

# International Journal of Clinical Obstetrics and Gynaecology

ISSN (P): 2522-6614  
ISSN (E): 2522-6622  
© Gynaecology Journal  
www.gynaecologyjournal.com  
2019; 3(2): 79-82  
Received: 12-01-2019  
Accepted: 16-02-2019

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## To study the effect of health education on knowledge of pubertal changes and menstrual hygiene

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**DOI:** <https://doi.org/10.33545/gynae.2019.v3.i2b.15>

### Abstract

**Background:** Puberty is stage of life when girls reach sexual maturity. This is the time when adolescents experience a change in their physical, social and emotional aspects of life. During this phase of growth, the girls first experience menstruation and related problems marked by feelings of anxiety and eagerness to know about this natural phenomenon.

**Aim and Objective:** To assess the knowledge regarding pubertal changes, give health education about pubertal changes, menstruation and menstrual hygiene and assess the effect of health education.

**Materials and Methods:** Interventional study among 309 girls of 6<sup>th</sup> and 7<sup>th</sup> standard of St Agnes Girls higher primary school, Mangalore. Pretest was taken, educational talk was given and a posttest was conducted.

**Results:** In our study, awareness about menstruation improved from 96.9% to 99.7%. Knowledge of the changes that take place during puberty improved to 97% from 5.7%.

**Conclusion:** Our study has proved lack of knowledge of adolescent girls about menstruation awareness of pubertal changes, hygiene.

**Keywords:** Puberty, menstruation, knowledge, awareness

### Introduction

Puberty is stage of life when girls reach sexual maturity. This is the time when adolescents experience changes characterized by physical growth, sexual maturation and psycho social Development [1, 2]. In order to effectively deal with this transition, they require information and a clear picture of their bodily changes to prevent them from physical problem guilt, ambiguity and confusion.

Puberty brings about dramatic physical and emotional changes that may be frightening to an unaware child. It can also cause tension and confusion and on other hand it may give sense of happiness. This is the where girls need guidance and supportive relationship from the family and peers to develop "healthy self". Therefore it is necessary to create an awareness regarding pubertal changes among adolescent girls.

In 2005, there were 1.21 billion adolescents in world. Adolescent population is estimated to continue to increase until 2040, to finally reach 1.23 billion [3]. In India it constitutes 1/5<sup>th</sup> of total population [4].

During this phase of growth, the girls first experience menstruation and related problems marked by feelings of anxiety and eagerness to know about this natural phenomenon [5]. It is still regarded as unclean and dirty in Indian population. Hygiene related menstrual practices are of considerable importance, as it has a health impact in terms of increased vulnerability to reproductive tract infections (RTI). Therefore increased knowledge about menstruation right from childhood may escalate safe practices and may help in mitigating the suffering of millions of women [4].

### Materials and Methods

This study was conducted among 6<sup>th</sup> and 7<sup>th</sup> standard girls of St Agnes Girls higher primary school, Bendoor, Mangalore. A knowledge questionnaire was structured. After assessing their awareness by pretest questionnaire, health education in the form of a talk with power point presentation and audio-visual aids regarding pubertal changes, menstruation and menstrual hygiene was conducted. Effect of health education was assessed by post-test questionnaire.

Inclusion criteria: urban girls=10-14years

Can read English

Available for data collection

### Statistical analysis

It was a pretest posttest quasi experimental study. McNemer test was used to find the significance of the results.

### Results (Table 1)

In our study, awareness about menstruation improved from 96.9% to 99.7%. 133 girls of 317 girls (study) had attained menarche (43.3%), 90.8% attained menarche between 11-13 years. Knowledge of the changes that take place during puberty improved to 97% from 5.7%. Knowledge about age of menarche increased to 98.7% from 85.7% (p-0.012). Knowledge regarding origin of menstrual blood increased to 99.3% from 83.1% (p-0.001). 84.9% had regular cycles, 51.2% experienced dysmenorrhea. 19.5% girls refrained from attending school because of menstruation.

Awareness about sanitary pads increased to 98.3% from 95.5%. Knowledge about correct way of disposed sanitary pads improved to 99.3% from 93.8%. 70% of girls received the knowledge about menstruation and puberty from their mothers and teachers.

### Discussion

In our study 96.9% and 99% knew what is meant by menstruation and puberty before the educational talk. A study by

Pandit Sandhya *et al.* [6] showed 80% and 75.6% were aware about meaning of puberty and menstruation respectively.

In our study majority of the girls who attained menarche were in the age group of 12-13 years whereas mean age for menses was calculated to be 12.8, 13.2 and 13.7 years according to some studies [7-12].

Only 5.7% knew the changes occurring in puberty whereas after the education 97% acquired the knowledge of the changes that take place during puberty. Nair *et al.* [13] in east Delhi did a study which showed only 1/3<sup>rd</sup> of girls were aware of all the pubertal changes.

Pre-test 85.9% knew the correct age of menstruation, 83% about the origin of menstrual blood. In contrary a study done by Tarhane S, Kasulkar A *et al.* [4] showed only 40% girls knew the correct age of menarche and 68% about the source of menstrual blood.

In our study 51.2% had dysmenorrhea. Sharma *et al.* [14] and Nair *et al.* [13] also found that many adolescents complaint about dysmenorrhea.

95.5% used sanitary pads and 93.8% were aware about the correct method of disposal in our study. In a study done by Dipali Nemade *et al.* [15] only 40.61% used pads and 32.47% knew about the correct method of disposal pre-test which increased to 71.80% post-test.

In our study 77.4% changed pad only twice in a day pretest which dropped down to 14.9% post-test. Dipali Nemade *et al.* [15] study also showed similar drop post-test.

**Table 1: Count of Percentage value**

	Pre test		Post test		p value
	Count	Percentage	Count	Percentage	
<b>What is menstruation?</b>					
Monthly bleeding in girls	279	96.9%	306	99.7%	0.011(SIG)
Mathematical formula	9	3.1%	1	0.3%	
TOTAL	288	100%	307	100%	
<b>Have you attained menarche?</b>					
Yes	137	44.8%	133	43.3%	0.762 (NS)
No	169	55.2%	174	56.7%	
TOTAL	306	100%	307	100%	
<b>Age of Menarche</b>					
9 years	2	1.5%	3	2.3%	0.044 (sig)
10 years	8	5.8%	6	4.6%	
11 years	49	35.8%	49	37.4%	
12 years	74	54%	70	53.4%	
13 years	4	2.9%	3	2.3%	
TOTAL	137	100%	131	100%	
<b>What is puberty?</b>					
Changes in the body so that child becomes adult	284	99%	300	99.7%	0.317(NS)
Shoe company	3	1%	1	0.3%	
TOTAL	287	100%	301	100%	
<b>What are the changes which take place in the body in puberty?</b>					
Getting periods	84	32.2%	2	0.7%	0.000(HS)
Increase in height, weight and change in body	41	15.7%	7	2.3%	
Appearance of hair in the arms and private parts	13	5%			
Enlargement of breasts	15	5.7%			
All of the above	108	41.4%	291	97%	
TOTAL	261	100%	300	100%	
<b>Normal age when girls have periods?</b>					
8-10 years	13	4.4%	1	0.3%	0.012(sig)
10-14 years	256	85.9%	301	98.7%	
14-19 years	26	8.7%	3	1%	
Less than 8	3	1%			
TOTAL	298	100%	305	100%	
<b>Menstrual blood comes from</b>					
Kidneys	16	6.3%			0.001(HS)
Uterus	211	83.1%	303	99.3%	
Lungs	5	2%	1	.3%	
None of the above	22	8.7%	1	.3%	
TOTAL	254	100%	305	100%	

Girls reach puberty before boys					
True	70	28.7%	3	1%	0.000(HS)
False	174	71.3%	304	99%	
TOTAL	244	100%	307	100%	
Menstruation cleans the body					
True	91	31.7%	55	21.1%	0.002(HS)
False	196	68.3%	206	78.9%	
TOTAL	287	100%	261	100%	
Does the periods prevent you from daily activities like going to school?					
Yes	25	19.5%	7	5.3%	0.021(sig)
No	103	80.5%	126	94.7%	
TOTAL	128	100%	133	100%	
Do you have pain during periods?					
Yes	73	54.5%	66	51.2%	0.819(NS)
No	61	45.5%	63	48.8%	
TOTAL	134	100%	129	100%	
Do you have periods every month?					
Yes	116	88.5%	101	84.9%	.763 (NS)
No	15	11.5%	18	15.1%	
TOTAL	131	100%	119	100%	
What do you use during periods?					
Clothes	9	3.3%	1	0.3%	.172(NS)
Sanatory pads	260	95.6%	292	98.3%	
Tampon			3	1%	
None	3	1.1%	1	0.3%	
TOTAL	272	100%	297	100%	
How do you dispose the sanitary pads?					
Throw the pad in the road	2	0.7%	1	0.3%	0.003(HS)
Flush in the toilet	15	5.4%	1	0.3%	
Wrap it in the waste paper and throw it in the bin	259	93.8%	296	99.3%	
TOTAL	276	100%	298	100%	
How often do you change the pads?					
2-3 times a day	178	77.4%	43	14.9%	0.000(HS)
5-6 times a day	42	18.3%	241	83.7%	
More than 6 times	10	4.3%	4	1.4%	
TOTALT	230	100%	288	100%	

Table 2: Did anyone tell you regarding periods? (Pre-test)

Mother/sister	183	59.6%
Mother/Sister, Teacher	34	11.1%
Mother/Sister, Teacher, Others	1	0.3%
Mother/Sister, Teacher, Friends	2	0.7%
Mother/Sister, media, Friends	1	0.3%
Mother/Sister, Media	7	2.3%
Teacher	28	9.1%
Teacher, Friends	1	0.3%
Media	2	0.7%
Friends	15	4.9%
Others	3	1%
Not Answered	3	9.8%
TOTAL	307	100%
Did anyone tell you regarding periods? (Posttest)		
Mother/Sister	180	58.6%
Mother/sister, teacher	42	13.7%
Mother/sister, teacher, friends, media	4	1.3%
Mother/sister, teacher, friends, media, others	4	1.3%
Mother/sister, teacher, friends	9	2.9%
Mother/sister, teacher, others	4	1.3%
Mother/sister, media, friends	1	0.3%
Mother/sister, friends	10	3.3%
Mother/sister, others	2	0.7%
Teacher	29	9.4%
Teacher, friends	3	1%
Media	2	0.7%
Friends	6	2%
Others	7	2.3%
Not answered	4	1.3%
TOTAL	307	100%

## Conclusion

In urban area, we think girls are aware about puberty and related

issues. Our study has proved lack of knowledge of adolescent girls about menstruation awareness of pubertal changes, hygiene and are victims of myths in the society. With health education, we can improve the awareness regarding puberty related issues.

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