



## ASSESSMENT OF KNOWLEDGE, ATTITUDE AND PRACTICE REGARDING EARLY MENARCHE AMONG SCHOOL GIRLS IN BANGALORE

### Nursing

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### ABSTRACT

In recent years the age of attaining puberty has declined gradually, from 14 or 15 years to 8 or 9 years. At such a young age there is lack of awareness regarding physiological, psychological and behavioral changes during menarche. The aim of the study is to assess the level of knowledge (K), attitude (A) and practice (P) regarding menarche among girls (n=30) in rural and urban schools in Bangalore, Karnataka. A data collection instrument (DCI) was developed to quantitatively measure the KAP. Our results show that, irrespective of the place of residence, only 20% of both rural and urban school girls had a moderate KAP (50 – 75%) regarding management of menarche. To address this lack of awareness, we propose an interventional package which is nurse led education, nurse led discussion and nurse led demonstration of exercises during menstruation.

### KEYWORDS

menarche, school girls, data collection instrument

### INTRODUCTION

Early menarche refers to girls attaining puberty between 8-11 years of age. Puberty is a transition period between a child and adult, where an adolescent has to face physiological and psychological development challenges. Early pubertal development could be associated with higher risks of poor health. It has also been shown that early menarche is associated with more cardiovascular incidents and cancer, especially of the breast (Dimitrios Charalampopoulos, 2014).

Girls who attain menarche belong to vital age group, not only because they are the entrant population to parenthood but also because they are at the threshold between childhood and adulthood. As they attempt to cross this threshold they face various physiological, psychological and developmental changes. Understanding the changes during menarche is essential as it affects the menstrual hygiene (usage and disposal of sanitary napkins), emotional status (management of emotions like anger, excitement) and social behavior (particularly dealing with sexual attraction).

Even in the modern 21<sup>st</sup> century, in India, there is social stigma associated with discussion of menstrual hygiene, good and bad touch and initiation of sexual behavior. Our objective was to assess the Knowledge (the level of understanding on early menarche), Attitude (a viewpoint/way of behavior related to personal hygiene, menstrual hygiene, social and psychological wellbeing) and Practice (the actions such as taking care of themselves during menstruation based on their knowledge about menarche) regarding behaviors, physical and psychological determinants associated with menarche (<12 years) in school girls. We believe that this awareness would make the girls alert and help them in protecting themselves from the being molested and reporting about it to parent/ teacher or concerned person.

### REVIEW OF LITERATURE

Studies done on western population in the recent years by Gaudineau A, in 2010 in France, showed that the girls who attained early menarche (<11 years) were led to risky physical and psychological attitude. The findings also showed that there has been a rapid decline in the age of attaining menarche due to changes in socio-economic status which led to a change in the diet and sedentary life style (Gaudineau et al., 2010). A similar study conducted by Ahmed SM in Pakistan, in 2016, showed that the mean age of attaining menarche is 11 years (Ahmed, Waheed, Ahmad, & Danish, 2016). There are several studies (Gaudineau et al., 2010) (Parisa K, Mansour S, Saeideh M, Akefeh A, & Leila B, 2017) (Barros BS, 2018) which show that the age of attaining menarche has decreased and the decrease in the age of attaining menarche significantly affects the physiological and psychological health of the young girls.

According to Indian Census in 2011, 20 % of the total population are girls between the age group of 4 – 14 years and there has been decline in the age of attaining menarche at the rate of three months per decade from 1950 – 1990 (Pathak, Tripathi, & Subramanian, 2014). A cross

sectional descriptive study was conducted by Tabassum Khatoun AKV, from November 2009 to March 2010, where 150 adolescent girls in the age group of 10 to 19 years, 75 girls from each school were selected from urban & rural government schools of Lucknow. The data was collected on their socioeconomic status, weight, height, place of residence. The lowest age was 8 years and highest was 15 years. Mean age at menarche was found to be 12.43 ± 1.49. There seems to be definite association of various factors which modify the age at menarche like socio-economic status, body mass index, place of residence (Tabassum Khatoun & Rizvi, 2011).

Except the above study there are no consolidated studies available for the Indian population for the past 15 years and we have not found any reports regarding the level of awareness and understanding about menarche among the girls. We believe that the awareness about menarche and its management was very less among the girls as young as eight years. Hence, we designed a Data Collection Instrument (DCI) which tests knowledge (K), attitude (A) and practice (P) amongst the young girls and the reliability of DCI is tested among a group of 30 girls with respect to the knowledge, attitude and practice of early menarche and its management.

### METHODOLOGY

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

For this study, two groups of girls (15 each) from urban and rural schools were selected. Urban group of girls have access to various resources such as libraries, internet and educated parents (graduates) while the rural group of girls do not. The Quantitative research approach (descriptive research design) was used for this study.

The DCI contains demographic variables (Age, religion, type of family, education of the mother, occupation of the mother, family income per annum and age at menarche); structured questionnaire, modified Likert's scale and check list to assess knowledge, attitude and practice respectively. DCI was developed by reviewing literature, discussion with experts in field of OBG nursing and pediatrics nursing and construction of structured knowledge questionnaire, modified Likert's scale for attitude and check list for practice.

The Data Collection Instrument (DCI) consists of four sections.

**Section A: Socio Demographic Data** - Age, religion, type of family, source of information, care taker, education of mother, and occupation of mother, family income per annum and age at menarche)

**Section B: Structured questionnaire for assessment of knowledge** - This part of the tool consisted of 22 items covering the content of early menarche. The items were objective type questions.

**Section C: Modified Likert's scale to assess the attitude regarding early menarche** - This part of the tool consisted of 15 items. The items were positive statement and negative statement which expresses the attitude of the girls regarding the management of early menarche.

**Section D: Check List to assess the expressed action regarding early menarche** - This part of the tool consisted of 20 items. The items were positive statement and negative statement which expresses the action of the girls regarding the management of early menarche.

**Scoring interpretation of KAP**

**a. Knowledge questionnaire**

The structured questionnaire for assessing knowledge consists of 22 objective type questions with a single correct answer. Every correct answer was awarded a score of one (1) and every incorrect/unanswered was awarded zero (0).The Maximum score on the structured questionnaire for assessing knowledge was twenty two (22). A scoring key item was prepared showing item number and correct response.

Score (%)	Knowledge
≤ 50	Inadequate
51-75	Moderate
>75	Adequate

$$\text{Score \%} = \frac{\text{Obtained score}}{\text{Total score}} \times 100$$

**b. Attitude scale:**

Modified Likert's scale was used to assess the attitude regarding early menarche. This part of the tool consisted of 15 items covering the content of early menarche. The items were positive statement and negative statement which expresses the attitude of the girls regarding the early menarche.

Response	Positive attitude score	Negative attitude score
Agree	3	1
Uncertain	2	2
Disagree	1	3

Total score = 45

- Unfavorable attitude - ≤ 50%
- Favorable attitude - 51% to 75%
- Most favorable attitude - > 75%

**c. Practice scale:**

Check list was used to assess the expressed practice regarding early menarche. This part of the tool consisted of 20 items covering the content of early menarche. The items were positive statement and negative statement which expresses the practice of the girls regarding the early menarche.

Each positive response of YES, scores one mark and negative response of NO, scores zero mark, total score is 20. The maximum score is 20 and the minimum score is zero.

- Poor practice - ≤ 50%
- Satisfactory practice - 51% to 75%
- Good practice - > 75%

**Data collection procedure:**

Formal written permission was obtained from concerned authorities before data collection. The data collection period was one month based on the convenience of the respondents.

The investigator selected 30 samples by cluster sampling technique. The subjects were assembled as per the fixed schedule. After a brief self-introduction, the investigator explained the purpose of the study and obtained consent from them. On the test day, data was collected by administering structured questionnaire for knowledge, modified Likert's scale for attitude and check list for practice regarding early menarche. The DCI was given to both the groups and the self reported information from respondents was gathered through self administration of DCI in paper and pencil format. Total 30 minutes was taken for the test. The collected data was compiled for analysis.

**Reliability of the tool:**

The reliability of structured questionnaire for assessing knowledge, modified Likert's scale for assessing attitude and check list for assessing practice was established by using split half method.

**Statistical analysis**

Baseline Performa containing samples characteristics were analyzed

by using frequency and percentage distribution. The knowledge, attitude and practice level of school girls regarding early menarche was calculated using descriptive statistics like frequency, mean and standard deviation. Microsoft office Excel ® was used to plot the frequency and percentage distribution.

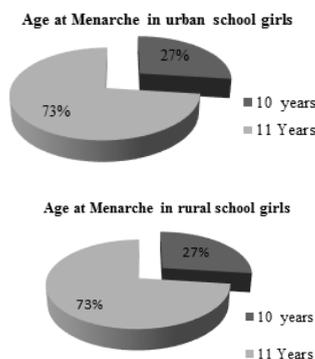
**Ethical consideration:**

Written permission from the authorities of the schools and informed consent from the subjects were obtained before conducting the study. No ethical issues were confronted while conducting the study.

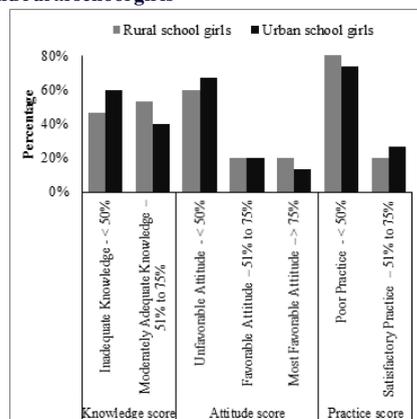
**RESULTS AND DISCUSSION**

The percentage distribution of the samples according to the age at menarche among rural and urban school girls is depicted in Figure 1. In both urban and rural schools, 27 % of the girls attained menarche at 10 years of age and 73% at 11 years.

The level of awareness about menarche as assessed by the knowledge, attitude and practice amongst the samples is shown as percentage distribution in the tabular (Table1) and figure formats (figure 2). These show that 46.7% of rural girls and 60% of urban girls have inadequate knowledge and 53.3 % rural girls and 40% of urban girls have moderately adequate knowledge about menarche. About 60 % of both rural and urban girls have unfavorable attitude, 20% have favorable attitude towards menarche. About 75% of girls have poor practices while only about 20 % have satisfactory practice of managing menarche.



**Figure 1: Classification of respondents by age at menarche of urban and rural school girls**



**Figure 2: The percentage distribution of the samples according to their knowledge, attitude and practice.**

**Table 1: The percentage distribution of the samples according to their knowledge, attitude and practice**

	Rural School Girls	Urban School Girls	
Knowledge score	Inadequate Knowledge (< 50%)	46.7%	60.0%
	Moderately Adequate Knowledge (51% to 75%)	53.3%	40.0%
Attitude score	Unfavorable Attitude (< 50%)	60.0%	66.7%
	Favorable Attitude (51% to 75%)	20.0%	20.0%
	Most Favorable Attitude (> 75%)	20.0%	13.3%
Practice score	Poor Practice (< 50%)	80.0%	73.3%
	Satisfactory Practice (51% to 75%)	20.0%	26.7%

The reliability of the DCI as measured by Croanbach alpha was 0.763, indicating that the DCI was reliable.

Our results show that, all scores combined, among the 30 girls (15 rural school girls and 15 urban school girls) who attained early menarche in the age group of 8-11 years, only 20 % of the samples had adequate knowledge, favorable attitude and satisfactory practice towards managing menarche and the rest of the samples are not aware of one or the other aspect of knowledge, attitude and practice of menarche and its management. This is irrespective of urban or rural place of residence.

## CONCLUSION

In the emerging nuclear families, education of young girls about the menarche is difficult because either the parents are busy with work or they are not comfortable discussing about menarche and very few schools make it a part of their curriculum. This leads to lack of support system (parents/ grandparents) to educate and help them to manage their early menarche, which was as early as eight years. To quantitatively measure the awareness about menarche, this DCI was designed to assess the level of knowledge, attitude and practice about menarche and its management among girls between the age group of 8-11 years in selected schools in Bangalore.

The results from this study are very saddening as in this modern era where, children, parents and schools have access to various resources in the form of books and internet, where techniques of teaching and learning about menarche are available; there is still lack of awareness about management of menarche.

## FUTURESCOPE

This study shows that education on menarche is recommended to girls as early as eight years. We propose the implementation of DCI for a large group of girls (around 300) from various schools with different backgrounds, where not only place of residence ( rural and urban) but also the effect of various demographic variables such as education of parents, family income, nuclear or joint family on the knowledge , attitude and practice of menarche will be assessed. Furthermore, we propose to educate the girls regarding early menarche with the help of an Interventional Package which is a combination of nurse led education (physiological changes including premenstrual symptoms, personal and menstrual hygiene, social problems, promotion of psychological wellbeing-counseling and nutrition), nurse led discussion (behavioral modification/life style modification) on early menarche and nurse led demo of simple exercises to be practiced during menstruation.

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