

The Impact of Dysmenorrhoea on Pain, Sleep, and Anxiety among Young Adults-An Institutional based Pilot Study.

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ABSTRACT BACKGROUND:

Dysmenorrhea is one of the most common gynaecological health conditions which primarily influences approximately more than half of reproductive age. The purpose of this study is also to investigate the impact of pain on anxiety and sleep quality among young adults.

AIM & OBJECTIVE- To investigate the correlation between dysmenorrhic pain, anxiety and sleep quality in young adults.

MATERIALS AND METHODOLOGY-

This institutional based pilot study was conducted on 10 girls who's age ranges between 18-25 years, having diagnosis of dysmenorrhea. All participants were recruited from the physiotherapy college, located in Aurangabad city. These 10 participants were asked to fill out the Menstrual Symptoms Questionnaire (MSQ), for assessing their pain intensity, Hamilton Anxiety Rating Scale (HAM-A) for assessing anxiety and Insomnia Severity Index (ISI) for assessing their sleep quality. Prior to filling of the above questionnaires, a brief orientation were given to the participants and written informed consent were obtained from all the study participants prior to the commencement of this study.

RESULTS- In the present study of 10 participants, anxiety domains has been noted markedly in the age group of 18-20, while among 21-25 age group, insomnia was the most bothered issue, whereas there was strong positive correlation between dysmenorrhea and sleep quality ($r = 0.5$).

CONCLUSION: There is a strong correlation between Pain, Anxiety and Sleep Quality in young adults having primary dysmenorrhea.

KEYWORDS: Primary Dysmenorrhea, Pain, Sleep Quality, Anxiety

INTRODUCTION

Dysmenorrhea is a common gynaecological problem which affects 50 percent of menstruating women. It is classified into mainly two types i.e. primary dysmenorrhea and secondary dysmenorrhea. Primary dysmenorrhea is a painful menstruation with normal anatomy of pelvis begins usually in the female puberty it is onset usually begin from 6 to 12 months after menarche in primary dysmenorrhea pain is spasmodic in character and felt mainly in the lower abdomen. Secondary dysmenorrhea is defined as menstrual pain associated with underlying pathology such as endometriosis. Prevalence of primary dysmenorrhea greater in the women among age group between 17-25 yrs and estimate ranging from 67 to 90 percent. The pathophysiology of primary dysmenorrhea is primarily linked to elevated levels of prostaglandin [PGF₂] that induce hyper-contraction of the myometrium leading to ischaemic and hypoxia of the uterine muscle.

METHODOLOGY

Study Design: Observational study

• **Type of study:** Pilot study

• **Study population:** Young adult females of MGM school of physiotherapy.

• **Location of Study:** MGM School of Physiotherapy, Aurangabad.

PROCEDURE

This institutional based pilot study was conducted on 10 girls who's age ranges between 18-25 years, having diagnosis of dysmenorrhea. All participants were recruited from the physiotherapy college, located in

Aurangabad city. These 10 participants were asked to fill out the Menstrual Symptoms Questionnaire (MSQ), for assessing their pain intensity, Hamilton Anxiety Rating Scale (HAM-A) for assessing anxiety and Insomnia Severity Index (ISI) for assessing their sleep quality. Prior to filling of the above questionnaires, a brief orientation were given to the participants and written informed consent were obtained from all the study participants prior to the commencement of this study.

Inclusion Criteria: -

- Women age 18-25 yrs with regular menstrual cycle.
- Primary dysmenorrhea with menstrual pain score over 4 cm on 10-point VAS [Visual analogue scale] for pain intensity.

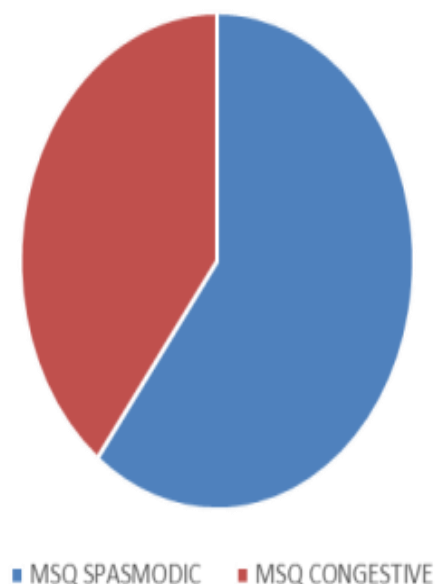
Exclusion Criteria:-

- Pregnancy
- Pelvic diseases
- Abdominal and pelvic surgeries
- Genitourinary system diseases [e.g. pelvic inflammatory diseases and urinary tract infections]
- Severe psychological stress

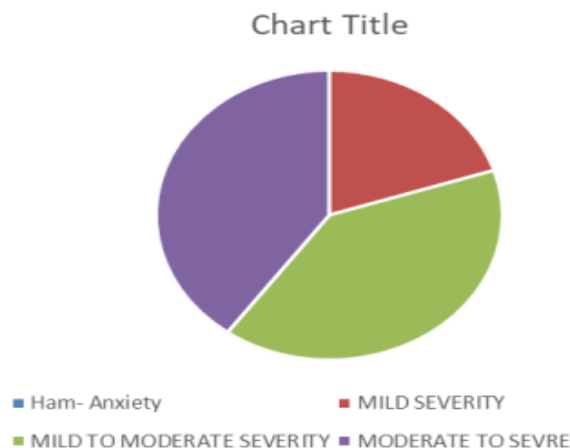
Results

In the present study of 10 participants, anxiety domains have been noted markedly in the age group of 18-25 years, while among 21-25 age group insomnia was the most bothered issue, whereas there was strong correlation between dysmenorrhea and sleep quality [$r=0.5$]

MSQ SCORING OF TYPE OF PAIN IN DYSMENORRHEA



Graph:1-Indicates readings of MSQ, which describes about type of pain in dysmenorrhea. This graph shows that spasmodic pain is higher than congestive pain.



Graph-2: The above graph shows that there is strong correlation between anxiety and dysmenorrhea



Graph: 3 the above graph shows sleep quality in young adults was affected and was found to be correlated in dysmenorrhea

STATISTICAL ANALYSIS

Statistical analysis for the present study was done using online Pearson correlation coefficient calculator. For this purpose, the data was entered into an excel spreadsheet, tabulated and subjected to statistical analysis. Probability value of $[r=0.43]$ were considered moderately strong correlation and probability value of $[r=0.5]$ were considered moderately strong correlation.

REVIEW OF LITERATURE: -

1. Nilfer Sahin et al. (2018) conducted a study Assessment of anxiety-depression levels and perceptions of quality of life in adolescents with dysmenorrhea they concluded that In dysmenorrhea management, it is important to enhance awareness among pediatric clinicians and gynecologists regarding the associations between dysmenorrhea and mental problems.

2. P. sudhakaret.,al(2021) conducted a cross sectional study on the prevalence of primary dysmenorrhea is found to be highly prevalent among college going girls .
3. Serkanbaduret.,al(2017) conducted a cross sectional analysis of consideration on pathophysiology of primary dysmenorrhea under the light of alterations in complete count parameters concluded that leukocytosis and increased mpvareassociated with the pathogenesis of 1 0 dysmenorrhea.
4. Mohammed abadialsameemet.,al(2018) conducted an exploratory study on dysmenorrhea associated symptoms and management among students concluded that dysmenorrhea is a very common problem in student and increasing awareness can help in relieving burden of common health problems.
5. Ahmed arafa et.,(2020) conducted an study on association of sleep duration and insomnia with menstrual symptoms among young women in upper Egypt the concluded that insomnia has shown to be significantly associated with premenstrual symptoms and dysmenorrhea but no substantial relationship has been indicated between hours of sleep and most menstruation symptoms
6. Nlifersahimet.,al(2018) conducted a study on assessment of anxiety depression levels and perception of QOL in adolescents with dysmenorrhea concluded that it is important to enchance awareness among pediatric clinicians and gynecologist regarding the association between dysmenorrhea and mental problems.

DISCUSSION

Our study which assesses dysmenorrhea pain, anxiety and sleep quality in younger adults with dysmenorrhea found that the anxiety scores were higher within 19-20 age group and insomnia was higher in younger adults with dysmenorrhea. In addition it was shown that the pain, anxiety and insomnia increased with increasing severity of dysmenorrhea.

• Araujo et al 2011 conducted a study on dysmenorrhea and sleep quality indicating that painful menstruation does not change the sleeping habit in adult women. Baker et al 2008 conducted a study on sleep disturbance was determined in approximately 25% women with primary dysmenorrhea. In this study by Ozturk A 2004 conducted a study was reported to cause sleep disturbance in women. Study indicated a significant association between insomnia, sleep and menstrual pain. So biologically the physical and emotional changes of the menstrual cycle are controlled by several hormones. Hormones do not only regulate reproductive function but also affect the sleep. Therefore, the disturbance of hormones can lead to both anxiety, poor sleep and menstrual pain. In our study, there is moderate clinical significance difference identified between the dysmenorrhea, anxiety and sleep quality with respect to the age. Nilfer et al conducted a study on, anxiety and insomnia, daytime sleepiness were significantly higher in the dysmenorrhea group than normal control group. It is thought that dysmenorrhea disturbs healthy physical and mental development in younger adults by impairing the quality of life. Although the mechanism underlying the relationship between dysmenorrhea and psychological problems has not yet been fully elucidated.

Conclusion

There is a strong correlation between pain, anxiety and sleep quality in young adults having primary dysmenorrhea.

Limitations

Its cross-sectional design and small sample size are remain limitations. We believe that further studies with larger sample size are needed to clarify the relationship between pain, anxiety, sleep and dysmenorrhea.

Future Scope of Study

We believe that further studies with a larger sample size are needed to clarify the relationship between pain, anxiety and sleep in dysmenorrhea.

References

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