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A study of menstrual distress questionnaire in first year medical students

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ABSTRACT

AIMS: 1.To study the menstrual symptomatology in I year medical students aged 17-20 years. 2. To gather or obtain a a normative information on symptom prevalence and severity. 3. To identify the symptom severity and its impact or effect on their regular activities, if any, among the study sample by using a menstrual distress questionnaire. **Materials and methods:** To study the menstrual symptomatology, a cross sectional descriptive study was conducted on 90 first year medical and dental female students, aged between 17 to 20 years. All the participant subjects were given a pre-menstrual distress questionnaire(of 47 symptoms relating to pre-menstrual syndrome, based on a 6-point scale) to fill up separately in the menstrual, pre-menstrual and inter-menstrual phases of her most recent cycle. **Results:** In this study 90 subjects had participated and they were studied for the given symptoms separately in each of the three phases of the menstrual cycle, the menstrual phase, the premenstrual phase and the intermenstrual phase. The data was analysed by chi-square test and the statistical significance of the differences between the phases was tested and P-value <0.05 was taken as statistically significant. **Conclusion:** In the present study it was observed that majority of the subjects in their young reproductive age experience one or other menstrual cycle problems in the form of generalized pain, restlessness, fatigue, dysmenorrhoea or in the form of simple unexplained mood disturbances, most of which fall under the category of pre-menstrual syndrome. Pre-menstrual syndrome is not identified by most of the girls and is not properly treated or taken care off, rather is neglected quite often.

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1. Introduction

The Pre menstrual syndrome has been described as the commonest psycho-neuro-endocrine-stress related disorder and is a major clinical entity affecting large fraction of female population(1,2,3,4,5,6,). It encompasses a wide variety of cyclic, recurrent, physical, emotional, behavioural symptoms occurring during late luteal phase of menstrual cycle and subsiding with the beginning of menses (7). More than 160 behavioural and neurological symptoms like headache, malaise, nervous irritability, emotional instability, decrease in the ability to concentrate,

impaired motor coordination are reported during the premenstrual phase, suggesting heterogenous diagnostic criteria and ethnic variation(1,8,9). The importance of menstrual and premenstrual symptomatology is very essential as there are incidence of a large population of women who committ suicide or engage in criminal acts of violence and as drivers have serious and fatal accidents, do so during the menstrual or premenstrual phases of the cycle. Also there is a correlation between the premenstrual symptomatology and the neurotic personality(3,10).

Also the necessity to know the prevalence of these menstrual symptomatology appears essential for a complete analysis of the Premenstrual dysphoric disorder (PMDD) and non premenstrual dysphoric disorder (non-PMDD) and its underlying psychological, neurological and endocrinal factors and for the proper understanding of few unexplained contrasting symptoms(11).

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2. Materials And Methods:

The study was conducted in the Department of Physiology, Dr. B.R. Ambedkar Medical College and Hospital, K.G. Halli, Bangalore. The study included 90 medical and dental students of first year. All the girls were given a questionnaire, which assesses the menstrual symptoms, to fill up in the three phases of a single menstrual cycle, i.e. the same questionnaire was filled by the same student in the three phases of a single menstrual cycle. The three phases are;

- i. Menstrual phase – during the bleeding phase.
- ii. pre menstrual phase – the week before the beginning of menstrual flow.
- iii. the intermenstrual phase – the remainder of the cycle.

All the symptoms were analysed separately in the three phases and the frequency and severity was contrasted between the phases.

A list of 47 symptoms for inclusion in the menstrual distress questionnaire was obtained from several sources (12,13,14,15,16,17,18). Each subject was given this open end questionnaire which elicited information about many possible menstrual cycle symptoms. The subjects were advised not to reveal their name on the questionnaire, informed consent was taken from them and were told that their information would be kept confidential. To detect the prevalence and severity of the premenstrual syndrome a separate set of questions were included.

A list of control symptoms were obtained from the BLATT Menopausal Index (16). The control symptoms selected, like feelings of suffocation, buzzing in ear, tingling in hands and feet – were symptoms, which usually the menopausal women will experience relatively more frequently than women in young reproductive age, like our study subjects.

The questions related to menstruation were age of menarche, marital status, parity, regularity of the cycles, length of cycle, duration of menstrual flow, whether associated with or without dysmenorrhoea and a set of questions which specifically differentiates the study subjects into PMDD and non-PMDD subjects.

A background additive and supportive information was obtained about their education, religion, home town, height, weight, socio-economic status, occupation of the parents, total family members, dietary habits, habits of regular physical exercise and family history of dysmenorrhoea.

In the study a normal menstrual cycle was defined as a menstrual cycle lasting for 21 to 35 days, with 2 to 6 days of flow and with an average blood loss of 20 to 60 ml and the irregular menstruation was defined as subject with length of cycle <20 or >35 days, duration of flow <2 or >7 days, blood loss/ cycle >100ml (19).

The study included only unmarried, nulliparous, healthy female medical students of Indian origin (to rule out bias related to ethnicity) aged 17 to 20 years. A set of questions were used to

delineate between PMDD and non-PMDD patients and to evaluate the menstrual symptomatology, which consisted of 47 symptoms under 8 different headings. These factors under each heading, even though represent separate were empirically inter related clusters of symptoms.

The questionnaire method is selected because; 1. It elicits a concrete data about own subjective assessment of the extent of her disability, which is a most reliable and important essential source of information. 2. A large population of women can be assessed to estimate the prevalence and severity of different types of menstrual symptoms. 3. It has a built in complainor or control scale in order to identify women who tend to complain of many different symptoms, regardless of whether they are usually cyclically associated with the menstrual cycle. 4. In addition it is possible to differentiate between PMDD and non-PMDD and between other types of menstrual symptomatology. 5. Also, it is possible that these type of specific analyses may identify new subtypes or groups of symptoms which may show specialized relationships either to psychological, neural or endocrinal factors.

Model of The Questionnaire:

Name :

Age:

Sex:

Occupation:

Religion:

Address/home town/ region:

Occupation of father and mother:

Socio-economic status:

Number of total family members:

Dietary habits:

Habit of regular physical exercise:

Family h/o of any kind of menstrual symptomatology:

Height:

Weight:

Menstrual history:

1. Age at menarche.
2. Regular or irregular cycle.
3. Length of each cycle.
4. Duration of bleeding in each cycle.
5. Blood loss per cycle (no. of pads used).
6. h/o dysmenorrhoea; yes / no. if present mild / moderate / severe / absenteeism / self medication / doctor.

Pre Menstrual Distress Questionnaire:

Questionnaire to evaluate and differentiate PMDD and non-PMDD subjects.

I. PAIN

- i. Muscle stiffness.
- ii. Headache.
- iii. Cramps.
- iv. Backache.
- v. Fatigue.
- vi. General aches and pains.

II. CONCENTRATION;

- i. Insomnia.
- ii. Forgetfulness.
- iii. Confusion.
- iv. Lowered judgement.
- v. Difficulty concentrating.
- vi. Distractible.
- vii. Lowered motor coordination.
- viii. Accidents during driving a vehicle.

III. BEHAVIOURAL CHANGE;

- i. Lowered school or work performance.
- ii. Take naps or stay in bed.
- iii. Stay at home (absenteeism).
- iv. Avoid social activities.
- v. Decreased efficiency.
- vi. Change in eating habits / craving for sweets.

IV. AUTONOMIC REACTIONS;

- i. Dizziness / faintness.
- ii. Cold sweats.
- iii. Nausea / vomiting.
- iv. Hot flashes.

V. WATER RETENTION;

- i. Weight gain.
- ii. Skin disorders.
- iii. Painful breasts.
- iv. Swelling / bloating.

VI. NEGATIVE EFFECT;

- i. Crying.
- ii. Loneliness.
- iii. Anxiety.
- iv. Restlessness.
- v. Irritability.
- vi. Mood swings.
- vii. Depression.
- viii. Tension.

VII. AROUSAL;

- i. Affectionate.
- ii. Orderliness.
- iii. Excitement.
- iv. Feelings of wellbeing.
- v. Bursts of energy / activity.

VIII. CONTROL;

- i. Feeling of suffocation.
- ii. Chest pains.
- iii. Ringing in the ears.
- iv. Heart pounding.
- v. Numbness / tingling.
- vi. Blind spots / fuzzy vision.

RESULTS:

In this study 90 subjects had participated and they were studied for the given symptoms separately in each of the three phases of the menstrual cycle, the menstrual phase, the premenstrual phase and the intermenstrual phase. The data was analysed by chi-square test and the statistical significance of the differences between the phases was tested and P-value <0.05 was taken as statistically significant.

DISCUSSION:

In the present study of 90 female subjects aged between 17 to 20 years, the mean age of menarche was 12.5 years which was almost same with other similar studies. (20,21). Most of the subjects were related to one or other menstrual symptoms. Premenstrual symptomatology was observed by 63.2% subjects, which was consistent with similar other studies of 60.7% (22), and 63.1% (23). All these symptoms were more in the premenstrual phase and menstrual phase, compared to the intermenstrual phase, which suggested the possibility of premenstrual syndrome in most of the subjects with menstrual symptomatology.

According to the data obtained by the pre-menstrual distress questionnaire, the relative percentage of each category of symptoms under the broad 8 headings is as under;

The symptomatology of pain was experienced by 69.3% subjects in the form of cramps or dysmenorrhoea in the menstrual phase and in the form of backache, and fatigue in the premenstrual phase. Dysmenorrhoea was the most common complaint among them with a prevalence of 63.2%, which was almost consistent with other similar studies 73.8%(22), 67.7%(24), 59.7%(25). Most of the subjects used to self medicate themselves with either analgesics like ibuprofen or anti spasmodics like meftal-spas. Only 3.3% subjects were seeking doctor advice.

Symptoms related to concentrating ability was observed by 28.1% subjects, the most common among them being difficulty in concentrating and distraction. Symptoms related to behavioural change was experienced by 42% subjects with class absenteeism of 24.3%, college absenteeism of 5.3% and social withdrawal of 2.1%, which was consistent with other studies (21,22). Autonomic reactions in the form of dizziness, cold sweats, nausea, vomiting was observed by 61% of the subjects which suggested that these are the most common symptoms observed during the menstrual and pre-menstrual phase. The symptoms of weight gain was experienced by 6% and the symptom of painful breasts, swelling or bloating sensation was observed by 36% of the subjects, which can be attributed to the water retention due to progesterone in the luteal phase. The symptoms suggesting negative effects were observed by 3.5% of the subjects with the symptoms of irritability, restlessness and mood swings being the most common among them. The symptoms relating to arousal was not appreciated by the subjects between the phases. Also the control symptoms used to differentiate the symptoms from that experienced by the post-menopausal women were not experienced by any of the subjects.

Conclusion:

In the present study it was observed that majority of the subjects in their young reproductive age experience one or other menstrual cycle problems in the form of generalized pain, restlessness, fatigue, dysmenorrhoea or in the form of simple unexplained mood disturbances, most of which fall under the category of pre-menstrual syndrome. Pre-menstrual syndrome is not identified by most of the girls and is not properly treated or taken care off, rather is neglected quite often. Premenstrual syndrome has become the leading cause of school absenteeism and is affecting the daily life activities of young women. Therefore more studies have to be undertaken in this field in order to combat the adverse effects on health and society caused by the normal physiological process- the menstrual cycle, which each women has to experience every month.

LIMITATIONS OF THE STUDY:

The study was conducted on females studying in one place, who come from different parts of the country and the effect of the geography was not studied. Also this was just a questionnaire method where the subjective bias related to the memory and recall of events was not checked. The study had not included any objective assessment in analyzing the symptoms. A adjunctive study of the hormone levels in the phases would have been of a great help which was not done due to financial constraints.

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