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Research Article

Awareness, perception and practices of government pre-university adolescent girls regarding menstruation in Mysore city, India

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ABSTRACT

Background: Hygienic practices during menstruation are of great importance, the lack of which increases the susceptibility of an individual to reproductive tract infections. Good knowledge and safe practices about menstruation leads to good reproductive health. The aim of the study was (1) to describe the socio-demographic profile of the government pre-university adolescent girls in Mysore city, India; (2) to assess their awareness, perception and practices regarding menstruation and (3) to assess their pattern of health seeking behaviour.
Methods: A cross sectional study was conducted among government pre university adolescent girls in Mysore city, India between June 2013 and November 2013. The total sample size of 1500 was selected from the total population of 4155 by using proportional stratified sampling technique. Direct interview method was used to collect the information using pretested, semi structured questionnaire after taking the consent from the students.
Results: Majority of the girls were Hindus (75.73%) were from urban area (69.60%) and belonged to lower middle (48.60%) and upper lower class (34.81%).The mean age of menarche of the study subjects was 13.38±0.96 years. Only 335 (22.33%) of students had awareness about menstrual cycle before attaining the menarche. Statistically significant association was present between the absorbent materials used during menstruation with the socio economic status and mother's literacy. Only 810 (54%) students were using sanitary pads. Backache 575 (38.33%) and dysmenorrhea 564 (37.60%) were the major problems encountered and only 595 (39.66%) subjects had taken medical advice.
Conclusions: There is a substantial lacunae in the knowledge and perception of the girls. The health seeking behaviour of the girls in the study is poor.

Keywords: Adolescents, Menstruation, Menarche

INTRODUCTION

The word 'adolescence' is derived from the Latin term 'adolescere' meaning to grow up.[1] WHO has defined adolescence as a period between 10-19 years.[2] This is the period of transition from childhood to adulthood which are formative years when maximum amount of physical, psychological and behavioural changes take place. [3]

Menstruation is a normal physiological process among females. The onset of menstruation is one of the important changes that occur during adolescent period. Although menstruation is a normal process it is often linked with myths and misconceptions. Hygienic practices during menstruation is of great importance, the lack of which increases the susceptibility of an individual to reproductive tract infections. Good knowledge and safe practices about menstruation leads to good reproductive health.

Most of the adolescent girls in India have little knowledge about menstruation. Large numbers of rural and urban populations believe that menstruation contaminates the body and makes it unholy. As a consequence, the girl often sees herself as impure, unclean and dirty. According to the nutrition foundation of India, the average age of menarche is 13.4years; yet 50% of girls aged 12-15 do not know about menstruation. This is true for rural as well as the urban poor. The lack of information can be attributed to a veil of secrecy that surrounds menarche.[4]

Understanding the health problems related to menstruation and the health seeking behavior of the adolescent girls will help us in planning effective programs for this vulnerable group. Though we have adolescent reproductive and sexual health program (ARSH) in the public health sector, its utilization depends on attitude, awareness and health seeking behavior of adolescents.

A prerequisite for policy planning, focus and evaluation is a comprehensive situational analysis of adolescents. Yet, there is a marked absence of reliable data and information on adolescents. The present study aimed to address the awareness, perception and practices regarding menstruation of government pre university adolescent girls.

Objectives

- To describe the socio-demographic profile of the government pre-university adolescent girls in Mysore city, India.
- To assess their awareness, perception and practices regarding menstruation.
- To assess their pattern of health seeking behaviour.

METHODS

A cross sectional study includes Adolescent girls studying in Government Pre University College from All 10 government Pre University colleges in Mysore city. Study was conducted for 8 months from May 2013-Nov 2013 and Source of data was taken from The list of Government Pre-university colleges was taken from the Pre-university board, Mysore city and the attendance registers of the concerned colleges were used to select the study subjects according to the sampling methodology described below. To collect the required information from the sampled study subjects the "Direct interview method" of primary source of information technique was used using pretested semi structured questionnaire.

Sample size and methodology

Using the hypothesis testing technique with level of significance (α)=5%, allowable error of 10% and assuming the level of knowledge regarding the reproductive health among urban adolescent girls as 35%, a total sample size of 1500(n) was estimated from the total population of 4155(N) adolescent government pre-university girls of Mysore city, India. This total of 1500 sample size was distributed among the available 10 government pre university colleges. A stratified simple random technique was adopted in the study. The population was stratified based on the stratification factor "college codes". Using the proportional allocation technique the sample size was distributed over the strata. Random number table was used to select the study subjects in each college.

Inclusion criteria

Adolescent girls studying in government pre- university colleges of Mysore city, India

Exclusion criteria

Girls not giving consent

Data collection

A pre-designed and pre-tested questionnaire was used for the data collection. Necessary permission from the concerned authorities including Deputy Director of Pre University Board, Mysore and respective college Principals was obtained. The purpose of the study was explained and written consent in assent form was obtained from the participants before enrolling them in the study. To collect the required information from the sampled study subjects the "direct interview method" of primary source of information technique was used. the relevant information from the selected subjects was captured through a pretested and semi structured questionnaire.

The questionnaire was prepared using brainstorming technique by referring the 'illustrative questionnaire for interview surveys with young people by John Cleland' available in WHO website.[5]

Data was entered in Microsoft excel sheet and was analyzed using Microsoft excel and SYSTAT. All the objectives were met using the statistical techniques Frequency, Proportion and Chi-square test.

RESULTS

Distribution of study subjects according to the socio-demographic variable

Of the 1500 study subjects majority i.e. 1136 (75.73%) belong to Hindu, 236 (15.73%) were Muslims and only 128 (8.53%) were Christians. With respect to the residence 1044 (69.60%) were from urban area and 456 (30.40%) from rural area. Most of the participants in the present study were from nuclear family 907 (60.46%)

followed by joint family 509 (33.93%) and three generation family 84 (5.60%). The socio economic status in the present study was assessed using Modified Kuppuswamy's classification. According to which 712 (48.60%) subjects belonged to lower middle class, 510 (34.81%) to upper lower class, 176 (12.01%) to Lower class and 67 (4.57%) to upper middle class (Table 1).

Table 1: Distribution of study subjects according to the socio-demographic variable.

Socio demographic variable	Categories	Frequency	Percentage
Religion	Hindu	1136	75.73
	Muslim	236	15.73
	Christian	128	8.53
	Total	1500	100
Residence	Rural	456	30.40
	Urban	1044	69.6
	Total	1500	100
Type of family	Nuclear	907	60.46
	Joint	509	33.93
	Three generation family	84	5.60
	Total	1500	100
Socioeconomic status	Upper	0	
	Upper middle	67	4.57
	Lower middle	712	48.60
	Upper lower	510	34.81
	Lower	176	12.01
	Total	1500	100

Distribution of the study subjects according to discussion with their parents about menstruation

As depicted in the Table 2, 1339 (89.26%) and 788 (52.53%) of students had never discussed about menstruation with father and mother respectively, whereas only 54 (3.6%) and 147 (9.80%) of them had discussed with father and mother respectively.

Age of menarche

The mean age of menarche of the study subjects was 13.38±0.96 years (Mean±SD) with the minimum value of 11 and maximum value of 16.

Distribution of study subjects according to awareness, perception and practices with respect to menstruation

As per the Table 3, only 335 (22.33%) of subjects had awareness about menstrual cycle before attaining the menarche, 386 (25.73%) had knowledge regarding organ of menstruation, 481 (32.06%) had awareness about free sanitary napkin program. Majority of the study subjects i.e. 1313 (87.53%) had perception that restriction should not be practiced during menstruation. Although only 810 (54%) were using sanitary pads, the rest 585 (39.2%) were using old cloth piece and 102 (6.8%) new cloth piece as absorbent. The more surprising fact was that 582 (38.80%) subjects were reusing the cloth piece during menstruation.

Table 2: Distribution of the study subjects according to discussion with their parents about menstruation.

Variable	Variable value	Frequency	Percentage %
Ever discussed about menstruation with father	Often (2-5 times in the past)	54	3.6
	Occasionally (>5 times in the past)	83	5.53
	Never	1339	89.26
	Total	1500	100
Ever discussed about menstruation with mother	Often	147	9.80
	Occasionally	552	36.8
	Never	788	52.53
	Total	1500	100

Association between absorbent used during menstruation with the socioeconomic status of the study subjects

From the χ^2 (222.195) and p-value<0.005 it is clear that socio-economic status and absorbent material used are significantly associated. Data indicates that among the upper lower 232 (15.83%) and lower classes 140 (9.55%) sanitary pads were used more and among the Lower middle classes both sanitary pads 351 (23.95%) and old cloth piece 358 (24.43%) usage was in practice (Table 4).

Association between mother's literacy with absorbent material used during menstruation

From the values Chi-square=312.22; DF=4; p value<0.005; contingency coefficient=0.153 it was evident that there exist a significant association between mother's literacy and absorbent material used by study subjects. Usage of sanitary pads was more among the study subjects whose mothers were illiterate 47 (3.13%), graduate and more than graduate 646 (43.06%). Among the study subjects whose mother's literacy level was lower than graduate, usage of old cloth piece was more 144 (9.60%) (Table 5).

Distribution of study subjects according to menstrual morbidity

In the present study majority had backache 575 (38.33%) and dysmenorrhea 564(37.60%) followed by menorrhagia

271 (18.06%) and very few had irregular cycles 90 (6%). Proportion of study subjects with pre-menstrual syndrome were more in our research. There were 1313 (87.53%) study subjects having pre-menstrual syndrome (Table 6).

Distribution of study subjects according to their health seeking behaviour regarding menstrual morbidity

Only few i.e. 595 (39.66%) subjects had taken medical advice, 471 (31.40) thought it's because of excess heat and took home remedy, 323 (21.53%) took advice from mother or elderly lady and followed accordingly, 111 (7.40%) took self-medications.

The fear of adverse effects of medicaments among 242 (16.13%) subjects, was the most common reason for not seeking medical advice followed by shying and feeling of no care required among 127 (8.46%) and 93 (6.2%) subjects respectively.

Awareness about adolescent health clinic was present only among 143 (9.52%) of study subjects (Table 7).

Table 3: Distribution of study subjects according to awareness, perception and practices with respect to menstruation.

Variable	Factors	Factor levels	Frequency	Percentage %
Awareness	Awareness about menstrual cycle before attaining menarche	present	335	22.33
		absent	1165	77.66
	Awareness regarding the interval between two menstrual cycle	present	866	57.73
		absent	634	42.27
	Awareness regarding the duration of menstrual cycle	present	1070	71.33
		absent	430	28.66
	Awareness about Organ of menstruation	present	386	25.73
		absent	1114	74.26
	Awareness regarding ovulation	present	252	16.80
		absent	1248	83.20
	Awareness regarding free sanitary napkin programme	present	481	32.06
		absent	1019	67.93
Perception	Perception regarding restrictions practiced during menstruation	Should be imposed	60	4
		Should not be imposed	1313	87.53
		Not sure	127	8.46
	Perception regarding usage of sanitary pads	Agree	1200	80
		Disagree	212	14.13
		Not sure	88	5.86
Practice	Restriction practiced during menstruation	Practiced	881	58.73
		Not Practiced	619	41.26
	Restriction practiced for	Religious occasion	752	85.35
		College	105	11.9
		Playing	4	0.45
		Certain foods	20	2.3
	Absorbent used during menstruation	Sanitary pad	810	54
		New cloth piece	102	6.8
		Old cloth piece	588	39.2
	Method of disposal of absorbent	Burning	58	3.86
		Reusing cloth piece	582	38.80
		Dust bin	860	57.33

Table 4: Association between absorbent used during menstruation with the socioeconomic status of the study subjects.

Socioeconomic status	Absorbent used during menstruation				Chi square	DF	p-value
	Sanitary pad	New cloth piece	Old cloth piece	total			
Upper middle	56 (3.82)	0	11 (0.75)	67 (4.57)	0	2	1
Lower middle	351 (23.95)	3 (0.20)	358 (24.43)	712 (48.60)	347.16	2	<0.0005
Upper lower	232 (15.83)	85 (5.80)	193 (13.17)	510 (34.81)	68.224	2	<0.0005
Lower	140 (9.55)	14 (0.95)	22 (1.50)	176 (12.01)	169.682	2	<0.0005
Total	779 (53.17)	102 (6.96)	584 (39.86)	1465 (100)			

Chi-square=222.195; DF=6; p-value<0.005; contingency co-efficient=0.363.

Table 5: Association between mother's literacy with absorbent material used during menstruation.

Mother's education	Absorbent used during menstruation				Chi square	DF	p-value
	Sanitary pad	New cloth piece	Old cloth piece	Total			
Illiterate	47 (3.13)	5 (0.33)	13 (0.867)	65 (4.33)	45.908	2	<0.0005
Less than graduate	117 (7.80)	10 (0.66)	144 (9.60)	271 (18.06)	111.996	2	<0.0005
Graduate and more than graduate	646 (43.06)	87 (5.80)	431(28.73)	1164 (77.60)	409.83	2	<0.0005
Total	810 (54)	102 (6.8)	588 (39.20)	1500 (100)			

Chi-square=312.22; DF=4; p-value<0.005; contingency co-efficient=0.153.

Table 6: Distribution of study subjects according to menstrual morbidity.

Variable	Factors	Frequency	Percentage %
Menstrual disorder	Dysmenorrhea	564	37.60
	Backache	575	38.33
	Menorrhagia	271	18.06
	Irregural cycles	90	6
	Total	1500	100
Premenstrual syndrome	Present	1313	87.53
	Absent	187	12.46
	Total	1500	100

Table 7: Distribution of study subjects according to their Health seeking behaviour regarding Menstrual morbidity.

Variable	Factors	Frequency	Percentage %
Medical advice taken	Yes	595	39.66
	No	905	60.33
What else was done (if no)	Took advice from mother or elderly lady	323	21.53
	Thought its because of excess heat and took home remedy	471	31.40
	Took self-medication	111	7.40
Reasons for not seeking Medical advice	Feel shy	127	8.46
	Felt no need	93	6.2
	Fear of adverse effects of medicaments	242	16.13
Awareness about adolescent health clinic	Present	143	9.53
	Absent	1357	90.46
Ever visited Sneha clinic	Yes	143	9.53
	No	1357	90.46

DISCUSSION

The present cross sectional study was conducted among government pre-university adolescent girls. A total of 1500 study subjects were included in the study. Majority of them belong to Hindu religion (75.73%) and were from the city (55.20%). Most of the study subjects belong to lower middle class (48.60%) and were from nuclear families (60.46%).

Age of menarche

The mean age of menarche of the study subjects was 13.38±0.96 years (Mean±SD) with the minimum value of 11 and maximum value of 16. Similarly in the studies conducted by Mittal K et al, Koshi EP, Prasad BG et al, Gurmeet MP and Kulkarni MV et al the mean age of menarche among the adolescent girls were 13.1 years, 14.19 years, 13.62 years, 14.7 years and 13.5 years respectively.[6-10]

The onset of puberty is influenced by a number of factors like nutritional status, general health, geographic location and psychological state. Since onset of menarche is earlier as compared to previous era, the adolescent girls should be taught about menstruation and menstrual hygiene as early as possible.

Menstruation

Of the total 1500 study subjects, only 22.33% (335) were aware about menstrual cycle before attaining menarche. Studies by Nair P et al, Rao R A, and Prasad BG et al showed that the prior knowledge regarding menstruation among adolescent girls was 45.5%, 33.4% and 28% respectively.[8,11,12] A study conducted by Deo DS showed that 42.5% of urban and 55.4% of rural girls were aware about menstruation prior to attainment of menarche.[13] This shows that the awareness among the adolescents regarding menstruation is very poor before attainment of menarche.

In our study 25.73% (386) had awareness regarding the organ of menstruation. A study done by Oche MO et alshowed that the 78.7% of the respondents had awareness regarding the organ of menstruation.[14] Awareness regarding organ of menstruation is low among our study subjects. In our study knowledge regarding interval between two menstrual cycles was present among 57.73% (866) of the study subjects and 71.33% (1070) had awareness regarding duration of menstrual cycle.

Awareness regarding duration and interval will go a long way in seeking early medical intervention in case of any problems related to the same.

Majority of the study subjects i.e. 58.73% (881) were practicing restrictions during menstruation. Among those who were practicing restrictions, 85.35% (752) were practicing it for religious occasions, 11.9% (105) for attending college and 2.3% (20) for certain foods. Whereas in a study by Dasgupta A et al 85% of the girls practiced different restrictions during menstruation.[15] Among them, 70.59% girls were practicing it for religious occasion, 50% girls for certain foods, 42.65% for play, 33.82% for household work, 16.18% for attending school and 10.29% for marriage ceremony.

In the study done by Muhit IB et al in Bangladesh revealed that about 95% of the respondents were abstaining from religious activities during menstruation.[16] Women are treated as impure and unholy during menstruation. There are still a lot of myths and misconceptions surrounding menstruation. Lot of behaviour change communication activities are required to root out this attitude of the society. The best way is to change the mentality of younger generations through health education.

In the present study only 54% were using sanitary pads and among the rest, 39.2% were using old cloth piece and 6.8% were using new cloth piece as an absorbent. The more surprising fact was that 38.80% were reusing the cloth piece during menstruation.
Similarly in a study by Thakre SB et al in Nagpur it was observed that sanitary pads were used by 49.35% of subjects and 45.74% of the subjects used old clothes.[17] A study by Dasgupta A et al showed that 11.25% girls used sanitary pads during menstruation, 42.5% of girls used old cloth pieces and 6.25% used new cloth pieces and 40% of girls used both cloth pieces and sanitary pads during menstruation.[15]

In the present study statistically significant association was found between absorbent material used and socio economic status of family and with that of mother's educational level. Omidvar S et al and Gilany et al have reported that adolescent girls with better socio-economic status have preferred use of sanitary pads over cloth piece.[18,19]

But in our study sanitary pads were used more among the upper lower and lower classes whereas among the lower middle classes both sanitary pads and old cloth piece usage was in practice. Probably the availability of free sanitary napkins through programme is influencing the usage of sanitary pads among the lower classes. Usage of old cloth piece was more among the subjects whose mother's literacy level was lower than graduate level. This reveals that the literacy level of the mother has an influence on the usage of sanitary pads. Even the parents of adolescents should be taught about the importance of menstrual hygiene and usage of the sanitary pads.

CONCLUSION

There is a substantial lacunae in the knowledge and perception of the girls. The health seeking behaviour of the girls in the study is poor.

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