



**ORIGINAL RESEARCH PAPER**

**Physiology**

**PREVALENCE OF MENSTRUAL IRREGULARITIES IN LATE ADOLESCENT GIRLS AND USEFULNESS OF NON PHARMACOLOGICAL ADJUNCTS**

**KEY WORDS:** Menstrual irregularities, Late Adolescent Girls, Non pharmacological Adjuncts

**Dr . A. Kala**

Assistant Professor, Department of Physiology, Tirunelveli Medical College, Tirunelveli District.

**ABSTRACT**

**BACKGROUND AND OBJECTIVES:** The prevalence of menstrual irregularities are increasing nowadays which is the main cause of infertility in women of reproductive age group. Modern life style changes and stress are provoking factors for menstrual irregularities in adolescent girls. Our aim was to find out the prevalence of menstrual irregularities among college girls and trying to correct it by life style modification alone without any pharmacological therapy.  
**MATERIALS AND METHODS:** About 800 girls from college are selected. Prevalence of menstrual irregularities detected. Non pharmacological intervention given for 6 months and the results analysed.  
**RESULTS:** Prevalence of menstrual irregularities in adolescent girls was 12% and by giving non pharmacological therapy there was significant correction in menstrual cycle irregularities.  
**CONCLUSION:** To conclude, life style modification can be advised to adolescent girls to avoid future infertility due to irregular menstruation.

**INTRODUCTION**

Adolescence is a period of transition from childhood to adult life along with pubertal development and sexual maturation. For girls, it is a period of physical and psychological transformation to motherhood. During adolescence crucial endocrinological, metabolic, somatic and psychological changes occur in the body. Especially their hypothalamo pituitary ovarian axis undergo activation and full maturation during this period producing normal menstrual cycle.

A normal ovulatory cycle is a prerequisite for future reproductive capabilities for adolescent girls. Any deviation from normal will affect the reproductive function in later life. The most common cause for infertility in married women is irregular menstrual period from teenage. Regarding this aspect proper knowledge and awareness is lacking in adolescent girls and their parents.

Menstrual irregularities are major problems in adolescents producing psychological stress in parents and children. Studies show that the prevalence of menstrual irregularities among South Indian adolescent population seems to be 11.9%. The common menstrual disorders prevalent among themselves are menorrhagia i.e. excess flow (17.82%), oligomenorrhoea i.e. prolonged cycle duration (16.08%), hypomenorrhoea i.e. scanty flow (59.56%), dysmenorrhoea (49.13%) and premenstrual tension. Less common are polymenorrhoea i.e. shortened cycle duration and combination of flow and cycle abnormalities.

Eventhough abnormal menstruation has multifactorial causes one among the common accompaniment is stress factor. Stress needs special attention because adolescent girls are more prone for stress due to their modern lifestyle pattern. Stress will be minimised in them by various lifestyle modifications like regular exercise, eating a balanced diet rich in variety of whole grains, vegetables and fruits, deep breathing exercises, asanas for mind relaxation. Hence the present study helps to lead the adolescent girls to proceed with a less stressful and more powerful reproductive life.

**AIMS AND OBJECTIVES**

- To find out the prevalence of menstrual irregularities in late adolescent girls.
- To assess the stress level in the study group by stress questionnaire.
- To study the effect of non pharmacological adjuncts (lifestyle modifications) in girls with menstrual irregularities.

**MATERIALS AND METHODS**

This is a cross sectional followed by interventional study. Study was conducted at Government Rani Anna College for women, Tirunelveli District. Study period was 6 months.

**Inclusion Criteria**

- College girls in the age group between 17 to 20 years
- Girls with menstrual irregularities were subjected to intervention

**Exclusion Criteria**

- Students with known medical illness, anaemia, thyroid disorders, structural anomalies in reproductive system

**Methodology**

Ethical committee clearance obtained from Tirunelveli Medical College. An oral questionnaire given to 800 girl students in the age group 17 to 20 years with questions regarding their menstrual pattern. Girls with menstrual irregularity were classified into 4 groups namely oligomenorrhoea group, polymenorrhoea group, hypomenorrhoea group and menorrhagia group and also groups with both flow as well as cycle abnormalities. Prevalence found out. Students with normal menstrual pattern were excluded from the intervention study. All 4 groups were subjected to Hb and thyroid profile estimation. Ultrasound abdomen done in all students with menstrual irregularities to rule out structural irregularities. Students with anaemia, thyroid disorders and structural anomalies of reproductive tract are excluded from interventional study.

Stress scored for the students included for the intervention study by using Perceived Stress Score by Sheldon and Cohan. Stress level categorized into very low(score 0-7) , low(score 8-11), average(score 12-15), high(score 16-20) and very high (score >20). Menstrual blood loss assessed by PBAC scoring system. Score more than 100 is heavy periods and score less than 20 is scanty periods. For assessing menstrual cycle irregularities, menstrual cycle of 22 to 35 was considered as normal cycle. Non pharmacological adjuncts such as brisk walking exercise, deep breathing exercise and relaxation asana like shavasana were advised. They were asked to do this exercise daily for half an hour in the morning and similarly in the evening. Total period of intervention was 6 months. They were reviewed monthly and menstrual problems reassessed. At the end of 6 months all parameters rescored and result analysed whether there were any improvement in previous symptoms. No medications were given during this period.

**Results**

**Table 1: Age Wise Distribution Of Menstrual Irregularities**

Age	No of students studied	No. with normal menstruation	With menstrual irregularities
17 yrs	200	172	28
18 yrs	200	175	25
19 yrs	200	177	23
20 yrs	200	180	20
Total	800	704	96

Menstrual irregularities were comparatively more in 17 yrs age group which indicates immature hypothalamo pituitary ovarian axis.

**Table 2 : Prevalence Of Different Types Of Menstrual Irregularities**

Age	Oligo menorrhoea	Poly menorrhoea	Hypo menorrhoea	Menorrhagia	O+H	P+M	Total
17yrs	13	2	6	4	1	2	28
18yrs	9	3	3	8	1	1	25
19yrs	8	4	4	5	1	1	23
20yrs	8	2	2	5	2	1	20
Total	38	11	15	22	5	5	96

Among the group, the distribution of oligomenorrhoea was 39.5%, polymenorrhoea 11.5%, hypomenorrhoea 15.7%, menorrhagia 22.6%, combined oligo with hypomenorrhoea 5.2%, poly menorrhagia 5.2%.

**Table 3: Comparison Of Stress Scoring Before And After Intervention**

Parameters	Stress Score	
	Pretest	Post test
Mean	15.81	13.07
SD	2.81	1.91
P	0.0001	
Significance	Significant	

There was significant reduction in stress scoring after intervention

**Table 4 : Comparison Of Menstrual Cycle Duration Before And After Intervention**

Parameter	Menstrual cycle Duration			
	Oligomenorrhoea		Polymenorrhoea	
	Pre test	Post test	Pre test	Post test
Mean	43	40	18.66	24.53
SD	4.02	4.27	1.58	3.27
p	0.001		0.001	
Significance	Significant		Significant	

PValue < 0.05 – significant. SD – Standard Deviation.

There were significant improvement in menstrual cycle both in oligomenorrhoea as well as in polymenorrhoea group.

**Table 5 : Comparison Of Amount Of Menstrual Flow Before And After Intervention**

Parameter	Amount of menstrual flow ( PBAC SCORE)			
	Hypomenorrhoea		Menorrhagia	
	Pre test	Post test	Pre test	Post test
Mean	14.47	17.21	128.7	121.04
SD	2.83	5.07	10.24	21.31
p	0.07		0.06	
Significance	Not Significant		Not Significant	

PValue < 0.05 – significant. SD – Standard Deviation.

The prevalence of menstrual irregularities among college students was 12% which correlates well with a similar study done by Agarwal et al at Singapore in 2006. After non pharmacological adjuncts i.e. life style modification there was significant improvement in menstrual cycle alteration but no significant change in menstrual flow alteration.

**CONCLUSION**

Development of menstrual irregularities in the reproductive age group ending up in infertility can be avoided by practicing healthy life style from adolescent period itself.

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