

A Broad Study on Menstrual Trend among School Girls
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Abstract

The objective of the study was to conduct a broad survey on the trend and prevalence of selected menstrual disorders among school girls in Delhi. It was hypothesized that there is an association between selected menstrual disorder and age of the school girls. Besides, it was also hypothesized that all the selected menstrual conditions are not equally distributed among school girls. Total 5193 girl students from various Government Schools in Delhi were selected on simple random basis to collect data. The ages of selected girls were in the range of 11 to 18 years [14.39 ± 2.035]. The study was delimited to selected menstrual disorder i.e. Oligomenorrhea and Dysmenorrhea only. In order to assess the association between age of subjects and their responses on selected menstrual disorder, following variables were selected - Age Group and Menstrual Disorder. In order to assess equal distribution of responses, following variables were selected - Menstrual Disorder. A self-designed questionnaire that included only three questions was applied to collect data. In order to assess association between variables and equal distribution of responses, Chi-square statistical test was applied by using SPSS (version 16) software. The obtained result proved that there is an association of age with Oligomenorrhic and Dysmenorrhic menstrual disorders among school girls [Chi-square (χ^2) = 1.051E2 & 67.270]. Furthermore, it was also concluded that the selected menstrual conditions i.e. Regular and Painful menstruation, Regular and Non-Painful menstruation, Irregular and Painful menstruation, and Irregular and Non-painful menstruation are not equally distributed among school girls.

Keywords: Oligomenorrhea, Dysmenorrhea

INTRODUCTION

Menstruation is a biological phenomenon laden with cultural implications. Individuals do not experience the body in a socio-cultural vacuum. In turn, women's interpretations of the physiological and hormonal changes associated with menstruation cannot be understood outside of the social and historical context in which they live, which is influenced by the meaning ascribed to these menstrual changes by westernised medical discourses (Ussher, 2006). Throughout history, menstruation has been assigned roles that ranged from defining a woman's status and social role to being seen as a curse that all women had to endure (Anjum, Zehra, Haider, Rani, Siddique & Munir, 2010). It is this positioning of the female reproductive body as inadequate and needing to be controlled, and of menstruation as a site of madness and debilitation, which provide the framework for women to interpret changes associated with menstruation as pathological symptoms (Ussher, 2006). For centuries, both medicine and religion have methodically devalued the roles assigned to females and excluded women from power in society through patriarchal beliefs about the female reproductive body (Cahill, 2001). This is still evident in many cultures and religions today (Tiwari, Oza & Tiwari, 2006; Umeora & Egwuatu, 2008). The use of such dated sources does present a problem, as the results may not be indicative of the current attitudes and beliefs of Indian women. However, these need to be studied with utmost importance. Researcher was intended

to study the role and prevalence of selected menstrual disorder among young girls studying in Delhi schools. The purpose of the study was to conduct “**A Broad Survey on Menstrual Trend among school girls**”. Following objectives of the research were stated by scholar: To assess the Oligomenorrhic status of school girls, To assess the Oligomenorrhic status of school girls at different age level, To assess the Dysmenorrhic status of school girls, To assess the Dysmenorrhic status of school girls at different age level, To assess the association between Oligomenorrhic and Dysmenorrhic of school girls, To assess the association between selected menstrual disorder and age of school girls, To assess the prevalence of selected menstrual disorder among school girls, To assess the prevalence of selected menstrual disorder among school girls at different age, To observe whether there is equal occurrence of cases under different menstrual conditions among school girls, and To observe whether there is equal occurrence of cases under different menstrual conditions among school girls of different ages.

The study was confined to 5000 school girls randomly from different school. The study was further confined to schools in Delhi. The study was further confined to the girl students of age group of 11 to 18 years. The number of subject in this age category was considered as a limitation of the study. Since the data collected was subjective in nature, the reliability of the responses was considered one of the limitations of the study. Psychological state of the subjects may effects the result of the study and this was considered as the limitation of study. The result of the study will help the health experts to better understand the concept and trend of mensuration among school girls. It may further help health experts to make better health policies for school girls. The result would also help health professionals to understand the current status of menstrual disorders among school girls. The study would help to reveal the association between Oligomenorrhic and Dysmenorrhic problems among school girls. The finding will fill up to the existing knowledge.

PROCEDURE AND METHODOLOGY

Subjects

For the purpose of survey, total 5000 girl students from various Government Schools in Delhi were selected to collect data. The ages of selected girls were in the range of 11 to 18 years.

Variables

The study is delimited to selected menstrual disorder i.e. Oligomenorrhic and Dysmenorrhic among school girls in the age range between 11 to 18 years. After reviewing the literature, consultation with the experts and researcher’s own understanding the following variables were selected for purpose of this study:

1. In order to assess the association between selected menstrual disorder, following variables were selected-
 - Oligomenorrhic
 - Dysmenorrhic
2. In order to assess the association between age of subjects and their responses on selected menstrual disorder, following variables were selected-
 - Age Group
 - Menstrual Disorder
3. In order to assess equal distribution of responses, following variables were selected-
 - Menstrual Disorder

Sampling Procedure

Simple random sampling was used to collect data from girls of various government schools in Delhi. Simple random sample means that each unit in the population has the same inclusion

probability and all the units are independent. Students were accessed through the acquiring permission and support from competent authority of the schools.

Design of the Research

The research design used in this study was a cross-sectional survey design. A cross-sectional survey collects data to make inferences about a population of interest. This design allowed for the collection of data regarding the samples experience of menstruation. The use of a self-designed questionnaire which included only three questions was best suited for this study as it allowed collecting huge data. In order to maintain confidentiality of responses of subjects, no personal information was asked.

Tools and Techniques Used

In order to fulfil the objectives of the research, a self-designed questionnaire was applied to collect data. The questionnaire contained only three questions which are as follows:

Question 1 – Are you having painful menstruation or non-painful menstruation?

Question 2 – Are you having regular menstruation or irregular menstruation?

Question 3 – What is your age?

The first question reveals the Dysmenorrheic (painful menstruation) status of the subjects whereas, the second question revealed the Oligomenorrheic (infrequent menstruation) status of the subjects. The age of the subjects was asked to assess its association with menstrual disorder that were selected for the research. The format of questionnaire and data collection method is placed at Annexure A

Data Collection

The researcher accessed students as outlined in the sampling procedure section. The aims of the study were explained to each participant. Earlier, permission to conduct the proposed study was obtained from the competent authority. The participants were informed that participation in the study was completely voluntary and they were allowed to not to answer any or all questions. Each participant was asked the three questions contained in questionnaire. The researcher was available to answer any questions that the participants may have had or to help in answering the questions if assistance was needed. However, participants seemed to have no difficulty with the content of the questionnaire.

Statistical Technique

The data was collected from girls of Delhi government schools and used for the statistical treatment that specifies descriptive statistics. Various information has shown in graphical format such as Bar graph, Line graph, Pie Chart etc. when and wherever required. In order to assess association between variables and equal distribution of responses, Chi-square statistical test was applied by using SPSS (version 16) software. In all the cases 0.05 level of significance was fixed to test the hypothesis.

RESULTS AND DISCUSSIONS

In order to make a better understanding on the topic, the selected variables i.e. Oligomenorrhea and Dysmenorrhea were not only surveyed on a large scale. Rather, there were many appropriate statistical techniques applied and many objectives were fulfilled. The objectives of the research are as follows: To assess the Oligomenorrheic status of school girls, To assess the Oligomenorrheic status of school girls at different age level, To assess the Dysmenorrheic status of school girls, To assess the Dysmenorrheic status of school girls at different age level, To assess the association between Oligomenorrhea and Dysmenorrhea of school girls, To assess the association between selected menstrual disorder and age of school girls, To assess the prevalence of selected menstrual disorder among school girls and To assess the prevalence of selected menstrual disorder among school girls at different age.

The study was not only confined to assess the association of variables or equal occurrence of variables. But, the association and occurrence of variables were also studied in respect of the age of subjects. The minimum age of the students was 11 years and maximum age for the same was 20 years. Mean and standard deviation value for their age was 14.39 ± 2.035 .

Table 5.1 Age Wise List of all Students with their Weightage (in percent)

AGE	NO. OF STUDENTS	PERCENT
11 YEARS	406	7.8
12 YEARS	763	14.7
13 YEARS	751	14.5
14 YEARS	824	15.9
15 YEARS	681	13.1
16 YEARS	745	14.3
17 YEARS	754	14.5
18 YEARS	263	5.1
19 YEARS	4	.1
20 YEARS	2	.0

It was found that there were 406 students were in 11 years of age. In 12 years of age, there were 763 students who responded to questionnaire. 751 students were belonging to 13 years of age. There were 824 students from 14 years of age. 681 students from 15 years of age. 745 students from 16 years category. 754 school girls from 17 years of age. 263 girls from 18 years of age. 4 and 2 students from 19 and 20 years respectively.

Table 5.2: Oligomenorrhic and Dysmenorrhic Status of School Girls

		OLIGOMENORRHEIC		DYSMENORRHIC	
		REGULAR MENSTRUATION	IRREGULAR MENSTRUATION	PAINFUL MENSTRUATION	NON-PAINFUL MENSTRUATION
11 YEAR S	Count	222	184	224	182
	Expected Count	264	142	255.3	150.7
12 YEAR S	Count	427	336	419	344
	Expected Count	496.2	266.8	479.7	283.3
13 YEAR S	Count	452	299	446	305
	Expected Count	488.4	262.6	472.2	278.8
14 YEAR S	Count	554	270	520	304
	Expected Count	535.8	288.2	518.1	305.9
15 YEAR	Count	463	218	433	248
	Expected	442.9	238.1	428.2	252.8

S	ed Count				
16 YEAR S	Count	569	176	523	222
	Expect ed Count	484.5	260.5	468.4	276.6
17 YEAR S	Count	509	245	514	240
	Expect ed Count	490.3	263.7	474.1	279.9
18 YEAR S	Count	177	86	182	81
	Expect ed Count	171	92	165.4	97.6

Out of total 406, 222 were found to have regular menstruation whereas 184 were found to have irregular menstruation. However, the expected count for regular menstruation and irregular menstruation was 264 and 142 respectively. Out of total 763, 427 were found to have regular menstruation whereas 336 were found to have irregular menstruation. However, the expected count for regular menstruation and irregular menstruation was 496.2 and 266.8 respectively. Out of total 751, 488.4 were found to have regular menstruation whereas 299 were found to have irregular menstruation. The expected count for regular menstruation and irregular menstruation was 488.4 and 262.2 respectively. Out of total 842, 554 were found to have regular menstruation whereas 270 were found to have irregular menstruation. However, the expected count for regular menstruation and irregular menstruation was 535.8 and 288.2 respectively. Out of total 681, 463 were found to have regular menstruation whereas 218 were found to have irregular menstruation. However, the expected count for regular menstruation and irregular menstruation was 442.9 and 238.1 respectively. Out of total 745, 569 were found to have regular menstruation whereas 176 were found to have irregular menstruation. The expected count for regular menstruation and irregular menstruation was 484.5 and 260.5 respectively.

Table 5.3: Chi-square Test for Oligomenorrhic and Dysmenorrhic Status of School Girls

	Chi-square	df	Asymp. Sig. (2-sided)
Oligomenorrhic	1.051E2	9	0.00
Dysmenorrhic	67.270	9	0.00

Chi-square (χ^2) calculation for association between age and oligomenorrhic status of school girls. The value of Chi-square (χ^2) was found to be 1.051E2, which is significant at 0.05 level of significance as the p-value is 0.00. Thus, we may reject the null hypothesis that “There is no association between age and oligomenorrhic status of school girls. It may be concluded that there is a significant association between age of school girls and their oligomenorrhic status on the issue of different age level of school girls their menstruation status in term of Oligomenorrhic. Chi-square (χ^2) calculation for association between age and Dysmenorrhic status of school girls. The value of Chi-square (χ^2) was found to be 67.270, which is significant at 0.05 level of significance as the p-value is 0.00. Thus, we may reject the null hypothesis that “There is no association between age and Dysmenorrhic status of school girls.

It may be concluded that there is a significant association between age of school girls and their Dysmenorrhic status on the issue of different age level of school girls their menstruation status in term of Dysmenorrhic.

Table 5.4: Status of Different Menstrual Conditions among School Girls

		REGULAR & PAINFUL MENSTRUATION	REGULAR & NON-PAINFUL MENSTRUATION	IRREGULAR & PAINFUL MENSTRUATION	IRREGULAR & NON-PAINFUL MENSTRUATION
11 YEAR S	Count	128	94	96	88
	Expected Count	175	89	80.3	61.7
12 YEAR S	Count	248	179	171	165
	Expected Count	328.8	167.4	150.9	115.9
13 YEAR S	Count	293	159	153	146
	Expected Count	323.7	164.7	148.5	114.1
14 YEAR S	Count	362	192	158	112
	Expected Count	355.1	180.7	163	125.2
15 YEAR S	Count	296	167	137	81
	Expected Count	293.5	149.4	134.7	103.5
16 YEAR S	Count	405	164	118	58
	Expected Count	321.1	163.4	147.3	113.2
17 YEAR S	Count	368	141	146	99
	Expected Count	324.9	165.4	149.1	114.6
18 YEAR S	Count	134	43	48	38
	Expected Count	113.3	57.7	52	40

There were total 5193 girls who responded to menstruation status questionnaire. Out of 5193, 2238 were found to have regular but painful menstruation. 1139 school girls were having regular but non-painful menstruation. 1027 girls were found to have irregular but painful menstruation and 789 school students were having irregular but non-painful menstruation. As far as their percentage values were concerned, it was found that 43.1% school students having regular but painful menstruation. 21.9% of school girls were having regular but non-painful

menstruation. 19.8% of school girls were having irregular but painful menstruation. 15.2% of school girls were having irregular but non-painful menstruation.

Table 5.4: Chi-square Test for Different Menstrual Conditions among School Girls

	Chi-Square	Df	Asymp. Sig.
TOTAL	956.212 ^a	3	0.00
11 YEARS	9.567 ^a	3	0.023
12 YEARS	23.427 ^a	3	0.00
13 YEARS	79.120 ^a	3	0.00
14 YEARS	173.165 ^a	3	0.00
15 YEARS	146.225 ^a	3	0.00
16 YEARS	372.901 ^a	3	0.00
17 YEARS	234.976 ^a	3	0.00
18 YEARS	95.221 ^a	3	0.00

Chi-square (χ^2) calculation for association between age and various Menstrual conditions among school girls as a whole and also for age wise separately. The value of Chi-square (χ^2) was significant at 0.05 level of significance as the p-value for all the cases was below 0.05. Thus, we rejected the all the null hypothesis that “There is no association between age and various Menstrual conditions among school girls as a whole and at different age level separately. And, it was concluded that there is a significant association between age of school girls and their menstrual status on the issue of different menstrual disorder of school girls.

CONCLUSIONS

On the basis of objectives of the study and result obtained after statistical application, the following conclusions were drawn:

1. It was concluded that there is an association between Oligomenorrhic and Dysmenorrhic status of school girls.
2. It was concluded that there is an association between selected menstrual disorder i.e. Regular and Painful menstruation, Regular and Non-Painful menstruation, Irregular and Painful menstruation, and Irregular and Non-painful menstruation and age of the school girls.
3. It was concluded that all the selected menstrual disorders i.e. Regular and Painful menstruation, Regular and Non-Painful menstruation, Irregular and Painful menstruation, and Irregular and Non-painful menstruation are not equally distributed.
4. It was concluded that all the selected menstrual disorders i.e. Regular and Painful menstruation, Regular and Non-Painful menstruation, Irregular and Painful menstruation, and Irregular and Non-painful menstruation are not equally distributed among 18 years school girls.

5. It was concluded that all the selected menstrual disorders i.e. Regular and Painful menstruation, Regular and Non-Painful menstruation, Irregular and Painful menstruation, and Irregular and Non-painful menstruation are not equally distributed among 17 years school girls.
6. It was concluded that all the selected menstrual disorders i.e. Regular and Painful menstruation, Regular and Non-Painful menstruation, Irregular and Painful menstruation, and Irregular and Non-painful menstruation are not equally distributed among 16 years school girls.
7. It was concluded that all the selected menstrual disorders i.e. Regular and Painful menstruation, Regular and Non-Painful menstruation, Irregular and Painful menstruation, and Irregular and Non-painful menstruation are not equally distributed among 15 years school girls.
8. It was concluded that all the selected menstrual disorders i.e. Regular and Painful menstruation, Regular and Non-Painful menstruation, Irregular and Painful menstruation, and Irregular and Non-painful menstruation are not equally distributed among 14 years school girls.
9. It was concluded that all the selected menstrual disorders i.e. Regular and Painful menstruation, Regular and Non-Painful menstruation, Irregular and Painful menstruation, and Irregular and Non-painful menstruation are not equally distributed among 13 years school girls.
10. It was concluded that all the selected menstrual disorders i.e. Regular and Painful menstruation, Regular and Non-Painful menstruation, Irregular and Painful menstruation, and Irregular and Non-painful menstruation are not equally distributed among 12 years school girls.
11. It was concluded that all the selected menstrual disorders i.e. Regular and Painful menstruation, Regular and Non-Painful menstruation, Irregular and Painful menstruation, and Irregular and Non-painful menstruation are not equally distributed among 11 years school girls.

RECOMMENDATIONS

Above mentioned conclusions and finding has revealed many facts and filled the gap in information available regarding relationship of various menstrual disorder and age of school girls in Delhi. Now, following recommendations are made with future research perspective:

- It was recommended that 11 to 13 years school girls need attention for their oligomenorrhic status.
- It was also recommended that same school girls need special attention for their dysmenorrhic status.
- Similar study can be taken on females at college level and onward by same method.
- It was recommended that similar study can be carried out on sports persons as well.
- Similar study can also be taken on other menstrual disorders that are left in this study.
- A study can be conducted on association of menstrual disorders and lifestyle factor of females.
- Further study can be conducted on association of various menstrual disorder and nutritional status of school girls.
- Similarly, a study can also be conducted on association of various menstrual disorder and nutritional status of girls of other age group.

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