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Prevalence of Premenstrual Syndrome & Premenstrual Dysphoric Disorder Using the Premenstrual Symptom Screening Tool (PSST) Among Allied Healthcare Professionals: A Cross Sectional Study

Dr. Ankita Mane [1*], Tanushree Patil [2], Dr. Viral Sarvaiya [3]
[1] Assistant Professor, Dept. of Community Physiotherapy, Dr. Ulhas Patil College of Physiotherapy, Jalgaon, Maharashtra, India
[2] BPTH Intern, Jalgaon, Dr. Ulhas Patil College of Physiotherapy, Jalgaon, Maharashtra, India
[3] Assistant Professor, Dept. of Community Physiotherapy, Dr. Ulhas Patil College of Physiotherapy, Jalgaon, Maharashtra, India

* Corresponding Author: **Dr. Ankita Mane**

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Abstract
Background: Premenstrual syndrome (PMS) and premenstrual dysphoric disorder (PMDD) causes impairment in physical and psychological health and severe dysfunction in occupational as well as social areas. The study on Premenstrual disorders is an imperative to investigate the prevalence of PMS along with PMDD among the young women future healthcare professionals in recognizing severity of disorder in the population what are the common symptoms; along with the awareness of condition.
Aim: To study the prevalence of premenstrual syndrome & premenstrual dysphoric disorder among allied healthcare professionals.
Objective: 1.To find prevalence of premenstrual syndrome using Premenstrual Symptoms Screening Tool (PSST) among young women. 2.To find prevalence of premenstrual dysphoric disorder using (PSST) among young women**.**
Methodology: In this Experimental study 326 subjects were selected according to inclusion & exclusion criteria. Demographic data & informed consent form was obtained. Screening was done using Pre-menstrual symptom screening tool.
Result: The mean age of participants was 22.03 ± 2.31. By using PSST, out of 326 PMS is present in 187 subjects (57.73%) & PMDD is present in 108 subjects (33.12%). Moderate to severe PMS is 57.73% and PMDD is 33.12% according to DSM IV-TR.
Conclusion: The study concluded that Premenstrual Syndrome and Premenstrual dysphoric disorder is prevalent in young allied healthcare professionals between 20-30 years of age.

Keywords: Premenstrual Syndrome (PMS), Premenstrual dysphoric disorder (PMDD), Premenstrual symptom screening tool (PSST tool), Allied healthcare professionals

Introduction

The menstrual cycle is a physiological system that all women experience. It is characterized by changes in the bodily levels of ovarian hormones that is estrogen and progesterone. Levels of estrogen and progesterone fluctuate cyclically and have main organic consequences on a woman's body, having both bodily and emotional ramifications. The premenstrual period is a vulnerable phase for prevalence of bodily and psychological signs and symptoms which appear 1 week earlier than menstruation and disappear with the beginning of menstrual bleeding. About 75% of the females at childbearing age face some symptoms related to the premenstrual segment of the cycle [1].

Premenstrual disorders (PMD) are still under recognized. PMD is a psych-neuroendocrine problem of unknown etiology. It is characterized by somatic, emotional and behavioural symptoms occurring in the luteal phase of the menstrual cycle. Premenstrual syndrome (PMS) and premenstrual dysphoric disorder (PMDD) constitute the core PMD [2].

Premenstrual disorders can affect a woman at any stage in her reproductive life beginning around age 14, or about 2 years after menarche, and persist until around age 51, when menopause typically occurs.

Premenstrual syndrome (PMS) and premenstrual dysphoric disorder (PMDD) represent two premenstrual disorders characterized by physical and psychological symptoms that occur in the luteal phase of the menstrual cycle, prior to the onset of menses, and have a negative impact on the psychosocial functioning of affected individuals. PMS, more common than PMDD, affects 20-40% of menstruating women, with common symptoms including fatigue, irritability, mood swings, depression, abdominal bloating, breast tenderness, acne, changes in appetite and food cravings. PMDD, affecting a smaller percentage of women, is characterized by more severe symptoms (extreme sadness, hopelessness, irritability, plus PMS symptoms) and is listed as a depressive disorder in the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) [3].

Premenstrual disorders are diagnosed depending upon whether the diagnostic criteria followed are from the American College of Obstetricians and Gynaecologist (ACOG)1 or from the Diagnostic and Statistical Manual – fifth edition (DSM-5) of the American Psychiatric Association (APA).Whereas ACOG requires the presence of at least one affective symptom (e.g. angry outbursts, anxiety, confusion, depression, irritability or social withdrawal) and one somatic symptom (e.g. abdominal bloating, breast tenderness or swelling, headache, joint or muscle pain, swelling of extremities or weight gain) for a diagnosis of premenstrual syndrome (PMS)1, APA requires only the presence of somatic symptoms. As for premenstrual dysphoric disorder (PMDD), DSM-5 requires the presence of five symptoms in total, with at least one affective symptom (mood swings, marked irritability, marked depressed mood or marked anxiety) along with other symptoms, which may include somatic symptoms [4].

Women experience remarked compromise quality of life and ability to function in several settings, which directly leads to higher medical costs as physician visits and laboratory tests increases, and also lowers the productivity at work. Premenstrual disorders can affect a woman at any stage in her reproductive life beginning around age 14, or about 2 years after menarche, and persist until around age 51, when menopause typically occurs [3]. In the university students it is observe that they lack of both the psychological as well as the social capacity to in order to manage their daily burden and stress during this age. They endevour for higher academic achievement to get secured and better job opportunities and satisfy their own needs for realization. They lack resources simultaneously and are burdened by psychological and social demands such as self-esteem and social support.

Concerning psychological factors, some studies have suggested that PMDD is associated with personality characteristics [3]. As PMDD is a severe form of premenstrual syndrome that impairs quality of life and carries an increased risk of suicidal attempts. Hormonal changes may underlie these symptoms [4].

Premenstrual disorders are associated with an enormous amount of health care and economic burden.

In the average Indian woman, the reproductive period with menstruation has increased which leads to the early onset of menarche, contraceptive methods, and better nutrition. It is crucial to study the levels of impairment and distress due to premenstrual symptoms [5].

Materials and Methods

A Cross sectional study was conducted on 326 subjects in young allied healthcare professionals in and around Jalgaon. The study began after an approval from the institutional ethical committee, and it was undertaken for a period of 6 months.323 women from age 20-30, from the nearby residential area, workplace and educational institute were included in the study ;through conventional sampling technique.The minimum sample size is n=323.Informed consent form was obtained and screening was carried out using “The Premenstrual Symptoms Screening tool" (PSST)”.

The criteria for inclusion was:1) Young allied healthcare professional (age group 20-30). Subjects excluded were

1. Girls who had absence of 3 consecutive menstrual cycles.
2. Pregnancy
3. Lactating
4. Female on oral contraceptives
5. Female on hormonal treatment.
6. Female on psychological or psychiatric treatment.

Procedure: Ethical clearance was taken from the ethical committee of Dr. Ulhas Patil College of Physiotherapy, and Godavari College of Nursing Jalgaon prior to the commencement of the study. The subjects were selected on the basis of inclusion – exclusion criteria. The nature and purpose of the study was explained to the participant’s.A demographic data was obtained and an informed consent form was obtained from all 326 participant’s. Then in the selected participant’s, screening was done with help of Premenstrual symptom screening tool(PSST tool).After data collection, data entry was done in MS Excel. Data was analysed statistically and results were generated.

Results

Total 326 samples were collected for the study and analysis was carried out.In our study, the mean age of participants was 22.03 ± 2.31. In the following study, we found that out of 326 young females subject’s Premenstrual Syndrome (PMS) is present in 187 subjects (57.73%) which was calculated by using the Premenstrual Symptoms Screening Tool (PSST) and, among 326 young females subject’s Premenstrual dysphoric disorder (PMDD) is present in 108 subjects (33.12%) which was calculated by using the Premenstrual Symptoms Screening Tool (PSST).

Moderate to severe PMS is 57.73% and PMDD is 33.12% according to DSM IV-TR.The symptoms commonly reported were, “Anxiety/tension”,“ Tearful /increased sensitivity to rejection” and “Depressed mood /hopelessness.The most common functional impairment item was “school/work efficiency & productivity.”

Fig 1: The age wise distribution of subjects

In study out of 326, 269 participants were between 20-24 years of age and 57 were between 25-30 years of age.

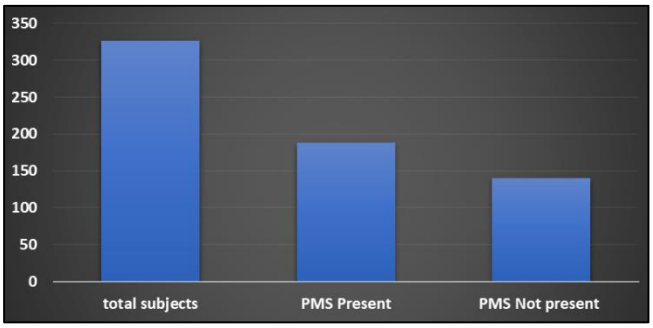

Fig 2: (Presence of PMS in total Subject's)

Out of total 326 participants, In 187 participants Premenstrual Syndrome is present and in 139 participants not present.

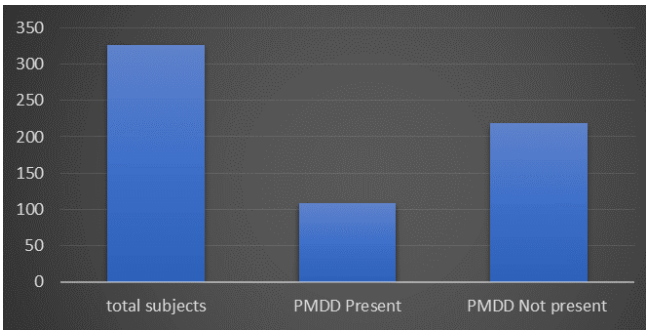

Fig 3: (Presence of PMDD in total Subject's.)

Out of total 326 participants, In 108 participants Premenstrual Dysphoric Disorder (PMDD) is present and not present in 218 participants.

Discussion

Premenstrual disorder is a collection of both physical as well as psychological symptoms that occur during luteal phase of the menstrual cycle. It affects the female's normal daily functions and disappears shortly after menstruation.it is one of the factors that make women more susceptible than men to depression, child disturbance, and family violence, so PMS may affect not only the individual but also her family surrounding community. The present study aimed to determine the Prevalence of premenstrual syndrome and premenstrual dysphoric disorder among allied healthcare professionals. The age group of study participants was 20 - 30.

The prevalence of premenstrual syndrome and premenstrual dysphoric disorder was assessed using the Premenstrual Symptoms Screening Tool (PSST). Our study was conducted among young healthcare allied professionals and has shown that out of 326 young females subject's Premenstrual Syndrome(PMS)is present in 187 subjects (57.73%). In allied healthcare professional, the job demand is more, it requires both physical as well as psychological stability. PMS and PMDD cause impairement not only physical but also on psychological health and severe dysfunction in occupational as well as social areas.

The higher prevalence of both PMS and PMDD can be due to geographical, lifestyle well and due sociodemographic variance, the -hormonal factors, sociodemographic, geographical, menstrual and lifestyle. The following are the risk factors : 1.Past traumatic events 2. Cigarette smoking 3. Obesity [1].

The exact pathophysiology of premenstrual disorders remains unclear, and it is been hypothesized that during the secretory phase(luteal phase) of the menstrual cycle there is sensitivity to hormonal imbalance. The exact etiology of PMS/PMDD is anonymous. However, risk factors are associated with the development of PMS/PMDD, some of which h are well-established while others are speculative. 1

The recent research & evidence from studies suggests that in women with PMS/PMDD, the reproductive hormone release patterns are normal, still they also have an increased sensitivity to cyclic variations in the of reproductive hormone levels, which predisposes them to experience symptoms like mood, behavioral, and somatic. Role of Central Neurotransmitters such as 1. Serotonin-(Women with PMS/PMDD have atypical serotonergic transmission); 2.Gamma-aminobutyric acid-(Alterations particularly changes in GABA receptor function, have been proposed as potential contributors to the mood and emotional symptoms associated with PMDD.); 3. Glutamate(excitatory neurotransmitter and there is a cyclical fluctuation in its levels during the menstrual cycle, but in symptomatic women, it may seem to have a heightened sensitivity to these cyclic changes.); 4. Beta Endorphins(women with PMDD have lower levels of cortisol and beta-endorphins during both the follicular and luteal phases). The Three Heads of PMDD Symptomatology are 1. Mood 2. Behavioral 3. Somatic. The period for which these symptoms of PMDD experience usually varies from a few days to 2 weeks. In most symptomatic women, these symptoms intensify 6 days before and are severe 2 days before the menses [1].

Abhijit Duttaa and Avinash Sharma conducted a study of systemic review and meta-analysis on Prevalence of PMS and PMDD in India in 2021. This is the first systematic review and meta-analysis amongst the female indian population that has been comprehensively searched and synthesised studies that reports the prevalence of Premenstrual syndrome and/or Premenstrual dysphoric disorder among Indian population. In this study, it was found that both (PMS and PMDD) are common conditions. The pool prevalence of PMS is 43% and PMDD 28%.The prevalence varied with the geographic region, with the highest prevalence of PMS being reported in Delhi, whereas the lowest prevalence in Kerela. They observed a substantial heterogeneity in meta analyses of both estimates, which can be explained by geographical region, residence in a rural or

urban area, age group, study settings, type of diagnostic tool and cutoff points used, or the study quality. They summarised that from the report of different studies the substantial presence of factors such as genetic pattern, family history, socio-economic conditions, diet, customs could have some role. They found a high prevalence of PMS and PMDD among Indian females of reproductive age group [6].

A Study by Samy A. Abdelazim in 2024 found out that 22.7% of physicians were diagnosed with Premenstrual Dysphoric Disorder and 58.7% had "Moderate to Severe PMS", while 18.6% had "No PMS/PMDD". The most reported symptom was "Decreased interest in social activities", followed by feeling overwhelmed or out of control and Fatigue/ lack of energy. Also, the premenstrual Symptoms Screening Tool (PSST) gives good descriptive data which could help to improve the quality of life of the female physicians [8].

Another study conducted in Nepal found that 39.2% students had PMDD that is rate similar to this study. Out of total 382 participants 61.1% of medical and 64% of nursing students met the criteria of ACOG for PMS. PMDD was diagnosed in 78 (39.6%) nursing students and 72(38.9%) medical students. The most common somatic symptom experienced by them was headache 77% and behavioral symptom was irritability 81.2%. As, there were no specific investigatory tests to diagnose these PMS/PMDD so they have to depend on various diagnostic criteria which have some overlapping in them. DSM-V criteria focuses more on affective symptomatology and their study subjects had more of these symptoms so a high rate of PMDD could have been reported. In this study high rates could have been attributed to probable pre existing psychiatric morbidity and the stress of medical education [17].

Conclusion

The study concluded that both conditions- Premenstrual Syndrome (PMS) & Premenstrual dysphoric disorder (PMDD) is prevalent in young allied healthcare professionals between 20-30 years of age.

Limitations:1)All of the study data were self-reported, which may have introduced bias.

2)The sample collection did not include individuals other healthcare feilds, age groups above 30, or adolescent age groups.

3)There were no specific investigatory tests to diagnose these PMS/PMDD so we have to depend on various diagnostic criteria i.e. DSMV Criteria (Diagnostic and Statistical Manual of Mental Disorders 4th edition) which is included in PSST which has some overlapping in them.

Clinical Implication

In allied healthcare professional the job demand is more, it requires both physical as well as psychological stability. The premenstrual symptoms interfere with their work efficiency or productivity, and social life during that particular period of the menstrual cycle, which leads to disturbance in work life balance cycle.Variety of treatments and selfcare measures can effectively control the symptoms in most women but for that early diagnosis of the condition is important. Also, there is no particular diagnostic test for PMS or PMDD, and hence symptoms play a role(symptoms must occur only during the luteal phase of the menstrual cycle).In conservative treatment of PMS and PMDD, Exercise plays a key role as it helps to reduce stress, tension, anxiety, and depression, and improves strength and endurance. If a woman becomes aware of the condition she can get proper treatment on time which will lead in improvement of the quality of life along with work-life improvement.

Future Scope: 1) Further studies can be carried out related to preventive measures in order to avoid PMS & PMDD.

3) Study among different age group can be carried out.

4) Study can be carried out among other occupational groups.

5) Comparison of presence of PMS and PMDD among female population between rural and urban areas can be done.

Conflict of Interest

The authors declare no conflict of interest.

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Informed consent: Informed consent was obtained from all subjects involved in the study.

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