

# Effectiveness of Information Booklet on Prevention of Irregular Menstrual Cycle among Adolescent Girls

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**Abstract:** *The main thrust of present investigation is to assess the effectiveness of information booklet on prevention of irregular menstrual cycle among adolescent girls. The study was conducted on 100 adolescent girls aged 17 - 19 years selected randomly studying at a selected College of Nursing, Tirupati. The knowledge on irregular menstrual cycle was assessed by using structured questionnaire. It consists of 23 statements such as meaning, causes, signs and symptoms and investigations, management and prevention of irregular menstrual cycle. Majority (50%) had inadequate knowledge, 43.00% had moderate knowledge and 7.00% had adequate knowledge in pretest. Whereas majority (87.00%) had adequate knowledge, 13.00% had moderate knowledge and none of them had inadequate knowledge in post test. Overall mean percentage was found to 47.6% with standard deviation 3.48 in pretest and overall mean percentage was found to 73.56% with standard deviation 2.39 in post test. Significant difference was observed in pretest and posttest knowledge scores on prevention of irregular menstrual cycle at 0.05 level.*

**Keywords:** Menstruation, prevention, irregular menstrual cycle, knowledge, Adolescents

## 1. Introduction

Adolescents are the greatest resource for a society that bring healthy adolescents now-healthy adults in the future. Future generations adolescent health is vitally important because it is a unique phase of human development. A period or menstruation is the part of the menstrual cycle in which the shedding of lining of uterus that is endometrium takes place. This appear as a bleeding from the womb that is released through the vagina. Period usually starts during puberty, between the age of 10 and 16 years and they continue until age of menopause (Diaz, 2006). The Normal length of a women's menstrual cycle is 28 days, but this varies between the individuals, bleeding usually lasts around 5 days but this can vary from 2-7 days.

Menstrual cycle abnormalities have been considered common during puberty and constitute a common complaint with which adolescent girls present now a days. Irregular menstruation is when the length of the cycle is more than 35 days (or) less than 15 days. Irregular cycle (or) Irregular periods is an abnormal variation in length and duration of menstrual cycle. Ninety one percent of the students were suffering from some kinds of menstrual problem. The incidence of different menstrual problem reported were irregular menstruation (27%), abnormal vaginal bleeding (9.35%), Amenorrhea (9.2%), menorrhagia (3.4%), Dysmenorrhea (89.7%) and premenstrual symptoms (46.7%). The most common cause of heavy menstrual bleeding in adolescents is dysfunctional uterine bleeding related to an ovulation (McEvoy, 2004).

The adolescent girls are more prone to get irregular menstrual cycle because of hormonal imbalance, stress, obesity, inadequate rest and sleep, life style habits, anaemia,

type I diabetes mellitus, socio economic status. The signs and symptoms of irregular menstrual cycle are cycle longer than 35 days (or) less than 15 days, changes in blood flow-presence of blood clots, cramping pain in lower abdomen, low back pain and pain radiating down the legs, irritability, fatigue, weakness, acne, excessive hair growth. Some of these menstrual characteristics, such as irregularity in the menstrual cycle, premenstrual pain and discomfort, pain and discomfort at the time of menstrual discharge, and a heavy menstrual discharge, may affect the general and/or reproductive health of a woman (Good Enough, 1998).

There are many complications due to irregular menstrual cycle they are fertility issues/infertility, endometriosis, PCOD, uterine fibroids toxic shock syndrome. Irregular menstrual cycle can be prevented through stress reduction through yoga and meditation, deep breathing exercise, well balanced diet, exercise, strive for healthy weight, rest and sleep, avoid excessive sports, menstrual hygiene, stop smoking and alcohol, use of medications as per physicians order.

According to World Health Organization (2018), the World now has more young people than before the 7.2 billion people worldwide. Over 3 billion are younger than 25 years making up 42% of the world population around 1.2 billion of these young people are adolescents aged between 10 and 19 years.

In India not many studies have examined the effectiveness of information booklet on prevention of irregular menstrual cycle among adolescent girls. The present study is an attempt to assess the knowledge on prevention of irregular menstrual cycle among adolescent girls.

## Objectives

- 1) To assess the knowledge regarding irregular menstrual cycle among adolescent girls.
- 2) To assess the effectiveness of information booklet on prevention of irregular menstrual cycle among Adolescent girls

## 2. Literature Review

Kwak et al (2019): A Study conducted on prevalence of irregular menstruation according to socioeconomic status, a population based nationwide cross sectional study among South Korean women. Secondary data analysis were conducted data from Korea national health and nutrition examination representative survey compared to women who graduated from university the adjusted odds ratios for those who graduated from elementary school or lower, middle school and high school were 3.256, 2.857 and 1.667 respectively compared to women with a medium high income level, the adjusted odd ratio for women with highest household income level was 1.409. Irregular menstruation was prevalent among adult women and appeared to be associated with socioeconomic status must be paid to women with low educational levels or high household income to ensure diagnosis and the provision of medical attention for irregular menstruation.

Rafique et al (2018): A Cross sectional study conducted on prevalence of menstrual problems and their association with psychological stress in young female students studying health sciences. 738 Female students aged 18-25 years anonymously completed menstrual problems identification and perceived stress scale questionnaire. 91% of the students were suffering from some kind of menstrual problem. The different menstrual problems reported and their incidences included Irregular Menstrual problems reported and their incidences included irregular menstruation (27%) abnormal vaginal bleeding (9.3%) amenorrhea (9.2%) menorrhagia (3.4%) dysmenorrhea (89.7%) and premenstrual symptoms (46.7%). High perceived stress was identified in 39% of the students. A significant positive correlation was found between high perceived stress & menstrual problems. Students with HPS had 4 times, 2 times, & 2.8 times increased odds ratio for experiencing amenorrhea, dysmenorrhea & PMS. This study concluded that the most prevalent menstrual problems in the target population were strongly associated with stress. Therefore it is recommended that health science students should be provided with early psychological and gynecological counseling to prevent future complication.

Deborah, et al (2017): A Cross Sectional study was prevalence of menstrual irregularities in selected college in a district of Tamil Nadu, India. Menstrual Irregularities are usually due to imbalance of hormones. Obesity associated with many health effect on Menstrual cycle. Hence attention to obesity is obligatory for the inclusion of diagnosis and treatment of Menstrual Complaints which has become a leading issues in women's life. The Prevalence of Menstrual Irregularities was high in obesity compared with those with normal body fat. This study revealed 4 fold increase in the prevalence of menstrual irregularities in

students with increased body fat when compared with normal. Effective Steps to reduce body fat by regular exercise, healthy eating habits & lifestyle modifications should be undertaken to revert Menstrual Irregularities back to normal. Young women can thus lead a normal active life and prevent infertility which has become a most striking event in this generation.

## 3. Methodology

### Sample:

A total of 100 adolescent girls were selected for the study. A simple random sampling technique was used to select the subjects who were studying B.Sc. Nursing at Tirupati. Firstly all the adolescent girls studying I year, II year and III year B.Sc. Nursing were listed. Secondly adolescent girls were explained the purpose of study and selected based on willingness of the sample. Thirdly the adolescent girls who are willing to participate in the study were listed out and selected every 3<sup>rd</sup> number randomly according to the list. In the fourth step, pretest was done on the 100 samples.

After collecting pretest data, the information booklet on prevention of irregular menstrual cycle was distributed and educated the sample. Finally after educating the aspects in information booklet, doubts were clarified by the investigator and suggestions were given to follow better hygiene, good diet and physical activity.

After one week of education programme, posttest was conducted to the same sample with the same structured questionnaire.

### Tool:

The knowledge on irregular menstrual cycle was assessed by using structured questionnaire. It consists of 23 statements. The items in structured questionnaire was divided under four headings namely general information, causes, signs and symptoms and diagnostic findings, management and prevention. General information includes seven questions. Two statements in causes, six questions in signs and symptoms and diagnostic findings, management and prevention aspects include eight statements. A high score on a knowledge questionnaire is presumed to indicate an adequate knowledge.

## 4. Results and Discussion

Distribution of the adolescent girls as per their levels of knowledge on prevention of irregular menstrual cycle was presented in table 1.

The onset of menstruation or menarche is the first step towards the womanhood. Menstrual disturbances are common among the adolescents and usually caused by immaturity of hypothalamic-pituitary-ovarian axis. Positive feedback response to estrogen is frequently absent in the immediate postmenarchal period (Wiksten-Almstromer, 2007).

**Table 1:** Distribution of Adolescent Girls as per their Pretest and Posttest Levels of Knowledge on Prevention of Irregular Menstrual Cycle, n=100

Levels of Knowledge	Pretest		Posttest	
	N	%	n	%
In adequate	50	50.00	0	0
Moderate	43	43.00	13	13.00
Adequate	7	7.00	87	87.00
Total	100	100.00	100	100.00

Shukar-ud-din (2014) found that there was complete lack of knowledge about menstrual problems in 178(80%) respondents. Knowledge of irregular cycle, prolonged and short cycle were more in participants who were of between 15-19 year of age. Similarly Kamalam (2005) showed that majority of the girls had no knowledge about irregular periods.

Most adolescent girls had incomplete and inaccurate information about menstrual physiology and hygiene. The menstrual information they did have was acquired primarily through mothers, television, friends, teachers and relatives (Ghattargi, 2005).

Table 1 show that majority (50%) had inadequate knowledge, 43% had moderate knowledge and 7% had adequate knowledge on prevention of irregular menstrual cycle in pretest. Majority (87%) had adequate knowledge and 13% had moderate knowledge in posttest.

Haque (2014) reported that after health education, participants reported a significant improvement ( $p < 0.001$ ) in 'high knowledge and beliefs' scores compared to baseline (51% vs 82.4%). Significant improvement was also observed in overall good menstrual practices (28.8% vs 88.9%), including improvements in using sanitary pads (22.4% change after the intervention), frequency of changing pads/cloths per day (68.8%), drying the used absorbent (77.6%), methods of disposing of the used absorbent (25.5%), and cleaning of genitalia (19.2%). During the follow-up, the participants reported significant improvements in the regularity of their menstrual cycle (94.5% vs 99.5%) and fewer complications during menstruation (78.6% vs 59.6%).

Gaikwad (2019) found that 3.33% of adolescent girls had inadequate knowledge, 76.67% had moderate level of knowledge and 20% had adequate knowledge on menstrual hygiene.

Table 2 shows the mean scores of adolescent girls regarding pretest and posttest knowledge on prevention of irregular menstrual cycle.

Awareness on healthy life style practices, menstrual hygiene on prevention of irregular menstrual cycle is a vital part of health education for adolescent girls so that they can continue to work and maintain hygienic habits throughout their adult life. The ideal menstrual health education curriculum would encourage students to think about the relationships between knowledge, choice, behaviours and enhanced human health.

**Table 2:** Comparison of Pretest and Posttest Knowledge Regarding Prevention of Irregular Menstrual Cycle among Adolescent Girls, n=100

Knowledge on prevention of irregular menstrual cycle	Mean	Standard deviation	t- value
Pretest	14.30	3.48	14.932
Posttest	22.07	2.39	

\* Significant at 0.05 level

From the table 2 it was evident that the obtained t-value (14.932) was found to be significant at 0.05 level. It means there was gain in knowledge level of adolescent girls. This support that information booklet on prevention of irregular menstrual cycle is effective in increasing the knowledge level of adolescent girls.

Similarly the findings by Gaikwad (2019) revealed that after education programme the enhancement of 11.07 in mean and 0.7 in standard deviation with Z value of 29.19 at 0.05 level of significance.

Haque (2014) found that there was no statistically significant difference between baseline and follow-up regarding respondents' knowledge of the cause of menstruation, origin of menstrual blood, or that menstruation indicated fertility. However, during the follow-up period, adolescents significantly increased their knowledge regarding age at normal cessation of menstruation and the fact that hot and cold foods do not influence the menstrual cycle. Overall, significant improvement ( $p < 0.001$ ) was observed regarding adolescents' self-reported knowledge and beliefs scores at follow-up compared with baseline (51% vs 82.4%).

## 5. Conclusion

Menstruation is a normal process should be aware by all the adolescents and women. With the correct and appropriate information on menstruation and reproductive health, mother can give this knowledge to her growing girl child. It is also essential for the teachers to impart reproductive health education, including menstrual hygiene to their students. For this, the proper policies should be formulated and implemented, which can be part of overall health and community development policy.

## 6. Limitations and Future Studies

**Limitations:** The study is limited to

- Adolescent girls studying B.Sc. Nursing Course.
- Adolescent girls aged between 17 – 19 years only.

**Future Studies:**

- A similar study can be conducted on large sample for better generalization.
- Field trails can be conducted to improve the healthy practices on prevention of irregular menstrual cycle among adolescent girls.
- A similar study can be conducted to compare the adolescent girls residing in rural and urban areas.

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