

Physical Stress during Menstrual Cycle; A Study On Pain, Discomfort & Exhaustion

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Abstract

Premenstrual syndrome (PMS) is a set of physical, emotional & behavioral symptoms that start during the week preceding menstruation & are alleviated when the menstrual flow begins. The purpose of this study was to evaluate symptoms of PMS in relation to intensity of pain & physical stress by using Sadaf Stress Scale (SSS). PMS affects menstruating women globally & causes extensive personal & public health problems with high degree of absenteeism. It is the most common gynecological problem that has been reported to affect the ability of women to carry out daily activities. Data was collected from women aged 17-35 years having premenstrual pain. The prevalence was determined by questionnaire include issues about exercise, intensity of pain, severity and flow of blood during reproductive cycle. Results shows 15% mild, 14% moderate & 5% sever symptoms of physical stress with only 4% females are interested in doing exercise. Premenstrual pain was one of the most common complain among these females of reproductive age with sever to moderate discomforts during menstruation along with the concerns of heavy or moderate bleeding. It is recommended that inquiries about pelvic pain & menstrual discomforts should be made compulsory in health care centers, so that this major problem could be overcome causing hindrances in routine life with women.

Key words

Premenstrual syndrome (PMS), physical stress, Sadaf Stress Scale, menstruation, premenstrual pain

Introduction

Menstruation is the requirement of female body for fertility and healthy reproductively. The menstrual cycle embroils three different phases which involves number of hormonal events. Coordinating pattern of hormonal release & fluctuations is the core of the whole menstruation cycle to develop the uterus and the body for possible pregnancy, but when fertilization does not occur, the cycle eventually ends with the monthly sloughing of the uterine endometrial lining results in discharges of uterine blood through vagina also called menstrual flow (Vohra et al., 2013). Menstrual cycle repeats itself, interrupted only if pregnancy occurs, till the age of menopause (Grayce, 2014). Menstruation is a natural wear & tear phenomenon reside angiogenesis, proliferation and degeneration. The shedding of endometrial lining take some strenuous measures like ischemia, constriction of blood supplying arteries and force full contraction of muscular wall to discard the entire functional zone of uterine lining in menstruation (Jabbour, et al., 2006). These intense mechanisms complemented with hormonal fluctuations & abrupt release (Norman, 2014) can potentially unveil multiple physiological, psychological & behavioral impacts on body ultimately the exertion (menstrual discomforts) leads

either chronically or acutely to pull up the strings of stress by interrupting the equilibrium state exerting pressure can act as potential stressor for physical stress progression. As the term physical stress defined by (Sadaf, 2014) the force applied to a given area of biological tissue or is the response to environmental pressures and demands. And any external or internal strain can altered the physiological responses is counted as physical stress. The reoccurring set of multiple physiological, psychological and behavioral symptoms just after luteal phase and continue till the onset menstruation bleeding, defined as a complex disorder termed as PMS. Approximately 150-200 identified symptoms of PMS, closely share a complimenting relation with other menstrual distress like massive menstrual bleeding or dysmenorrhea in developing potential symptoms of physical stress in menstruating females (Stearns, 2001), (Govind, et al., 2007) & (Hoyer, et al., 2013). PMS is one of the most highly reported gynecological condition by females globally. Every women may have their own set of PMS symptoms with varying severity. Symptoms are often mild, but can be severe enough to substantially affect daily activities. About 5–8% of women thus suffer from severe PMS. (Yonkers, et al., 2008) and its periodic encounter can worsen the cope up ability of females as observed PMS is the most common cause

of absenteeism of females from professional and personal ground affecting their quality of life on larger extends. To eliminate all these hindrances due to menstrual distress PMS & eventually physical stress the menstrual symptoms must get priority concern at public health and private sectors to maintain and establish a healthy living for women.

Purpose of the Study

The objective of the study was to determine the prevalence of menstrual discomforts and PMS in healthy fertile females & to observe their impacts in females' social activities, rate of absenteeism. And to evaluate the occurrence and intensity of physical stress during menstruation by using SSS.

Methodology

A cross-sectional study design with sample size (N=100). The participants were selected from different fields like students, house wives & working women. All selected subjects were healthy reproductive age females between 17-35 years of age & not diagnosed with any medical disease condition to make sure that all the reported symptoms were not due to any pathological condition but physiological menstrual distress. Both married & unmarried females were included in the study whereas, pregnant and menopausal women were excluded. Firstly a pre-questionnaire comprised of 20 questions was filled by every participants in which we asked basic information related to their menstrual cycle like age of menarche, cyclic regularity, blood flow, daily physical activity/exercise & other related questions. The pre-questionnaire was designed to focus on data collection related to PMS & dysmenorrheal symptoms, their rate of prevalence & its relating link with stress occurrence. An important criteria was set in order to get the most accurate answers, we asked the subjects to fill the questionnaire within first 3days of their menstrual cycle so that the participants can able to answer exactly according to that condition they were experiencing at that time. In the 2nd step for physical stress evaluation we asked the subjects to fill the SADAF STRESS SCALE (SSS). In which 19 symptoms are included which appear during physical stress. Participants were rated the symptoms according to their experienced severity & frequency of occurrence. The data was analyzed by using SPSS method. SSS was a tool for stress evaluation. It's a questionnaire type scale measures the various types of stresses in ages 14 and above. There are different associated symptoms provided in the scales for different 7 types

of stress. For stress evaluation and intensity determination calculation & scoring are also provided. According to the scores the stress level were categorized as normal, mild, moderate and severe. By calculating the data according to formula & following the provided scoring we can evaluate and score the intensity of stress.

Results & Discussion

This figure shows the lack of interest in performing physical activities like any form of exercise or aerobics in young females as only 4% % females were interested in doing exercise while 96% females were interested in doing any exercise. However, studies reported that strenuous exercise may cause negative health impact on females reproductive health and menstrual cyclist (Orio, et al., 2013) but keynote is the 'strenuous physical exercises' chronic or intense & the exercise induced menstrual changes most of the are facilitated by some other stressors (Bonen, 1994). On the other hand there are many researches suggesting that a certain set of physical activity and exercise is beneficial for female body's fitness and reproductive health, as obese females (Bray, 1997) & underweighted females (Reid, et al., 1987) both are at potent risk to develop certain menstrual or reproductive health issues.

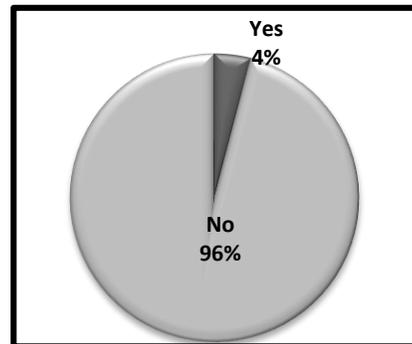


Fig 1: Shows females' interest in having exercise

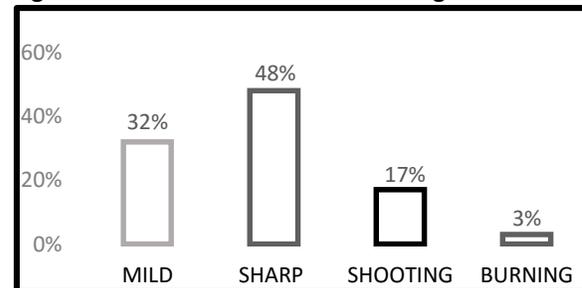


Fig 2: Shows the type of pain females reported during menstrual cycle

Dysmenorrhea, according to (Bitzer, J., 2014) its prevalence in adolescent females ranges between 60-93% as it's reported by most of females in varied populations, making it very common gynecological condition. Research results of our study also supports this, as we focused on females with no diagnosed with any pelvic pathology so primary dysmenorrhea was more our concern & we found out that every single participant reported menstrual symptoms associated with PMS & dysmenorrhea that clearly indicate the high prevalence rate of PMS & dysmenorrhea among reproductive age females. Particularly the pelvic pain during menses (categorizing indicator of dysmenorrhea). According to our study results demonstrate the 100% occurrence rate of dysmenorrhea because every female reported pelvic pain. But the intensity was varying with every female from mild, dull to sharp, shooting and burning. Sharp was the most highly reported pain categorized by females. Possible explanation for the pelvic pain can be the basic etiology defined by (Akerlund, 1979). Primary dysmenorrhea typically associated with excessive production of PGs and the physiological events induced by its excessive production i.e. hyper contractility (Endcor, et al., 2004), (Hsiao, et al., 2014), (Harel, 2006) & (Steen, et al., 1996).

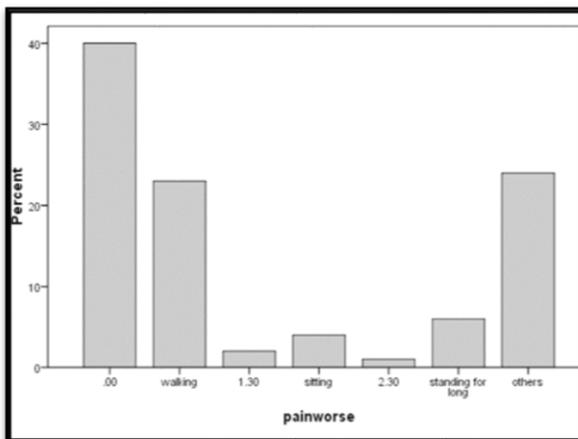


Fig 3: Shows that females reported with certain physical exertion worsen their pain
Females reported with activities (like walking, sitting, standing for long & weight lifting) exert pressure enhancing their pain to get more worse to meet their routine professional and interpersonal activities. Which considered as mark feature significantly correlate physical stress with dysmenorrheal distress.

According to (Dalton, 1985) dysmenorrhea alters homeostasis that can significantly contribute as potential stressor for physical stress but the severity varies same as the menstrual cycle vary with every women.

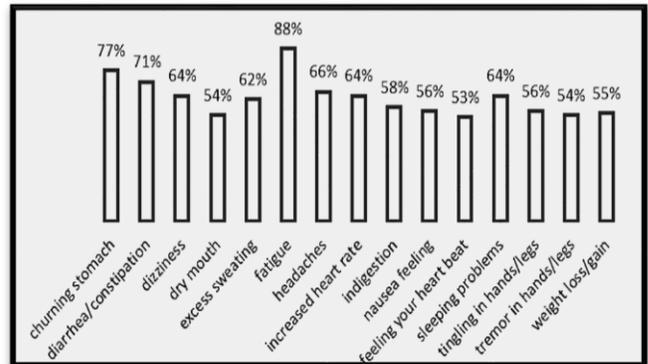


Fig 4: shows the physical stress symptoms of SSS reported by females

Menstrual discomforts itself act as a recurrent chronic stress eventually can develop physical stress by disturbing the homeostasis with varying intensities. As our data establish a positive connection between the chronic negative stressors (dysmenorrhea & PMS) with physical stress as all pain perceiving females reported with quit a number of physical stress symptoms with high frequencies & varying intensities during their menstrual cycle. Representing the fact that dysmenorrhea and PMS symptoms can successfully establish symptoms associated with physical stress by bantering with different physiological mechanisms (Steve, et al., APA).

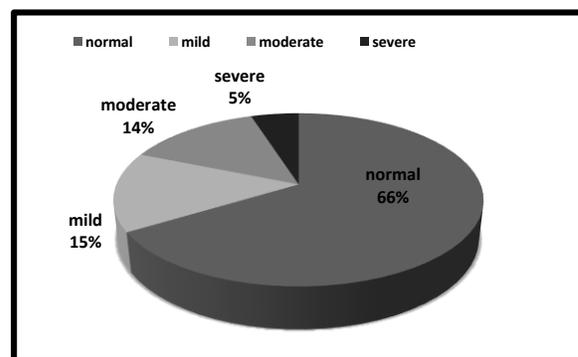


Fig 5: shows the severity level of physical stress evaluated by SSS

Like fatigue which is commonly associated condition in females with HMB (heavy menstrual bleeding) & iron deficiency (Wang, et al., 2013), is one of the physical stress symptoms most highly reported by 88% females of the total population. Our data demonstrate that 34% females were evaluated with different severity level of stress whereas, 66% females were evaluated with no stress. Though overall severity level of physical stress was lesser but the important considerable point is the frequencies of symptoms every females reported indicate towards a possibility that with more exertion or chronicity these Fig 6: Shows that 45% reported that they sometimes limit their activities during menstruation, 25% reported that they always limit their social activities whereas, 30% females reported that they don't limit their social activities.

Females can get more worsen episodes of these physical stress symptoms may lead to develop more sever level of physical stress. Along with this females evaluated 5% with severe, 14% with moderate & 15% mild level of physical stress screening its existence and complimenting relation with menstrual distress acting as potential stressors. Our research study compliments the statement that menstrual stressors (dysmenorrhea & PMS) chronic, self-limiting, recurrent event leading to distress & having a negative impact on quality of life producing hurdles in personal & professional performances (Bitzer, 2014) reported by a large number of females experiencing severe type of pain which reflect on their work abilities and root cause of high absenteeism rate with a sizeable proportion of population reported that they decrease their social activities due to pain.

Conclusion

Our study demonstrate a very high prevalence rate of PMS & dysmenorrhea among reproductive age females as a significant proportion of population evaluated with characterizing symptoms of PMS & dysmenorrhea. The study results also endorsed the concept that every women at least perceive 1-2 symptoms of PMS. We concluded that dysmenorrhea is a common condition affecting mostly females and that is a reason of pain related exhaustion, fatigue, mood fluctuations, anxiety and other discomforts that is leading a body towards stress & more particularly physical stress. We also evaluate that menstrual distress is one of the most common cause of absenteeism from social & interpersonal activities of females.

Recommendations

Chronic burden on body in form of physical stress continuously triggering by menstrual cyclic distressing symptoms can not only bother the quality of life in means of activities (or absenteeism) but can also potentially damage the health quality so keeping an eye on menstrual conditions on both personal & health care units is essential to prevent the women from getting any severe pathological conditions.

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