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Menstrual Impact on the Regular Activities of Female Student's Life in the South Region of Bangladesh

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Abstract

The most frequently occurred challenges are women's disturbing behavior, the quality of education, various levels of specific pains, lack of concentration, the inefficiency of normal lifestyle due to menstruation into three stages pre-menstruation, during menstruation, and post menstruation. This paper tried to determine and analyze the association with the period and specific factors and extract correlation according to girls' age levels (16 to 25).Thus, to get such girls' ages' data, a women's college and a university of Barishal region in Bangladesh is selected as a cross-sectional study. To analyze data, statistical methods are applied for getting categorical discussion and correlation status.Menstruation is a natural process, but sometimes it affects diseases or disturbances. These snags are more active during menstruation and around dormant after menstruation, which has a less or more negative impact on age categories. Besides, the most prevalent sullen symptoms included abdominal pain (79.2%), study duration wavers (77.0%), difficulty concentrating (66.4%), take naps during menstruation (54.4%), mood swings (64.0%) from pain, educational disturbance, concentration in daily activities, behavioral change and finally negative effect on health or mind respectively. However, academic life is highly correlated (p=0.000) with the three-time duration of menstruation, indicating the worst impact on girls' education.The findings highlight that effective education of college and university-going female students is mostly hampered for menstruation in the perspective of Bangladesh in South Asia.

Keywords

Menstruation; Abdominal Pain; Concentration; Reproductive Health; Depression; Behavioral Change

Introduction

During a female's active reproductive life, the regular flow of blood from the reproductive organ called the uterus through the vaginal canal every month is defined as the natural menstruation process [1]. The average age at which female respondents reached menarche was 12.7±1.15 years, and the menstruation continues till 55 years in Bangladesh [2][3]. The period at menarche and postmenopausal varies by population and is considered a responsive indicator of a variety of population characteristics such as nutritional status, geographic location, environmental factors, and the severity of socioeconomic inequality in a community. According to studies, menarche appears earlier in life as a society's sanitary, dietary, and economic conditions improve. It occurs in most females between the ages of 10 and 16, although there is a wide range of variation [4]. It is a stressful experience for some women, and it can cut short their life goals [5]. Qualified female education is more affected such as an important exam is running, but in the meantime, the female examiner's dysmenorrhea has been started that obliged her to go to bed rest or hospital which make her exam bad or be failed or absent [6]. Ghana, Cambodia, Ethiopia, and Tasmania, which are low-income nations, tried to describe girls' menstruation and educational experiences and focused on female students' school participation [7].But it is a common concern in South

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Asia's developing country like Bangladesh; national exam date will be changed or given according to social or political turbulence or any pandemic but not considering the female student's menstruation time or their terrible health conditions that make around half of the population in the country. That is why this study's motto is to analyze how quality of education for female students has significantly correlated with menstruation time period along and analyzed menstruation-related pains; concentration and negative effect in natural life activities; and behavior change on herself. (In addition, top institute in developing countries have no minimum menopausal facilities or needed sanitize management and enough girls' education during the menstruation period [8]. Menstrual management and health literacy are explored by observing at school, and higher education level is young women over online in Australia [9].)

Materials and Methods

Dataset: Obtained all data (n=125) collected from two higher levels of students in the Barishal region, the south part of Bangladesh. The first one is eleven and twelve-grade female students from Raosan Ara Girls Hostel of Barishal Govt. Women College. Moreover,the second isfemale university students from Sheikh Hasina Hall of the University of Barishal. All data are collected between the girls ages 16 to 25, respectively, through virtual interviews and paper-based hardcopy questioners.

Data samples consist of 27 attributes within pain, concentration, behavioral change, adverse effect, and academic life categories based on collecting 125 girls' information with some in general questioners. Interviewing many reproductive females and reading research papers related to this work [10][11], the required questioners are introduced. Every attribute is sub-divided into pre-menstruation, during menstruation, and after menstruation. Only pain and education-related data are collected with three MDQ (Mood Disorder Questionnaire), they are 0=no; 1= bearable; 3=unbearable for pain and 0=satisfied; 1= moderate satisfied; 2=not satisfied in respect and rest of all data are collected like as yes (1) and no (2) [10]. All data are raised from the girls as numeric notations; however, those are aggregated as categorical data sets.

A total of 42.4% of participants are university students, and 47.6% are college girls. Here, two educational level students are targeted to understand adolescents' menstruation-related impact (here 16-18) to youth (19-25).

Data cleaning

Data collected from various sources can contain duplicate and missing values, resulting in an incorrect investigational result[2]. As a result, data cleaning (also known as data pre-processing) is an essential step for memory optimization and normalizing the values that represent information in databases. In this analysis, redundant values (1.6% of the total collection) were discarded, and missing values (2.4% of the total collection) were filled in details from other participants by using SPSS for windows version 25 (SPSS Inc., Chicago, IL, USA).

Statistical analysis and observation:

The research objectives are to analyze pre menstruation, during menstruation and after menstruation with the association among attributes mentioned in questioners. The significant factors are considered here, which create problems for females' natural life and daily activities:

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pain, education life disturbance, concentration, behavioral change, and adverse effects. All these factors are structured with time recruitment (pre, during, and post), and data are analyzed using MS Excel spreadsheet 2010 and SPSS for windows version 25 (SPSS Inc., Chicago, IL, USA).

Table 1: All data and three menstruation periodsfor 24 attributes separately. (Information of participant according to symptoms)

Symptoms		Pre Menstruation		During Menstruation		After Menstruation	
		Number (n)	Percent (%)	Number (n)	Percent (%)	Number (n)	Percent (%)
Pain	Abdominal Pain	56	44.8	99	79.2	5	4.0
	Backache	33	26.4	67	53.6	13	10.4
	Fatigue	39	31.2	77	61.6	15	12.0
	General aches and pain	32	25.6	61	48.8	9	7.2
	Headache	23	18.4	48	38.4	11	8.8
	Muscle Stiffness	25	20.0	57	45.6	9	7.2
	Painful breast	31	24.8	37	29.6	1	0.8
Education Life	Assignment	26	20.8	55	44.0	8	6.4
	Concentration in class	45	36.0	81	64.8	40	32.0
	Group study	16	12.8	70	56.0	19	15.2
	Lab work	38	30.4	73	58.4	24	19.2
	Study duration	77	61.6	97	77.6	65	52.0
Concentration	Confusion	19	15.2	45	36.0	9	7.2
	Difficulty concentrating	33	26.4	83	66.4	9	7.2
	Distractible	17	13.6	57	45.6	9	7.2
	Forgetfulness	21	16.8	28	22.4	8	6.4
	Insomnia	29	23.2	57	45.6	17	13.6
	Lowered judgment	15	12.0	27	21.6	4	3.2

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Behavior Change	Avoid social activities	15	12.0	57	45.6	5	4.0
	Decreased efficiency	13	10.4	44	35.2	6	4.8
	Stay at home	26	20.8	67	53.6	10	8.0
	Take naps	23	18.4	68	54.4	6	4.8
Negative Effect	Anxiety	15	12.0	44	35.2	5	4.0
	Crying	21	16.8	59	47.2	7	5.6
	Depression	11	8.8	46	36.8	6	4.8
	Irritability	27	21.6	60	48.0	7	5.6
	Loneliness	32	25.6	70	56.0	9	7.2
	Mood swings	41	32.8	80	64.0	15	12.0
	Restlessness	22	17.6	60	48.0	6	4.8

In statistical analysis, we try to extract the problems for female menstruation and give a comparative study in Table 1 byusing allover observation. In consequence, all types of factors rate are high during menstruation. After that, we used the χ^2 homogeneity test for pairwise comparisons.

Result Discussion

Table 1 illustrates the attribute-wise categorical discussion percentages within pre menstruation, menstruation, post menstruation, and all data. The rates are compared among periods.Such as,in the time of pre-menstruation,24.8% of females are suffered from painful breasts, 29.6% for during time, and 0.8% for after period. In pain factor have seven categories (attributes); among them, abdominal pain's total rate is 42.7% (from the comparative study), which is the lion portion. Table 1 is represented such percentage-wise comparative study of education life, concentration, behavioral change, and adverse effect as like pain factor among three periods.

From the general study of table 1, most female people feel discomfort during menstruation in major, second in pre menstruation, and then least affected after menstruation.

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Table 2: The association between every menopausal time and menopause specific problem of life questionnaire symptoms

			According to Age Category	
	χ^2	P-value	χ^2	P value
Educational Life				
Pre menstruation	107.256[a]	.000*	5.398[a]	.249
During menstruation	53.007[a]	.000*	2.259[a]	.520
After menstruation	114.037[a]	.000*	2.912[a]	.573
Pain				
Pre menstruation	29.863[a]	.003	17.906[a]	.000*
During menstruation	89.701[a]	.000*	24.339[a]	.000*
After menstruation	22.786[a]	.030	10.426[a]	.005
Negative Effect				
Pre menstruation	33.300[a]	.000*	17.042[a]	.000*
During menstruation	30.577[a]	.000*	14.891[a]	.001
After menstruation	19.650[a]	.142	15.188[a]	.004
Concentration				
Pre menstruation	13.811[a]	.017	1.454[a]	.228
During menstruation	74.370[a]	.000*	10.381[a]	.001
After menstruation	10.344[a]	.066	9.152[a]	.002
Behavioral Change				
Pre menstruation	7.169[a]	.067	.539[a]	.463
During menstruation	12.006[a]	.007	4.091[a]	.043
After menstruation	2.310[a]	.511	9.939[a]	.002

Those menstruation periods each correlate with the factors (Education life, Pain, Concentration, Behavioral change and Negative effect) and according to age (according to participants collected data). The Chi-Square represents the goodness of fit of analysis (χ^2The p-value represents) and the significance value of our tests. Study duration, concentration in class, assignment, group study and lab work, etc., all aspects are combined in one factor of education life which is highly significant with every time of menopausal and that is three stages p-value are 0.000. Pain is significant with pre-menstruation (p=0.003) and after menstruation (p=0.030). However, it is higher significant with the running time of menstruation. Another three factors p-value and all the five factors χ^2 value is represented by table 2.

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Finally, education life is more disturbances and negatively affected female students' natural menopausal system that deters the quality of education of girls from the manacle but has no significant correlation with girls' ages shown in table 2.

Discussion

In this analysis, all types of difficulty in female normal life and quality of education are aroused primarily on therunning period. Among 23 attributes, abdominal pain (79.2%) is the most significant during menstruation in Bangladesh, higher than Nigeria (66.2%) [11] and India (36.3%) on average[12]. However, menstruation-related negative impacts are highly affected in all education criteria in percentages and p values significances. Such concentration in class is hindered by 64.8%, shown in table 2, but the rate is 44.5 in our neighboring country India[12]. Besides, study duration disturbance is the highest rate among pre (61.6%), during (77.6%), and post (52%) menstruation.

Conclusion

The outcome for all domains suggested that whole attributes of pain and education life are strongly associated with menstruation among early, during, and late girls, respectively. On the contrary, pain and adverse effects of all features are stalwartly correlated according to ages. Thus, pain is all in all. However, only one area (education life) among all domains is highly significant among entire duration, whereas pain is only during menstruation. This study also mentions that educational life factors have to face more problems for menstruation, but all attributes are zenith point in during the period.

Limitations

A cross-sectional study has some limitations, as it is a face-to-face interview, and here Bengali questions were asked. As a result, specific errors in the distribution of information to participants can occur. Statistical analysis is used for studying data, but in the future, machine learning methods will be used for further discussion and comparison, which method is the best fit for the current study.

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