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A Study to Assess the Knowledge Regarding Perceived Stress During Menstrual Cycle Among P.U Students in View to Provide Information Guidesheet of Basaveshwara Composite P.U College Bagalkot, Karnataka

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Abstract **Original Research Article**

Background: Menstrual cycle is a complex, hormone-driven process preparing the female body for pregnancy, involving coordinated ovarian and uterine changes, typically 21-40 days long, regulated by the hypothalamic-pituitary-ovarian (HPO) axis. It is the permanent cessation of menses for 12 months or more. Perceived stress is the feelings or thoughts a person experiences in a given period of time. The rhythm of a menstrual cycle is the gauge of the reproductive functions of females, which is prone to derangement from day-to-day stress, insomnia, anxiety, and depression. ***Aim of the study:*** To assess the perceived stress during menstrual cycle. ***Methodology:*** A descriptive study was conducted from August 30, 2025, to September 3, 2025. A total of 120 study subjects were selected using the stratified random sampling technique. The study was conducted in Basaveshwara Composite P.U Bagalkot. Perceived stress measured through a standard tool adopted from the Perceived stress scale rating scale. A chi square test was employed to determine the association between socio-demographic characteristics of knowledge regarding perceived stress during menstrual cycle among adolescent girls, respectively. ***Results:*** Assessment of knowledge regarding perceived stress among adolescent girl; hereby, the knowledge about median value is **60.5** minimum value is 0-7, maximum value is **27-40**, Standard deviation is **4.5,** and the mean percentage is **17.9%.** The calculated chi square value shows that there is a significant association found between knowledge regarding perceived stress among adolescent girl about age (χ^2**= 1.61; P<0.05),** family monthly income (χ^2**= 3.92; P<0.05),** educational status (χ^2**= 1.91; P<0.05),** and age of menarche (χ^2**= 2.94; P<0.05)**. A chi square test was employed to determine the association between sociodemographic characteristics of knowledge regarding perceived stress during menstrual cycle among adolescent respectively. ***Conclusion:*** The findings of this study showed that only one-third of adolescent girl have knowledge regarding perceived stress during menstrual cycle. The source of information and mother educational status suggested points to the need for improving knowledge by applying the external stimuli to control the perceived stress during menstrual cycle among adolescent girls.

Keywords: information, Adolescent, perceived stress, menstrual cycle.

INTRODUCTION

Adolescence is recognized as the most turbulent phase of life in terms of health; carrier and one's place in life. The concerns become more marked in case of girls as they have to come up with onset of menarche [1]. The word "menstruation" is etymologically to "moon". The word is actually procedure from the Latin word 'menses' meaning month, which in turn is obtained from the Greek word 'mene' meaning moon [2]. Menstruation also known as a period or monthly, is the regular discharge of blood and, mucosal tissue (known as menies) from the inner lining of the uterus through the vagina [3]. Menstruation usually last 3-5 days, but can also last 7 to 8 days, or even 1 to 2 days, & is accomplished by a little blood. Short menstrual periods are known as polymenorrheaa, prolonged menstrual cycle or oligomenorrhea, and amenorrhea which occurs when there is no menstruation cycle disorder [4]. The menstrual cycle is divided into three phases – follicular (proliferative), luteal (secretory) and menstrual phase. The various hormones responsible for the menstrual cycle vary during the cycle. Luteinizing hormone, progesterone and estrogen hormones are at lowest physiological levels, while the follicle stimulating hormone levels begin to increase at the beginning of the menstrual phase. There is an increase in the estrogen

levels of the follicular phase [5]. Menstruation is a normal physiological process among reproductive age group females. Although some of them show the abnormal menstrual pattern, which is influenced by several factors, including socio demographic status, psychosocial stress, improper sleep level etc. [6]. Menstrual distress is collectively used to refer to a negative symptom that has been associated with pain of menstrual cycle, discomfort, loss of presentation, negative effects, impairments in performance, compulsive behaviour, amenorrhea, and irregularity. Distress occurs when the stress is severe [7]. Stress can be defined as a normal reaction which affects our mental, emotional or physical state and ultimately results in negative health problems such as depression, anxiety etc. [8].

MATERIALS AND METHODS

A descriptive survey design was used for the study. A simple random technique was used to obtain 120 samples from adolescent girl in Basaveshwar Composite P.U College Bagalkot. Data were collected using a closed-ended standard questionnaire to assess the level of knowledge regarding perceived stress during menstrual cycle among P.U Students. The collected data were analyzed using descriptive and inferential statistics.

Source of data: In the present study, data was collected from Adolescent girls (P.U Students).

Research Approach: A survey research approach is non-experimental research that focuses on obtaining information regarding the activities, beliefs, preferences, and attitudes of people via direct questioning of a sample of respondents. A descriptive survey approach is designed when the purpose of the study is to describe the prevalence or incidence of a phenomenon or to estimate the value of a phenomenon for a population. In the present study, the main aim is to assess the level knowledge regarding perceived stress during menstrual cycle among adolescent girls of Basaveshwar Composite P, U college Bagalkot.

Research Design: A researcher's overall plan for obtaining answers to the research question or for testing the research hypothesis is referred to as research design. A descriptive survey design means the study involves a one-time assessment of data from Adolescent girls. The study design represents the population, sample size, variables, data collection tools and techniques, and plan for data analysis.

Study Variable: assess of Perceived stress among Adolescent girls.

Socio-Demographic Variables: Socio-demographic variables include the socio-demographic characteristics of Adolescent girl. Age, religion, educational status, educational status of mother, type of family, family income, age at menarche, frequency of menstrual stress, duration of menstrual flow, flow of bleeding, flow of menstrual cycle, stress during menses, source of information.

Setting of Study: Setting is the condition in which data collection will occur. The present study was conducted in Basaveshwar composite PU College Bagalkot. The study setting was selected according to the availability of adolescent girls and the investigator's convenience.

Population: Target Population: In this study, it refers to the group of adolescent girls who are in the state of in Bagalkot.

Accessible Population: In this study, it refers to the adolescent girls who are in the state of menstrual cycle and members of Basaveshwara Composite PU College Bagalkot.

Sample and Sample Size: A sample consists of subjects from units that comprise the population for the present study. In this study, the sample size is (n = 120). Adolescent girls who are in the menstrual cycle period and the members of Basaveshwara Composite PU College Bagalkot.

Sample Technique: Sampling technique is the procedure that the researcher adopts in selecting the samples for the study. The sample for the present study is 120 adolescent girls who are members of Basaveshwara Composite PU College Bagalkot. The convenient sampling technique was used to select samples for the present study. The adolescent girls were selected conveniently according to duration and who met both the in-sampling technique and the procedure that the researcher adopts in selecting the inclusion and exclusion criteria of the study.

DATA COLLECTION TOOL

Data collection tools are the procedures or instruments used by the researcher to observe or measure the key variables in the research problem. A standard perceived stress scale tool was used to collect the data in the present study.

Procedure for Data Collection:

Prior permission was obtained from: Formal permission was obtained from the principal, Shri B.V.V.S. Institute of Nursing Sciences, Bagalkot. Ethical clearance has been obtained from the institutional ethical clearance committee at the BVVS Sajjalashree Institute of Nursing Sciences, Navanagar Bagalkot. Subjects who fulfilled the inclusion criteria were selected using a simple random technique. The researcher explained the purpose of the study to the participants, and informed consent was obtained from the subjects. A pilot study was carried out at the end of the planning phase to explore and test the research elements. A pilot study was

conducted in Basaveshwara Composite PU College Bagalkot from August 30, 2025, to September 3, 2025, to find out the feasibility and practicability of the study design. A study of 12adolescent girls was conducted randomly with the use of closed-ended knowledge and practice questionnaires.

ETHICAL APPROVAL: institutional ethical clearance approved

RESULTS

The Percentage wise distribution of PU students according to their age in years reveals that, out of 120 PU Students, (62.5%) were in the age group of 17 years, (23.3%) were in the 18 years, (14.2%) were in the 16 years Percentage wise distribution of PU students according to their religion reveals that, out of 120 PU students, (94.2%) were Hindu, (5.84%) were muslim. Percentage wise distribution PU students according to their educational status of study reveal that, out of 120 PU Students ,(58.3%) were studying PUC II ,(41.7%) were studying PUC I .Percentage wise distribution of PU students according to their educational status of mother reveals that ,out of 120,(43.33%)are no formal education, (26.67%) are Primary school, (20%) are High school and (10 %) are Higher secondary education. Percentage wise distribution PU students according to their type of family reveals that, out of 120, (51.7%) PU students were belongs to joint family, (48.3%) PU students were belongs to nuclear family. Percentage wise distribution of PU students according to their family income reveals that, out of 120, (49.16%) is Rs. less than 10000 /- and (24.17%) is Rs.10001 /- to 15000/-, and (14.17%) is Rs .Above 20000 /- and (12.5%) is Rs.15001/- to 20000/- .Percentage wise distribution of PU students according to their age at menarche reveals that, out of 120 (42.5%) were in 13-14 years, (29.16%) were in above 15 years, (20%) were in 12-13 years and (8.34%) were in less than 12 years. Percentage wise distribution of PU students according to their frequency of menstrual cycle reveals that, out of 120 (36.7%) of PU student's menstrual cycle is more than 28 days, (35%) of PU student's menstrual cycle is 21- 28 days, and (28.3%) of PU student's menstrual cycle is less than 28 days. Percentage wise distribution of PU students according to their duration of menstrual flow reveals that, out of 120, (83.3%) of PU student's duration of menstrual flow is 2-5 days, (15%) of PU student's duration of menstrual flow is 5-7 days, and (1.66%) of PU student's duration of menstrual flow is 7-10 days.

Percentage wise distribution of PU students according to their flow of bleeding reveals that, out of 120, (88.34%) have less than normal flow of bleeding, (7.5%) heavy flow of bleeding, (4.16%) normal flow of bleeding. Percentage wise distribution of PU students according to their flown of menstrual cycle reveals that, out of 120 (78.3%) of PU students' menstrual cycle is regular, (21.7%) of PU students' menstrual cycle is irregular. Percentage wise distribution of PU students according to their stress during menses reveals that, out of 120, (70%) of PU students have no stress, (20%) of PU students have worried and depression, (5.84%) of PU students have fatigue and irritability and (4.16%) of PU students have hair loss and weight gain. Percentage wise distribution of PU students according to their source of information reveals that, out of 120 (92.5%) of PU students got information from family, (5.83%) of PU students got information from peer group, (0.84%) of PU students got information from teachers, (0.83%) of PU students got information from social media.

Table No. 1: Frequency and Percentage wise distribution of students according their knowledge on menstrual cycle among PU students. N=120

SL.NO	Interpretations	Score	Frequency	Percentage
1	Low stress	0-13	55	45.83%
2	Moderate stress	14-26	49	40.83%
3	High perceived stress	27-40	16	13.33%

The highest percentage (45.83%) found with low stress, respondents (40.83%) noticed with moderate stress and in the present study sample shows only (13.33%) of PU students were having severe stress.

Table No. 2: Assessment of Mean, SD related to Knowledge on Menstrual cycle among PU students

SLNO	Assessment	Mean	SD
1	Knowledge	17.9	4.5

Table No. 3: Shows that the mean percentage of knowledge score of PU students was 17.9 with SD=4.5

SL	Sociodemographic variables	DF	Chi-square	Table value	P value	Interpretation
1	Age in years	6	1.61	12.592	0.9519	NS
2	Religion	6	10.06	12.592	0.1221	NS
3	Educational status	2	1.91	5.991	0.3848	NS
4	Educational status of mother	8	10.07	15.507	0.2601	NS
5	Type of family	2	3.74	5.991	0.1541	NS
6	Family income	6	3.92	12.592	0.6875	NS

SL	Sociodemographic variables	DF	Chi-square	Table value	P value	Interpretation
7	Age at menarche	6	2.94	12.592	0.8163	NS
8	Frequency of menstrual cycle	4	2.42	9.488	0.659	NS
9	Duration of menstrual flow	6	1.25	12.592	0.9743	NS
10	Flow of bleeding	6	2.75	12.592	0.8395	NS
11	Flow of menstrual cycle	2	0.3	5.991	0.8607	NS
12	Stress during menses	6	4.22	12.592	0.6469	NS
13	Source of information	1	6.05	3.84	0.0139	Significant

Df = degrees of freedom NS = Not significant *S=Significant (P < 0.05)

The findings regarding the association of the depression of menopausal women with their selected socio-demographic variables show that a significant association was found between the depression and residency of menopausal women ($\chi 2 = 17.8$; $P<0.05$) and the age of menopause ($\chi 2 = 5.44$; $P<0.05$).

DISCUSSION

The present study was designed to assess the level of knowledge regarding perceived stress among adolescent girls in Basaveshwara Composite PU College Bagalkot.

Findings of this study can be compared with a study that was conducted by Ms. Priyanka R Waghmare in 2020, to assess the Prevalence of stress during menstrual cycle among adolescent girls. Majority of adolescent belongs to 13-14 years of age group (56), 40 adolescents belong to 15-16 years, 4 were from 17-18 years. 9 adolescent girls were vegetarian, 18 were non vegetarian, 73 were taking mixed food. Majority (70) of girls completed their 10th standard, 11 were illiterate, 9 were completed their 12th.Duration of menstruation cycle of 14 adolescents are following 28 days of cycle. 22 girls were getting their periods after 29 days; 52 adolescents had 30 days of cycle. 12 adolescents having irregular menses that is 31 days cycle. 22 adolescents get menstrual cycle for 3 days. 22 adolescents had menstrual flow for 4 days. 44 getting menstrual flow for 5 days and 12 adolescents having menstrual flow for more than 5 days

The finding is like another study conducted by Christy Vijay and Naveen Rameshin 2020` to assess The prevalence of low stress was 135 (30.33%), moderate stress was 177 (39.78%) and severe stress was 133 (29.89%) as measured by PSS and was slightly more among males 228 (51.24%) when compared to females 217 (48.76%). The prevalence of moderate stress was the highest (39.8%) among the study population, and moderate stress was more among males 114 (64.4%) when compared to females 63 (35.6. the study concluded that The prevalence of stress was higher among adolescents of parents who consumed tobacco when compared to parents who consumed alcohol or both.

CONCLUSION

The highest percentage (45.83%) found with low stress, respondents (40.83%) noticed with moderate stress and in the present study sample shows only (13.33%) of PU students were having severe stress. And The findings of this study showed that only one-third of adolescent girl have knowledge regarding perceived stress during menstrual cycle. The source of information and mother educational status suggested points to the need for improving knowledge by applying the external stimuli to control the perceived stress during menstrual cycle among adolescent girls.

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