burning, or shooting pain. Dysmenorrhea may precede menstruation by several days or may accompany it, and it usually subsides as menstruation tapers off [3]. Although the majority of women experience negative effects during the menstrual period, some find that it positively influences their mood and mental status [4]. The academic performance of girls varies during their menstrual cycle, in a way that the mental status is decreased during and several days before the period. However, some research on the performance of well academically qualified women has shown that they were less likely to be negatively affected by menses [5]. As the menstrual period is known to affect the student's academic performance, the aim of our study was to determine the effect of menstrual symptoms on academic performance among nursing students.

**2. Materials and methods:** This was a descriptive research design. A convenience sample of 200 nursing students has been enrolled during the academic year 2014-2015 were selected from selected colleges in Tamilnadu, India. The inclusion criteria were the young female students from 17- 23 years old, the students who are not using contraceptive methods, the students who are having no menstrual disorders and the students who are willing to participate in this study.

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A formal written permission was obtained from the head of each college. The students were instructed that their involvement in the study wasn't mandatory. They were additionally told that they can clarify their doubts while filling the questionnaire. The researcher will also reassure the subjects that their privacy will be protected, and any obtained information will be strictly confidential.

A self administered questionnaire was designed by the researcher based on review of pertinent literature were used for data collection. The tools contains 3 sections including baseline information, assessment of menstrual symptoms and self administered scale for assessing the effect of menstrual symptoms on academic performance. Baseline information: it includes 10 items, which provides basic information including general menstrual history. Assessment of menstrual symptoms: It was in a form of check list "yes or No" response. It contains total 15 items of general menstrual symptoms experienced by the girls during menstruation. Assessment of Academic performance: it was having 20 items, which was divided under 5 subheadings, such as classroom performance, examination, assignments,

extracurricular activities and personality. It's also in a form of check list "yes or No" response.

The data was collected from the female students who were given oral consent about participating in the study. They had filled the interviewing questionnaire in about 15 to 30 minutes. Data collection was done for a period of about 3 months. (April 2015- June 2015). The retrieved data were organized and prepared in Microsoft excel. Mean and percentage distribution of sample characteristics were analyzed by using descriptive statistics.

### 3. Results

200 nursing students were participated in the study. The mean age of all participants was 17.68 years. The mean age at menarche was 13.65. The mean duration of menstrual cycle was 3.82 days with a standard deviation 0.72. Majority of study participants (66%) reported that they had dysmenorrheal during each cycle. 71.5% of study participants had regular menstruation. Most of the students (68.5%) had premenstrual symptoms and 28% of study participants were taken treatment for menstrual discomfort.

**Table 1:** Distribution of baseline characteristics of participants

| Sl. no | Baseline characteristics            | Number | Percentage |
|--------|-------------------------------------|--------|------------|
| 1      | Age                                 |        |            |
|        | a) 17yrs                            | 96     | 48         |
|        | b) 18 yrs                           | 84     | 42         |
|        | c) 19 yrs                           | 17     | 8.5        |
|        | d) ≥ 20 yrs                         | 3      | 1.5        |
| 2      | Age at menarche                     |        |            |
|        | a) <12yrs                           | 37     | 18.5       |
|        | b) 13-14 yrs                        | 113    | 56.5       |
|        | c) 15-16 yrs                        | 47     | 23.5       |
|        | d) >16yrs                           | 3      | 1.5        |
| 3      | History of dysmenorrhea             |        |            |
|        | a) Yes                              | 132    | 66         |
|        | b) No                               | 68     | 34         |
| 4      | Marital status                      |        |            |
|        | a) Yes                              | 10     | 5          |
|        | b) No                               | 190    | 95         |
| 5      | Duration of Menstrual cycle         |        |            |
|        | a) <4 days                          | 73     | 36.5       |
|        | b) ≥4days                           | 127    | 63.5       |
| 6      | Regularity of menstruation          |        |            |
|        | a) Regular                          | 143    | 71.5       |
|        | b) Irregular                        | 57     | 28.5       |
| 7      | Experience of premenstrual symptoms |        |            |
|        | a) Yes                              | 137    | 68.5       |
|        | b) No                               | 63     | 31.5       |
| 8      | Treatment for menstrual discomfort. |        |            |
|        | a) Yes                              | 56     | 28         |
|        | b) No                               | 144    | 72         |

#### 3.1 Assessment of menstrual symptoms

The study results revealed that majority of study participants 108 (54%) were having abdominal cramp during menstruation. 38 (19%) participants were getting anger during their periods. Most of the study participants 147 (73.5%) were having sleep disturbance and 64.5% were reported that they had pelvic pain during menstruation.

Only 58 (29%) students were having irritability during menstruation. But majority of students 152 (76%) were reported that they had head ache and 172 (86%) participants reported about generalized body ache during menstruation. Very few were reported about diarrhea 6 (3%) and shortness of breath 12 (6%) during menstruation. 1/3 of study participants (152) were reported about breast tenderness during menstruation.

**Table 2:** Assessment of menstrual symptoms

| S. no. | Symptoms              | Yes    |       | No     |       |
|--------|-----------------------|--------|-------|--------|-------|
|        |                       | Number | %     | Number | %     |
| 1      | Abdominal cramp       | 92     | 46%   | 108    | 54%   |
| 2      | Anger                 | 38     | 19%   | 162    | 81%   |
| 3      | Sleep disturbance     | 147    | 73.5% | 53     | 26.5  |
| 4      | Pelvic pain           | 129    | 64.5% | 71     | 35.5% |
| 5      | Fatigue / tiredness   | 142    | 71%   | 58     | 29%   |
| 6      | Irritability          | 129    | 64.5% | 71     | 35.5% |
| 7      | Forgetfulness         | 58     | 29%   | 142    | 71%   |
| 8      | Head ache             | 152    | 76%   | 48     | 24%   |
| 9      | Generalized body ache | 172    | 86%   | 28     | 14%   |
| 10     | Loss of appetite      | 123    | 61.5% | 77     | 38.5% |
| 11     | Nausea / Vomiting     | 45     | 22.5% | 155    | 77.5% |
| 12     | Mood swings           | 96     | 48%   | 104    | 52%   |
| 13     | Breast tenderness     | 158    | 79%   | 42     | 21%   |
| 14     | Shortness of breath   | 12     | 6%    | 188    | 94%   |
| 15     | Constipation/diarrhea | 6      | 3%    | 194    | 97%   |

**3.2 Assessment of Academic performance**

The study examined the effect of menstrual symptoms on academic performance of the students. While considering the effect of menstrual symptoms on class room performance, 134 (67%) were not having interest to go to the college during menstruation, and 142 (71%) were reported about lack of concentration during study hours. The menstrual symptoms were affecting the remembrance of the students also, while 116 (58%) said that they had difficulty in remembering the studied contents and 152 (76%) were said that they had a feeling of hesitation to go for practical classes.

Even the menstrual symptoms were affecting the student’s performance of examination. Here greater part of study participants 170 (85%) were not having interest to write their examination during menstruation and 124 (62%) were reported that they were not able to prepare for the examination. More than half of study participants 102 (51%) were getting slow in writing examination whereas 106

(53%) were having lack of concentration during examination.

The menstrual symptoms were interfering with student’s assignments and extracurricular activities also. The present study clearly stated about majority of students 126 (63%) were not able to complete their assignment in time. More than half participants said they were not able to do the presentations 125 (62.5%) and feeling to get excuse from the teachers 103 (51.5%). Majority of students 165 (82.5%) were not having interest in stage performance during those days. 1/3 of study participants were having difficulty in participating extracurricular activities during menstruation. Individual personality also affected by menstrual symptoms. Nearly 62% of study participants were getting mood swings and 115 (57.5%) students were feeling inferiority during menstruation. Most of the study participants 146 (73%) were having lack of interest to meet the teachers and 124 (62%) were having lack of self-confidence.

**Table 3:** Assessment of Academic performance

| Sl. no | Items  | Yes |       | No |       |
|--------|--|-----|-------|----|-------|
|        |  | No  | %     | No | %     |
|        | Effect on Class Room performance                       |     |       |    |       |
| 1      | No interest to go to the college                       | 134 | 67%   | 66 | 33%   |
| 2      | Lack of concentration during study hours.              | 142 | 71%   | 58 | 29%   |
| 3      | Difficulty in remembering all that is studied.         | 116 | 58%   | 84 | 42%   |
| 4      | Feeling hesitation to go for practical.                | 152 | 76%   | 48 | 24%   |
|        | Effect on Examination                                  |     |       |    |       |
| 5      | No interest to write examination during this time      | 170 | 85%   | 30 | 15%   |
| 6      | Not able to prepare for examination                    | 124 | 62%   | 76 | 38%   |
| 7      | Getting slow in writing examination                    | 102 | 51%   | 98 | 49%   |
| 8      | Lack of concentration                                  | 113 | 56.5% | 87 | 43.5% |
|        | Effect on Assignments                                  |     |       |    |       |
| 9      | Unable to complete the assignment in time.             | 126 | 63%   | 74 | 37%   |
| 10     | Not able to do critical thinking                       | 137 | 68.5% | 63 | 31.5% |
| 11     | Feel to get excuse from teachers                       | 103 | 51.5% | 97 | 48.5% |
| 12     | Not able to do presentations                           | 125 | 62.5% | 75 | 37.5% |
|        | Effect on Extracurricular activities                   |     |       |    |       |
| 13     | No interest in stage performance                       | 165 | 82.5% | 35 | 17.5% |
| 14     | Difficulty in participating extracurricular activities | 152 | 76%   | 48 | 24%   |
| 15     | Difficulty in public speaking.                         | 134 | 67%   | 66 | 33%   |
| 16     | Lack of interest in extra classes                      | 149 | 74.5% | 51 | 25.5% |
|        | Effect on Personality                                  |     |       |    |       |
| 17     | Getting mood swings                                    | 124 | 62%   | 76 | 38%   |
| 18     | Feeling of inferiority.                                | 115 | 57.5% | 85 | 42.5% |
| 19     | Lack of self confidence                                | 124 | 62%   | 76 | 38%   |
| 20     | Lack of interest to meet the teachers                  | 146 | 73%   | 54 | 27%   |

#### 4. Discussion

This study examined the effect of menstrual symptoms on academic performance among nursing students. Menstrual symptoms are the common problem for the women especially during young ages<sup>[6]</sup>. Delayed, irregular, painful, and heavy menstrual bleeding are common occurrence among younger age and are the leading reasons for physician office visits by adolescents<sup>[7]</sup>. The mean age for menarche observed in the present study was 13.65 this is inconsistent with studies reported from other parts of India<sup>[8]</sup>. We found a mean duration of 3.82 days as the normal period of menstrual flow, Studies indicate occurrence of large variations in menstrual loss among women population, 23.5% women from West Bengal<sup>[9]</sup>. Dysmenorrhea is an important menstrual disorder in adolescence, and common in young women with ovulatory cycles. Recently, it has become an important public health problem among the female population<sup>[10]</sup>. Steiner *et al.* also reported that the prevalence of dysmenorrhea was high, particularly in those with severe premenstrual syndrome<sup>[11]</sup>.

Academic stress viewed as a chronic stress due to the nature of academic demands; was associated with negative health outcomes of depression and physical illness. It is therefore conceived that academic stress experienced by female college students may be implicated as negatively affecting the premenstrual symptom experience<sup>[12]</sup>. We reviewed studies on the effects of premenstrual symptoms on educational performance, especially in medical schools, and found that more severe premenstrual symptoms are related with a reduction in educational performance<sup>[13]</sup>. Menstrual cycle moods and symptoms may well play a discernible role in the academic performance of some post-pubescent adolescent female students<sup>[14]</sup>. The present study clearly stated the majority of students were having more difficulty to cope up with the class room performance during menstruation. Although this study also stated that the students were having more difficulty to complete their assignments and even during examination with the menstrual symptoms. It was supported by a study conducted among medical students of Nigerian university<sup>[15]</sup>.

The personality of nursing students also affected during the menstrual period, as most of the students having mood swing. This finding is similar to the results shown by a Turkish study, which reported the menstrual period which affect the mood and behavior of the female students<sup>[16]</sup>.

More specifically, this study examined the effect of menstrual symptoms on academic performance. The findings of the study indicated the student's academic performance was highly influenced by the menstrual symptoms.

#### 5. Conclusion

It can be concluded that the menstrual symptoms having a major impact on academic performance of female students. So the study findings suggested the students need counseling or related facilities to reduce the effect of menstrual symptoms on academic performance. Further research also can be conducted to study the effect of menstruation on female adolescence students.

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