



## Rhythm of menstruation among adolescent girls in Kumbakonam Taluk, Thanjavur district in Tamil Nadu

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### ABSTRACT

Adolescents' problems constitute a bulk of morbidities, which are generally unrecognized and uncared furthering the disease burden. A large variety of morbidities such as nutritional deficiency, disorders (stunting, wasting), menstrual disorders, etc. prevail among adolescents. There are teenage pregnancies with complications; unsafe abortions, etc. also exist considerably. This study was conducted in kumbakonam taluk with the objectives, To examine the backgrounds characteristics of adolescent women in the study area, To analyze the relationship between SED (socio-economic-demographic) characteristics and rhythm of menstruation and to analyze the determinants of rhythm of menstruation among adolescent women. In order to find out principle factor that determine the rhythm of menstruation as not d earlier the logistic regression analysis was carried out. It is evident that majority of the variables under consideration have shown significant net effect on rhythm of menstruation except occupation , standard of living index, food habits, height ,weight and duration of menstruation.

**Key words:** Menstruation, Adolescent, SED

### INTRODUCTION

The transition period from childhood to adulthood is considered as "adolescence". This critical period of transition is identified by a range of ages. The World Health Organization (WHO) has defined adolescence as the age group of 10-19 years. However, Adolescence in India has been defined to be a period between 10-18 years. Lately, the girls in the age of 11-18 years have been included in the national adolescent girl's scheme under integrated child development scheme. Two of the UN endorsed Millennium Development Goals (MDGs) are directly related to the reproductive health of women [1]. This assessment of adolescent reproductive health (ARH) in India is part of a series of assessments in 13 countries in Asia and the Near East. The purpose of the assessments is to highlight the reproductive health status of adolescents in each country, within the context of the lives of adolescent boys and girls [2].

By rectifying the adolescent ill health, we will be able to strengthen the future reproductive health of our population. With education enlightenment and empowerment of a girl, gender bias can be removed from society. Most of the adolescent reproductive health programs focus on the 15-19 year old age group. There is an increasing need to recognize the 10-14 year group that comprises 12 percent of India's total population [3].

Adolescents' problems constitute a bulk of morbidities, which are generally unrecognized and uncared furthering the disease burden. A large variety of morbidities such as nutritional deficiency disorders (stunting, wasting), menstrual disorders, etc. prevail among adolescents. Teenage pregnancies with complications, unsafe abortions, etc. also exist considerably. Moreover, the complex psycho-social morbidities and high risk behavior of adolescents have been recognized as a threat to survival, growth and development. Hospital-based retrospective studies in India show that

primary amenorrhea, thyroid disorders, genital anomalies, ovarian enlargement, menstrual disorders, leucorrhoea and genital infections are very common among adolescent girls [4]. The most challenging problems are related to menses, in girls. Menstruation is a periodic and cyclic shedding of uterine endometrium accompanied by loss of blood and unfertilized ovum. High risks of menstrual problems have been found in under weight and overweight girls but evidence is consistent especially in relation to the effect of onset of obesity[5]. Obesity has a strong association with infertility and menstrual irregularities. Body mass index provided a simple numeric measure of a person's fatness and thinness, allowing health professionals to identify over and under weight problems. BMI is a simple index of weight-for-height that is commonly used. It is defined as the weight in kilograms divided by the square of the height in meters [6].

The experience of pain with menstruation is common for 70–91% of teenagers. Also, there are a number of physical, psychological and emotional symptoms that occur premenstrual and during menstruation, which are reported by 96% of teenagers [7]. The problems like menstrual bleeding to be emanating from the abdomen, intestines, and kidneys, or occurring as a consequence of curse from god, sin, and disease. There is a tendency for girls to associate a variety of negative physical and psychological changes on their body with menstruation among girls. This may indicate an imbibitions and internalization of cultural myths and stereotypes associated with menstruation in many cultures which undoubtedly influence menstrual practices amongst girls those who had no formal education on reproductive biology [8].

## MATERIALS AND METHODS

### OBJECTIVES

- ❖ To examine the background characteristics of adolescent women in the study area.
- ❖ To understand the relationship of socio economic and demographic characteristics and rhythm of menstruation.
- ❖ To analyse the determinants of rhythm of menstruation among adolescent women.

### STUDY AREA

The study was conducted in taluk of Kumbakonam in Thanjavur district as it is one of the most important trade centres and accounts different cultural group of the persons reside. This has many more temple they are basically reflecting the cultural heritage of India and particularly about Tamilnadu.

### DATASETS AND METHODOLOGY

The present study is based on a questionnaire survey by direct observation method based on random sampling procedure. As much as 334 adolescent girls have been selected from kumbakonam taluk. The random number table was used to pick out the sample. The questions are mostly closed one except in some places the questions are designed in an open-ended manner. The questions are related to rhythm of menstruation, physical condition, and age at menarche, socio-economic, demographic and psychological characteristics. The information collected through the questionnaire has been transformed into selected variables and entered into SPSS 16.0 Statistical Software for the application of statistical technique to find out the significant. The logistic regression analysis techniques are performed to bring out the significance and interrelationships between the socio economic and rhythm of menstruation.

## RESULTS AND DISCUSSION

Figure -1 shows that the socio-economic characteristics with rhythm of menstruation of the respondents. The place of residence and regularity of menstruation were found to be regular among the respondents of rural compared to urban respondents. The respondents those belong to Muslims and BC categories had (63.0 and 40.3 percent respectively) higher irregular menstruation compared to the other counter parts. It is obvious that education is of the important social variables it may be influencing the rhythm of menstruation because as the respondents were educated they may intake or parents may feed correct nutritional food.

It was clearly observed from the analysis that those parents who had education 9-12 class; their children had regular menstruation than who had education either 1-8 or degree and above. It is to note that there was no much difference in rhythm of menstruation between the two groups of occupational categories. Income and Standard of Living Index (SLI) were negatively associated with the rhythm of menstruation because while income and standard living index increase there were irregular among those respondents family income was RS. 10001 and above and those respondents fall rich categories of 40.3 and 37.7 percent respectively. The calculated median monthly income was Rs.4999/-

Table-1: Respondents by Socio-Economic Characteristics and Rhythm of Menstruation

Socioeconomic Characteristics	Rhythm of Menstruation		Total N=334
	Regular	Irregular	
Place of residence			
Rural	136(78.2)	38(21.8)	174
urban	104(65.0)	56(35.0)	160
Religion			
Hindus	222(76.6)	68(23.4)	290
Muslims	10(37.0)	17(63.0)	27
Christians	8(47.1)	9(52.9)	17
Caste			
BC	77(59.7)	52(40.3)	129
SC	64(85.3)	11(14.7)	75
MBC	94(76.4)	29(23.6)	123
Others	5(71.4)	2(28.6)	7
Mother's education			
Std 1-8	119(72.1)	46(27.9)	165
Std 9-12	106(72.6)	40(27.4)	146
Degree and above	15(65.2)	8(34.8)	23
Father's education			
Std 1-8	72(61.5)	45(8.5)	117
Std 9-12	143(80.8)	34(19.2)	177
Degree and above	25(62.5)	15(37.5)	40
Occupation			
Agriculture and allied activities	147(71.7)	58(28.3)	205
Non agricultural activities	93(72.1)	36(27.6)	129
Monthly income			
Rs. 0-5000	120(71.4)	48(28.6)	168
Rs. 5001-10,000	83(79.3)	21(20.2)	104
Rs. 10001 and above	37(59.7)	25(40.3)	62
Standard of living index			
Poor	76(74.5)	26(25.5)	102
Middle	126(73.7)	45(26.3)	171
Rich	38(62.3)	23(37.7)	61

Source: calculated from the data

Note: The figure in parenthesis denotes percentages calculated average monthly income was Rs.4999/-

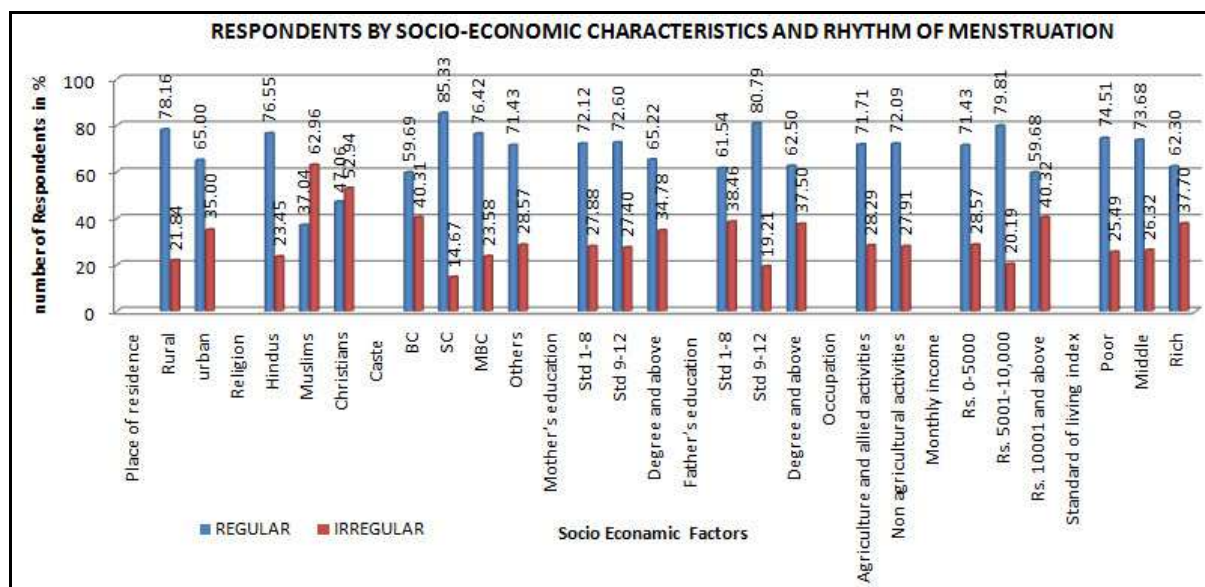


Figure -1

Figure-2 depicts that demographic characteristic of the respondents with their rhythm of menstruation. The analysis indicates that those who were in the age group 16-18 years had high percentage (65.5) of regular menstruation compared to the other two groups of ages that is 13-15.

Due to the poor nutritional status of the average Indian adolescent, the biological onset of adolescence may occur later compared with other developed countries. However, marriage and consequently the onset of sexual activity and

fertility occur earlier in India than in other regions of the world. Fourteen per cent of all girls aged 15-19 are married and about half of them are sexually active by the time they are 18 years old (International Institute for Population Sciences, 1995). In 1996, averages of 38 per cent of girls in the 15-19 age groups were married. In the rural areas, this percentage was even higher at 45.6 percent [9].

**Table-2: Respondents by Demographic Characteristics and Rhythm of Menstruation**

Demographic Characteristics	Rhythm of Menstruation		Total N=334
	Regular	Irregular	
<b>Age (in years)</b>			
13-15	103(76.9)	31(23.1)	118
16-18	97(65.5)	51(34.5)	163
19-21	40(76.9)	12(23.1)	53
<b>Age at menarche (in years)</b>			
9-12	78(70.9)	32(29.1)	110
13-15	130(68.4)	60(31.6)	190
16-19	32(94.1)	2(5.9)	16
<b>Food habits</b>			
vegetarian	71(78.9)	19(21.1)	90
Non vegetarian	169(69.3)	75(30.7)	244
<b>Height</b>			
Less than or equal to 150 cms	56(74.7)	19(25.3)	75
160-168 cms	101(69.7)	44(30.3)	145
169 +cms	83(72.8)	31(27.2)	114
<b>Weight</b>			
29-39 kgrm	43(68.3)	20(31.7)	63
40-49 kgrm	135(75.4)	44(24.6)	179
50+ kgrm	61(67.0)	30(33.0)	91
<b>Menstruation interval</b>			
Below 28 Days	25(89.3)	3(10.7)	28
28 days	106(90.6)	11(9.4)	117
28 days and above	109(57.7)	80(43.2)	189
<b>Duration of menstruation</b>			
1-3 days	41(69.5)	18(30.5)	59
Up to 5 days	163(75.5)	53(24.5)	216
5 days and above	36(61.0)	23(39.0)	59

*Source: calculated from the data*

*The figure in parenthesis denotes percentages: Median age of adolescent was 18 Years; Median age at menarche was 13Years.*

Age at menarche and regular menstruation positively associated as age adolescent women increases. Food habits of the adolescent significantly affecting their rhythm of menstruation. Those who were vegetarian had regular menstruation with the percentage of 79 compared to the non-vegetarian. It was observed from the analysis that that adolescent had middle height and weight that is 160-168 cm and 40-49 km they had regular menstruation cycles to those adolescents had low height and weight as well as over height and weight.

It was also under stood from the analysis that the adolescent who had menstruation interval 28 days and duration of menstruation interval they had regular menstruation with the percentages of 90.6 and almost three-fourth respectively. Calculated Median age of adolescent was 18 years and Median age at menarche was 13 years. In order to find out principle factor that determine the rhythm of menstruation as not d earlier the logistic regression analysis was carried out and results were given in the Table-3. It is evident that majority of the variables under consideration have shown significant net effect on rhythm of menstruation except occupation , standard of living index, food habits, height ,weight and duration of menstruation.

Table-3: Fitted Model of Logistic Regression for Socio-Economic and Demographic Characteristics and Rhythm of Menstruation

Socioeconomic and Demographic Characteristics	B	S.E.	Wald	Exp(B)
<b>Type of Place</b>				
Rural				1.000
Urban(1)**	.941	.350	7.212	2.563
<b>Religion</b>				
Hindus			8.623	1.000
Muslims(1)**	1.919	.654	8.622	6.817
Christians(2)	.023	.650	.001	1.024
<b>Caste</b>				
BC**			15.569	1.000
SC(1)***	-1.827	.510	12.835	.161
MBC(2)**	-1.143	.403	8.029	.319
Others(3)	.976	1.100	.787	2.653
<b>Mother's education</b>				
Std1-8			5.715	1.000
Std 9-12(1)**	.914	.392	5.444	2.494
Degree and above(2)	1.104	.851	1.681	3.015
<b>Father's education</b>				
Std1-8***			16.796	1.000
Std 9-12(1)***	-1.722	.429	16.094	.179
Degree and above(2)	-.657	.598	1.206	.519
<b>Monthly income</b>				
Rs.0-5000**			8.226	1.000
Rs.5001-10,000	-.332	.411	.652	.718
Rs.10001and above**	1.133	.489	5.373	3.104
<b>Age in years</b>				
13-15			4.576	1.000
16-18(1)*	.851	.439	3.753	2.341
19-21(2)	.145	.582	.062	1.156
<b>Age at menarche (in years)</b>				
9-12**			11.050	1.000
13-15(1)	.305	.382	.637	1.356
16-18(2)**	-2.985	.987	9.145	.051
<b>Intervals of menstruation</b>				
Below 28 days***			36.179	1.000
28 days(1)	-.914	.847	1.164	.401
28 days and above(2)**	1.750	.758	5.328	5.753
Constant	-2.089	1.135	3.386	.124

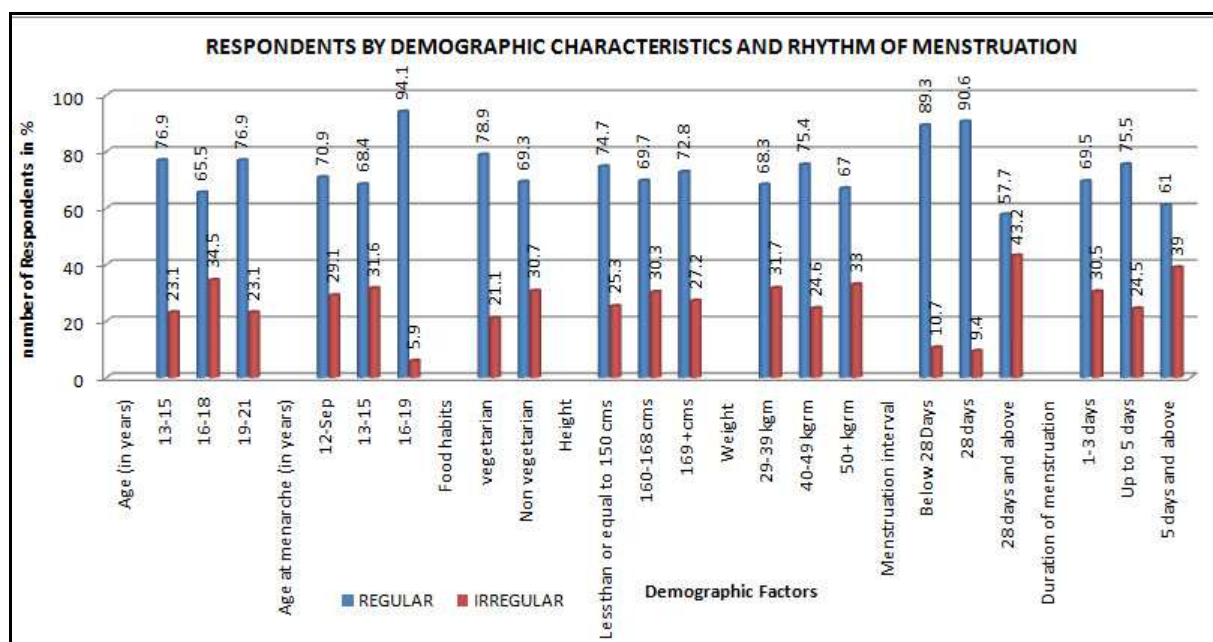
Note: \* $p < 0.05$ ,  $p < 0.01$ , and \*\*\* $p < 0.000$ 

Figure -2

As expected those adolescent residing at the urban area and Muslims have shown greater likely hood of irregular menstruation (2.5 and 6.8 times respectively) compared to rural area and Hindus and Christians. Those who had higher income were higher likely hood of irregular menstruation to the counter parts of low income groups. As pointed out, those who had Age at menarche at higher ages they had less likely hood for risk of irregular menstruation. It is to mention that whose ages were 16-18 years they had higher likely hood (2.3 times) risk of irregular menstruation.

### CONCLUSION

Approximately 21% of the total population falls in the age bracket of 10-19. There has-been a steady increase in the proportion of young people over the years[10].The Reproductive and Child Health (RCH) program puts tremendous emphasis on the health of adolescent girls in the form of life cycle approach. It is only recently that we have acknowledged the need for a separate specialty to handle adolescent problems and ailments. By rectifying the adolescent ill health, we will be able to strengthen the future reproductive health of our population. With education enlightenment and empowerment of a girl, the reproductive health problem among women can be removed from society. The analysis indicates that those who were in the age group 16-18 years had high percentage (65.5) of regular menstruation compared to the other two groups of ages that is 13-15. In order to find out principle factor that determine the rhythm of menstruation as not d earlier the logistic regression analysis was carried out and results were found. It is evident that majority of the variables under consideration have shown significant net effect on rhythm of menstruation except occupation , standard of living index, food habits, height ,weight and duration of menstruation. Religious based specific complains for Muslim women the irregularities may be due to food habits. At the younger ages females may be advised or counseling may be given to take right nutritional food to get age at menarche so that they can avoid irregular period at their adult ages,

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