IMPACT OF MENSTRUAL IRREGULARITIES ON QUALITYOF LIFE, MENTAL HEALTH, ACADEMIC PERFORMANCE AND SELF ESTEEM AMONG STUDENTS STUDYING IN SELECTED COLLEGES AT PERINTHALMANNA

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Abstract :   The present study was conducted to assess the Impact of menstrual irregularities on Quality of Life, Mental Health, Academic Performance and Self-Esteem among students studying in selected colleges at Perinthalmanna. Objectives: Assess the prevalence of menstrual irregularities among the students, Assess the existing Quality of Life, Mental Health, Academic Performance and Self Esteem among the students with and without menstrual irregularities, compare the Quality of Life , Mental Health, Academic Performance and Self-Esteem among the students with and without menstrual irregularities and to find the association between Quality of Life, Mental Health, Academic Performance and Self-Esteem of students with selected Demographic variables. Methodology: The investigators adopted the quantitative approach and the study design was quasi experimental Expostfacto research design. The study was based on Betty Neuman Theory (1972).Sampling technique adopted was purposive sampling technique. The students were explained regarding the questionnaire and was provided with Google forms. Students in the age group of 18-23 years studying in Shifa institute of medical sciences were the sample for the study. Total of183 students given responses in screening phase. Out of these 47 students were without menstrual irregularities and 136 students were with menstrual irregularities. Equally 36 students with menstrual irregularities and 36 students without menstrual irregularities based on matching with religion and place of residence were included for main study. Analysis: The collected data were analyzed by using descriptive and inferential statistics .Results: Among 183 students 26% of students had regular menstrual cycle and 74% had menstrual irregularities .Assessment of quality of life of students that 88.89% have good quality of life without menstrual irregularities and only63.89% have good quality of life with menstrual irregularities .Level of mental health revealed that 13.88 have no depression,11.11% have no anxiety,25.00% have no stress without menstrual irregularities and 19.44% have no depression ,19.44% have no anxiety ,33.33% have no stress with menstrual irregularities. Level of academic performance revealed that 33.33% have average academic xv performance without menstrual irregularities and 36.11% have average academic performance with menstrual irregularities. Level of self-esteem revealed that 72.22% have average self-esteem without menstrual irregularities and only 34.88% have average self-esteem without menstrual irregularities. By the t test it implies that there was significant difference between quality of life, Mental health, Self –esteem and Academic performance of students with and without menstrual irregularities. According to the chi square value for quality of life of students, were there was no association between religion, education of mother, year of study, monthly income and quality of life. The chi square value for place of residence, age was statistically significant and it implies that there was a significant association between age, place of residence and quality of life. The chi square test for mental health, it implies that were there was no association between education of mother and mental health and there was a significant association between age, year of study, religion, place of residence, monthly income and mental health. The chi square value for self – esteem, it implies that were there was no significant association between place of residence, monthly income, age, year of study, religion and mental health, and there was a significant association between education of mother and self-esteem. The chi square value for academic performance were there was no significant association between year of study, age, religion, place of residence, monthly income and academic performance, and there was a significant association between education of mother and academic performance. Conclusion: Among 72 samples the quality of life, mental health, academic performance and self-esteem were analyzed in the aspects of with and without menstrual irregularities and the t value of quality of life (0.022), self – esteem(0.292), academic performance (0.316), and mental health (0.868) was not statistically significant at 0.05 level implies there

was significant difference in Quality of life, Mental health, Academic performance, Self –esteem on students with and without menstrual irregularities.

Index Terms - Menstrual irregularities, Academic performance, Mental Health, Self esteem, Quality of life and students.

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INTRODUCTION

Menstruation is a natural phenomenon involving the discharge of blood from the uterus through the vagina, occurring at more or less regular monthly intervals during the reproductive life of females. Normal menstruation first occurs in adolescents between 11 and 14 years of age, with a period length of 7 days or less2 . The normal range for ovulatory cycles is between 21 and 35 days with average blood loss of 20-80Ml3 . A regular menstrual cycle can be set within a year of menarche 4 .For the first few years after menarche, irregular and longer cycles are common3 . Menstrual irregularity refers to any kind of changes occurring irregularity of onset, frequency of onset, duration of flow, and volume from the regular menstrual cycle. The regular cycle at puberty depends on a complex series of interactions involving the hypothalamus, anterior pituitary, and ovaries. Interruption of the hypothalamic pituitary ovarian (HPO) axis pathway results in an irregular menstrual cycle5. There are various types of menstrual disorders, including dysmenorrheal, premenstrual symptoms, Menorrhagia, Polymenorrhea, abnormal vaginal bleeding, amenorrhea, Oligomenorrhea , and irregular menstruation2 . Menstrual disorders can have various effects on women, either directly or indirectly, on their physical or emotional health. These disorders influence ordinary working and social life and may impose constrain on their daily routine and activities. Studies have shown that a large proportion of the female population of reproductive age suffers from menstruation-related health issues Menstrual cycle irregularity is a foremost gynecological problem and a cause of anxiety to students and those close to them7 .According to a cross sectional study on "Menstruation among adolescent girls in Malaysia", 75% of girls experience some problems associated with menstruation. It affects the different day-to-day events of students.

College students have reported menstrual discomfort, feelings of guilt and sadness, and difficulty containing menses as bad menstrual experiences. These factors adversely affect their education through absenteeism, reduced engagement, and poor academic performance. Menstruation, on the other hand, can be a pleasant experience for some students, and their capacity to adjust to dysmenorrheal problems indicates their perseverance and ingenuity. Menstrual disorders have shown a profound effect on the day-to-day lives of most of those who suffer from it and can lead to loss of independence and QOL. The effect of low hormone level leads to emotional sensitivity, which can present as low self-confidence and depression, 4 especially among those with menstrual disorders

NEED OF THE STUDY.

Young females are a periods in which females generally reach their full adult strength and their capacity. Sexual and reproductive health problems for 1/3 of health issues for women between the age of 15 and 44 years. Women are more prone than men to experience anxiety, pressure and somatic complaints. physical symptoms that cannot be explained medically WHO.

World wide there are approximately 880 million adolescent girls and young women aged 15-24 year making up 12 percentage of the world population-UNAIDS 2014. According to Kerala census 2011, the female populations is 17,378,649 crores. A cross sectional study among 660 under graduate females students at Debre Berhan University shows 32.62% participants had irregular menstrual cycle. As per the result of a large scale survey conducted across India in 2020 about 23% of women respondents between the ages of 20 and 29 years suffered from menstrual problems. The number of women suffering from menstrual problems had decreased with progress in age in 2020 across the country**.**

The American Academy of paediatrics (AAP) advocate treating menstrual status as a vital sign of routine visit. A population based nationwide Korea national health and nutrition surveys conducted that irregular menstruation is an important indicator of current and potential health problems 2016. Menstrual disorders are problems that affect a woman normal menstrual cycle. They include pain full cramps during menstruation, abnormally heavy bleeding or not having any bleeding.

As per the census of Kerala 2002 adolescent girls belongs to 16.5% in the total population of our country. In countries like India adolescent girls face serious health problems due to socio economic environmental condition and gender discrimination. This factor makes them more vulnerable to health risk.

Menstrual dysfunction forms the most gynaecological complaint (75-80%) among adolescents ,yet are often over looked, different menstrual irregularities either in excess menorrhagia or space defect which are very common among adolescent can have an immediate impact on her quality of life, mental health, academic performance and self esteem.So the investigators are interested to assess the impact of menstrual irregularities on various aspects of adolescent girls

3.1 Population and Sample:

Population is the entire set of individual or objects having some common characteristics.24 The target population for the study was students. Sample is the subset of the population comprising those selected to participate in a study. The sample size of study consisted of 72 students. Among them 36 students were with menstrual irregularities and other 36 students were without menstrual irregularities studying in institutions under Shifa institute of medical sciences, Perinthalmanna

3.2 Data and Source of Data:

After obtaining the formal permission and advice from the Principal of Alshifa College of Nursing and ethical committee, the study was conducted from 1/11/2022 to 25 7/11/2022. Total of 183 samples were obtained . Out of these 47 students were without menstrual irregularity and remaining 136 students were with menstrual irregularities .36 students with menstrual irregularity and 36 students without menstrual irregularity by matching with religion and place of residence were selected by using non probability purposive sampling technique for main study. After a brief self introduction, the investigator explained the purpose of the study and

obtained informed consent from the students. The questionnaires were distributed through Google platform and they were asked to fill it. The students were comfortable and cooperated well during the study.

3.3 Theoretical frame work:

The conceptual model provides a certain frame of reference for clinical practice, research and education. The quality of conceptual model comes from the organization. They provide for thinking, observation and interpreting what is seen. They also give direction for relevant questions on phenomenon, and point out solutions to practical problems (HELEN 2000)25

Betty Neuman Theory – developed by Betty Neuman in 1972. According to Neuman system model individuals are an open and dynamic system, with cycles of entry , process and exit , which feedback continuously and organically. In concentric circles the 5 variables are organized in lines to constitute the system the flexible, normal resistance lines and basic structure are part of the system. Neuman consider any internal and external factors that affect client system as stressors. In this theory menstrual irregularity of students is consider as internal stressors, Intra personal stressors.

1. Physiological- In this study the physiological need refers to need for regular menstrual pattern of students. Irregular menses is consider as an intra personal stressor for college students.
2. Psychological- In this study psychological need refers to mental health, self-esteem of students
3. Socio-cultural- In this study socio cultural need of students includes the academic performance and quality of life.

Interpersonal stressors- It occur outside the client system boundary, are proximal to the system, and impact the system.

Extrapersonal stressors -It occurs outside the client system boundaries but are at a greater distance from the system than are interpersonal stressors.

Degree of reaction-The amount of system instability resulting from stressor invasion of the normal line. Reconstitution-Following treatments of stressor reaction, the return and maintenance.

RESEARCH METHODOLOGY

Research methodology involves the systemic procedure by which the researcher starts from the problem to its conclusion. It involves steps, procedures and strategies for gathering and analyzing data in a research investigation.

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3.4.1 Descriptive Statistics :

Frequency and percentage distribution were used to study the demographic variables of students such as age, year of study, religion, family monthly income, education of mother and place of residence. Mean and standard deviation were used to determine the impact of menstrual irregularity on the variables.

RESULT AND DISCUSSION:

Based on screening tool for menstrual irregularities, among 183 students 26% of students had regular menstrual cycle. Majority of the students 74% had menstrual irregularities.

Table1: Distribution of students based on menstrual irregularity screening tool.

(N=183)

Screening tool for Menstrual irregularities	Yes	Percentage (%)	No	Percentage (%)
1) Does your periods are < 21 days	46	25.14	137	74.86
2) Does your periods are >35 days	22	12.01	161	87.10
3) Is your menstrual flow is >7 days	24	13.11	159	86.90
4) Is the re-occurance of your menstruation	12	6.55	171	93.44
5) Are you taking any leave more often	30	16.30	153	83.73
6) Did you get relief from periods pain after taking painkillers	113	61.74	70	38.25

This section deals with distribution of demographic characteristics of students with menstrual irregularities(n=36) and without menstrual irregularities(n=36).

In case of age the students without menstrual irregularities(36) 19(26.39%) were between the age of 18-20 years , 17(23.61%) were between the age of 21-23 .In

the case of students with menstrual irregularities(36), 29(40.28%)between the age of 18-20 years of 7(9.72%)were between the ages of 21-23 years.

Regarding year of study, students with menstrual irregularities(36), 21(29.17%) were 1st year ,9(12.50%) were 2nd year ,4(5.56%) were 3rd year and 2(2.78%) were 4th year. In the students without menstrual irregularities(36), 13(18.06%) were1st year, 10(13.89%) were 2nd year,6(8.33%) were 3rd year and,7(9.72%) were4th year.

In case of education of mothers of students without menstrual irregularities(36) few of their mothers 6(8.33%) were primary,14 (19.44%) were secondary,10 (13.89%)were higher secondary and 6(8.33%) were graduate. And non of them were literate. In the case of education of mother students with menstrual irregularities(36) , completed schooling and few of their mothers 18(25%) were primary,6(25%) were secondary, 9 (12.50%) were higher secondary and 3(4.17%)were graduate. And none of them were illiterate.

In case of place of residence, the students without menstrual irregularities(36) 30(41.67%) were Hosteler, 6(8.33%)were Day scholar. Among the students with menstrual irregularities(36), 30(41.67%) were Hosteler and 6(8.33 %) were Day scholar.

In case of religion the students without menstrual irregularities(36), 10(13.89%) were Hindu ,10(13.89%) were Christian ,16(22.22%) were Muslim. In the case of students with menstrual irregularities (36), 10(13.89%) were Hindu 10(,13.89%) were Christian, 16(22.22%) were Muslim.

Regarding family monthly income students without menstrual irregularities(36),the 14(19.44%) were having monthly income of <\=25000, 9(12.5%)were having monthly income of 25001-50000 , 8(11.11%)were having monthly income of 50001-75000, 5(6.94%) were having monthly income of 75001 and more. In case of students with menstrual irregularities(36), 16(22.22%) were having monthly income of <\=25000,10(13.89%) were having monthly income of 25001 -50000, 6(8.33%)were having monthly income of50001-75000,and only 4(5.56%) were having monthly income of 75000 and more.

Table 2: Assessment of level of quality of life of students with and without menstrual irregularities.

(n=72)

Quality of life	Students without Menstrual irregularities		Students with Menstrual irregularities	
	F	Percentage	f	Percentage
	(n=36)	(%)	(n=36)	(%)
Poor	0	0	0	0
Average	4	11.11	13	36.11
Good	32	88.89	23	63.89

Table 2: In case of quality of life of students with and without menstrual irregularities, among 36 students without menstrual irregularities 4(11.11%) were having average quality of life and 32(88.89%) were having good quality of life. In the case of students with menstrual irregularities(36), 13(36.11%) were having average quality of life , 23(63.89%) were having had good quality of

life. The mean, and standard deviation of quality of life of students without menstrual irregularities were 52.44, and 8.33. The mean and standard deviation of quality of life of students with menstrual irregularities were 56.3 and 5.17.

Table 3: Assessment of level of mental health of students with and without menstrual irregularities

(N=72)

Mental health	Students without Menstrual irregularities		Students with Menstrual irregularities	
	F	Percentage	f	Percentage
	(n=36)	(%)	(n=36)	(%)
Normal				
Depression	5	13.88	7	19.44
Anxiety	4	11.11	7	19.44
Stress	9	25.00	12	33.33
Mild				
Depression	4	11.11	4	11.11
Anxiety	1	2.77	1	2.77
Stress	3	8.33	1	2.77
Moderate				
Depression	9	25.00	3	8.35
Anxiety	4	11.11	5	13.88
Stress	12	33.33	9	25.00
Severe				
Depression	6	16.66	11	30.55
Anxiety	6	16.66	1	2.77
Stress	7	19.44	8	22.22

Mental health among students without menstrual irregularities (36) revealed that as for depression, 5(13.88%) had no depression, 4(11.11%) had mild depression, 9(25.00%) had moderate depression,6(16.66%) had severe depression, 12(33.33%) had extreme depression. For anxiety 4(11.11%) had no anxiety, 1(2.77%) had mild anxiety, 4(11.11%) had moderate anxiety, 6(16.66%) had severe anxiety, 21(58.33%) had extreme anxiety. For stress, 9(25.00%) had no stress, 3(8.33%) had mild stress, 12(33.33%) had moderate stress, 7(19.44%0 had severe stress, 5(13.90%) had extreme stress.

Mental health among students with menstrual irregularities (36) revealed that as for depression 7(19.44%) had no depression,4(11.11%) had mild depression, 3(8.35%) had moderate depression, 11(30.55%) had severe depression, 11(30.55%) had extreme depression. For anxiety 7(19.44%) had no anxiety, 1(2.77%) had mild anxiety, 5(13.88%) had moderate anxiety, 1(2.77%) had severe anxiety, 22(61.11%) had extreme anxiety. For stress 12(33.33%) had no stress, 1(2.77%) had mild stress, 9(25.00%) had moderate stress, 8(22.22%) had severe stress, 6(16.66%) had extreme stress.

Table 4: Assessment of level of academic performance of students with and without menstrual irregularities.

(n=72)

Academic Performance	Students without Menstrual irregularities		Students with Menstrual irregularities	
	F	Percentage	f	Percentage
	(n=36)	(%)	(n=36)	(%)
Poor	24	66.67	23	63.89
Average	12	33.33	13	36.11
Good	0	0	0	0

Table 4 reveals that the assessment of level of academic performance of students with and without menstrual irregularities. Among the students without menstrual irregularities (36), 12(33.33%) were average and 24(66,67%) were showing poor in academic performance. In the case of students with menstrual irregularities (36), 23(63.89%) had poor academic performance, 13(36.11%) had average academic performance.

Table 5: Assessment of level of Self- esteem of students with and without menstrual irregularities.

Self Esteem	Students without Menstrual irregularities		Students with Menstrual irregularities	
	F	Percentage	f	Percentage
	(n=36)	(%)	(n=36)	(%)
Poor	10	27.78	11	30.56
Average	26	72.22	25	34.88
Good	0	0	0	0

Table 5 reveals that the assessment of self- esteem of students with and without menstrual irregularities. In the students without menstrual irregularities (36), 10(27.78 %) were having poor and 26(72.22%) were having average self -esteem. In the case of students with menstrual irregularities (36), 11(30.56%) were having poor self- esteem, 25(34.88 %) were having average self-esteem.

Table 6: COMPARATIVE MEAN OF QUALITY OF LIFE AMONG STUDENTS WITH AND WITHOUT MENSTRUAL IRREGULARITIES.

Group	Number	Mean	SD	t value	df
Without menstrual irregularities	36	52.44	8.33	0.022	70
With menstrual irregularities	36	52.44	5.17		

Table6: Here the mean and standard deviation of quality of life of students without menstrual irregularities were 52.44, and 8.33. The mean and standard deviation of quality of life of students with menstrual irregularities were 56.3 and 5.17. The obtained unpaired t value was0.022 and degree of freedom was 70. Statistically the calculated value was less than table value (2.000) at 0.05 level of significance.

Table 7: COMPARATIVE MEAN OF SELF ESTEEM OF STUDENTS WITH AND WITHOUT MENSTRUAL IRREGULARITIES.

Group	Number	Mean	SD	t value	df
Without menstrual irregularities	36	22.55	3.30		
With menstrual irregularities	36	21.77	2.34	0.292	70

Table 7: Here the mean and standard deviation of self-esteem of students without menstrual irregularities were 22.55 and 3.30. The mean and standard deviation of self-esteem of students with menstrual irregularities were 21.77 and 2.34. The obtained unpaired t value was 0.292 and the degree of freedom was 70. Statistically the calculated value was less than table value (2.000) at 0.05 level of significance.

Table 8: COMPARATIVE MEAN OF ACADEMIC PERFORMANCE STUDENTS WITH AND WITHOUT MENSTRUAL IRREGULARITIES.

Group	Number	Mean	SD	t value	df
Without menstrual irregularities	36	18.55	4.07		
With menstrual irregularities	36	19.38	2.49	0.316	70

Table 8: Here the mean and standard deviation of academic performance of students without menstrual irregularities were 18.55 and 4.07. The mean and standard deviation of academic performance of students with menstrual irregularities were 19.38 and 2.49.

The obtained unpaired t value was 0.316 and degree of freedom of was 70. Statistically the calculated value was less than table value (2.000) at 0.05 level of significance.

Table 9: COMPARATIVE MEAN OF MENTAL HEALTH OF STUDENTS WITH AND WITHOUT MENSTRUAL IRREGULARITIES.

Group	Number	Mean	SD	t value	df
Without menstrual irregularities	36	22.58	13.22		
With menstrual irregularities	36	21.83	10.54	0.868	70

Table 9: Here the mean and standard deviation of mental health of students without menstrual irregularities were 22.58 and 13.22. The mean and standard deviation of mental health of students with menstrual irregularities were 21.83 and 10.54. The obtained unpaired t value was 0.868 and the degree of freedom was70. Statistically the calculated value was less than table value (2.000) at 0.05 level of significance.

The chi square value of place of residence was 13.48 which was greater than the table value 9.2. Hence it was statistically significant and it implies that there was an association between place of residence and quality of life at 0.05 level of significance.

The chi square value of year of study was 125.79 which was less than table value 24.99. Hence it was statistically significant and it implies that there was association between year of study and mental health of students at 0.05 level of significance.

In case of association of mental health of students with religion and education of mother. The chi square value of religion was 271.78 which was greater than table value 18.3. Hence it was statistically significant and it implies that there was association between religion and mental health of students at 0.05level of significance. The chi square value of education of mother was 128.09 which was less than table value 31.41. Hence it was statistically significant and it implies that there was significant association between education of mother and mental health of students at 0.05 level of significance.

In case of association of mental health of students with place of residence and monthly income .The chi square value of place of residence was 154.96 which was greater than the table value 18.31. Hence it was statistically significant and it implies that there was an association between place of residence and mental health of students at 0.05 level of significance. The chi square value of monthly income was 209.12 which was greater than the table value 24.99. .Hence it was statistically significant and it implies that there was an association between monthly income and mental health of students at 0.05 level of significance.

In case of association of self-esteem of students with education of mother and age. The chi square value of education of mother was 14.01 which was greater than the table value 11.34. Hence it was statistically significant and it implies that there was an association between education of mother and self-esteem of students at 0.05 level of significance. In case of association of academic performance of students with education of mother and religion. The chi square value of education of mother was 14.01which was greater than the table value 11.34. Hence it was statistically significant and it implies that there is an association between education of mother and academic performance of students at 0.05 level of significance.

Discussion:

The study identified the existing level of Quality of life, Mental health, Academic performance and Self- esteem among students with and without menstrual irregularities. Good quality of life was found more among students without menstrual irregularities 32(88.89%) than students 23(63.89%) with menstrual irregularities..The level of academic performance is same among students with and without menstrual irregularities. The level of good self-esteem was found more among students without menstrual irregularities 26(72.22%) than students 25(34.88%) with menstrual irregularities.

The comparison of Quality of life among student without and with menstrual irregularities showed that mean score of quality of life of students without menstrual irregularities was 52.44 with a standard deviation of 8.33 which is less comparing to students with menstrual irregularities ie; 56.33 with a standard deviation of 5.17. But statistically there was no significant difference.

Mean Self-esteem score of students without menstrual irregularities was 22.55 with a standard deviation of 3.30 which is high comparing to students with menstrual irregularities of 21.77 and standard deviation of 2.34. But statistically there was no significant difference.

Mean Academic performance score of students without menstrual irregularities was 18.55+/- 4.07 which is low comparing to students with menstrual irregularities 19.38 with a standard deviation of 2.49. But there was no statistically significant difference. The findings are not in tune with the cross sectional study was conducted to find out the effect of menstrual symptoms on academic performance of medical students .one hundred and thirty three having mood swings during menstrual period .The examination performance is affected during menstrual period. It was concluded that the menstrual symptoms have major effect on academic performance of female students.

Mean DASS score of students without menstrual irregularities was 22.58 with a standard deviation of 13.22 which is high comparing to students with menstrual irregularities

21.83 and standard deviation of 10.54. But there was no statistically significant difference.

Statistically no significant difference between mean score of selected variables of students without menstrual irregularities and with menstrual irregularities indicated that there was no impact of menstrual irregularities on four components such as Quality of life, Mental health, Academic performance and Self- esteem.

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