

PREVALENCE OF MENSTRUAL MIGRAINE WITH AND WITH OUT AURA IN YOUNG FEMALES WITH PREMENSTRUAL SYNDROME: A CROSS SECTIONAL STUDY

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ABSTRACT: Headache is exceptionally predominant in little youngsters toward the start of monthly cycle period. The progressions in female sex chemical levels particularly the premenstrual drop in estrogen level is connected with headache cerebral pain. To concentrate on the pervasiveness of headache and to research the comorbidity of Premenstrual condition and headache. A sample of 245 young female migraineurs having symptoms of premenstrual syndrome was evaluated by using feminine headache evaluation instrument (MMAT) and premenstrual manifestations screening device (PSST). A self-administered questionnaire was conveyed including questions adjusted and changed from recently distributed examinations according to the necessity. The pervasiveness of headache and connection with PMS was examined. Our study has found a prevalence rate of 67.8% in female migraineurs with PMS. Our finding supports a strong association between migraine and PMS. Well-designed prospective studies are expected to further investigate this relationship. The information was broken down by utilizing IBM Statistical Package for the Social Sciences (SPSS) version 16.

KEYWORDS: Migraine, Premenstrual syndrome, premenstrual dysphoric disorder, menstruation, menarche, menstrual-related-migraine

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INTRODUCTION

Around 80% of ladies of regenerative age experience indications of actual distress or passionate manifestations before the beginning of menstruation (1). premenstrual experience of Pakistani ladies and they fundamentally affect their day to day routine activities (2). The American College of Obstetricians and Gynecologists characterizes the period that should be available in the five days before menses for no less than three past periods and end inside four days after the beginning of menses without repeat until essentially day 13 of the cycle and is joined by physical and mental manifestations as Premenstrual Syndrome. PMS is a symptom of evolving chemicals. Sign and manifestations of PMS change with variances in gonadal chemicals. Diminished estrogen prompts the delivery norepinephrine from nerve

center, in this manner setting off falls in serotonin, acetylcholine, and dopamine, all of which likewise lead to a sleeping disorder, discouragement, and exhaustion, which are the regular manifestations of PMS. Serotonin receptors are receptive to estrogen and progesterone, and fills in as a trigger for headache.

Headache is a constant paroxysmal neurological problem described by multiphase assaults of head torment and a bunch of neurological symptoms. (3) WHO positions headache as the third most common disease on the planet? The prevalence of migraine in girls and boys is same until menstruation begins. The prevalence goes up when the menstrual period begins. This suggests that migraine and hormonal changes are correlated with each other (4). The annual prevalence is 18% in women and 6% in men. The lifetime

pervasiveness is 33% in ladies and 13% in men.

Feminine headache is characterized as headache assault that happen on two days before the beginning of period and third day of the stream in something like two of three monthly cycles. The pathogenesis of feminine related migraines is related with a few significant components, especially estrogen, which has activities engaged with the serotonergic and glutamatergic frameworks of the CNS. This clarifies its interrelation with migraines where serotonin and estrogen levels are straightforwardly connected. The estrogen level falls in the late luteal period of the monthly cycle in light of which the creation of serotonin diminishes which brings about expanded calcitonin quality related peptide (CGRP) and substance P from trigeminal nerves. This load of substances fills in as a justification behind vasodilation of intracerebral vessels and tangible sharpening of the trigeminal nerve, accordingly engaged with the Pathophysiology of headache. Expansion in the porousness of the blood-cerebrum hindrance delivers favorable to provocative arbiters in the aggravation touchy meninges.(5) Menstrual migraine attacks are usually more severe (6), (7) and long lasting (8) These assaults are additionally impervious to treatment because of the impacts of ovarian chemicals. Roughly 20-25% female migraineurs in everyone just as 22-70% of patients going to cerebral pain centers are influenced by feminine headache. Thinking about the high predominance of PMS and high pervasiveness of headache, and absence of exploration on the connection between these two conditions in Pakistan, and not many explorations around the world, we chose to break down these two conditions in youthful females.

MATERIAL AND METHODS

It was a cross-sectional study carried out Female medical students in Faisalabad from March 2018 to July 2018. The duration of the study was six months after approval of synopsis. Convenient sampling method strategy was used. A sample of 245 females was screened.

Inclusion criteria included female who had regular menstrual period i.e., 24–32 days' cycles for last 6 months, she should be a medical student and diagnosed with a migraine as defined by IHS guidelines (ICHD-3,2018). She should be having symptoms of Premenstrual Syndrome.

Exclusion criteria included pregnant or lactating women and irregular menstrual period for last 6 months. The subjects were enrolled after signing consent form. A sample of 245 females was screened. Data was collected through the survey questionnaire which consisted of 30 questions including demographic Information and questions that presented the International Headache Society (IHS) rules for conclusion of headache. Three rules apply to migraine like headache it includes physical activity, triggers and associated symptoms. Menstrual Migraine Assessment Tool (MMAT) was used for the diagnosis of menstrual migraine. It includes 3 questions i.e., headache associated with period, severe pain and photophobia. It assesses premenstrual symptoms, such as mood, anxiety, anger/irritability, sleep, fatigue/Lack of energy. The data was analyzed by using SPSS version 16.

RESULTS

Results showed that greater part (73) of the females who experienced migraine without aura were in the age group 18-22 years, a total of 137 experienced numbness/tingling sensation before migraine started,160 reported their headache when related with periods become severe,186 experienced menstruation problems in relation with

migraine, 172 reported their symptoms are dissipated after periods started. Out of 245 females, 21.6% had migraine episode for 0-4 hours, 16.3% for 0-8 hours, 17.6% for 0-12 hours, 11.0% for 0-24 hours while 33.5% females had experienced migraine episode longer than 24 hours (Table 1).

According to the features of migraine headache among 245 females, throbbing was the most widely recognized quality with 75.9% females revealing. Nausea (24.1%), Vomiting (23.7%), Photophobia (1.2%) and Phonophobia (6.1%) were other reported complaints. 133 females experienced seeing colors, 85 experienced flashing lights, 10 experienced losses of vision in one eye, 6 experienced lines, 2 experienced shapes, 6 experienced double vision (Table 2).

According to the symptoms of PMS reported by 245 females, out of which 207 experience danger/irritability, 168 experienced anxiety, 129 experienced tearful/increased sensitivity to rejection, 90 experienced difficulty concentrating and 61 experienced physical symptoms. 176 females experienced their symptoms interfere with work efficiency or productivity, 144 experienced symptoms interfere with relationship with friends, 157 experienced symptoms interfere with relationship with family and 171 experienced symptoms interfere with social life activities (Table 3). From our study it is estimated that 67.8% females suffer from migraine with PMS (Fig 1).

DISCUSSION

Overall, the prevalence of migraine with PMS was 67.8%. The majority of them had headache with aura and duration of migraine episode was longer than 24 hours. The most noteworthy commonness of headache was in the age bunch 18-22 years, in bachelor's enrolled and single students. Until now very few studies have examined the association between migraine

and PMS. These studies give different results. More than one of every five female migraineurs in $\geq 50\%$ of menstruation has migraine (9). In the study of Cesar et al. 2014 (10), it was found that the pervasiveness of headache had expanded from 6.54% in 2003 to 9.69% in 2012 with huge time patterns. The probability of migraine in women was multiple times higher than for men. A declining pattern in headache predominance was viewed as age expanded. It was tracked down that the segment factors related with headache were lower instructive level and not being a worker. A more regrettable self-detailed wellbeing status was identified with higher prevalence of migraine. (10) In a cross-sectional local area based study, a predominance of 57.7% of feminine headache was accounted for with PMS (11)

In a study it was found that those women who are exposed to periodic menstrual migraine attacks are also exposed to premonitory migraine symptoms resembling PMS. (12) In the study of Kazuo Yamada, out of 83 patients with premenstrual disorder, 57 was diagnosed with migraine, 48 was diagnosed with headache without atmosphere and 9 had headache with average quality. In headache without atmosphere patients, 44 had feminine headache. In their review survey, 91.7% patients with headache without atmosphere and premenstrual problem had headache assault on days -2 to +3 of monthly cycle (13). In Caspian diary of neurological sciences, a cross sectional review was finished by (14) on 218 understudies with PMS. The pervasiveness of headache in ladies with PMS is in the scope of 14.7% the greater part of them had the kind of headache without air and the quantity of assaults was somewhere in the range of 2 and 8 times each month. The pervasiveness of headache in understudies without PMS was 12%. This outcome show

that pervasiveness of headache is expanded in the event of PMS (14). Contrasting and the consequences of these investigations show a clear expansion in predominance of headache with PMS in our review. Results shift broadly because of varieties in rules utilized in these investigations. One more justification for change in outcomes is populace attributes. In our review we did exclude any non-headache, on PMS member.

CONCLUSION

It was found that the prevalence of Migraine in young females with PMS was 67.8%. The descriptive statistics between different variables shows a strong association between migraine and Premenstrual Syndrome. This direct relationship between

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migraine and PMS causes decreases in the quality of life in females.

RECOMMENDATIONS

Health workers are suggested to check all women admitted in health care institutions during the prolific period in terms of migraine and PMS and are suggested to arrange training programs on awareness and management of both of these conditions. Special attention is needed regarding physical therapy referrals.

DISCLOSURE:

There was no irreconcilable situation.

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Table 1: Overall Frequency of Migraine symptoms

Features	N	Visual changes	N
Pulsating	186(75.9%)	Seeing colors	133(54.3%)
Non Pulsating	59 (24.1%)	Flashing lights	85(34.7%)
Nausea	112(45.7%)	Loss of vision in one eye	10(4.1%)
Vomiting	58(23.7%)	Lines	6(2.4%)
Photophobia	3(1.2%)	Shapes	2(0.8%)
Phonophobia	15(6.1%)	Double vision	6(2.4%)

Table 3: Migraine and effect on social life

Symptoms of PMS	N	Effect on normal life	N
Anger	207(84.5%)	Work efficiency	206(84.1%)
Anxiety	168(68.6%)	Relationship with friends	166(67.9%)
Tearful/increased sensitivity to rejection	129(52.6%)	Relationship with family	179(73.1%)
Difficulty concentrating	90(36.7%)	Social life activities	194(79.2%)
Physical symptoms	61(24.9%)	Home responsibilities	210(85.7%)