

# Menstruation and Menstrual hygiene among Adolescent girls of Ahmadabad city: A Descriptive Analysis

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**Abstract**—Adolescence proves to be the most vulnerable phase in the path of human life cycle after infancy. Adolescent Girls (AGs) have many issues related to menstruation which is seldom addressed. Unhygienic practices during menstruation endanger the reproductive health and well being of AGs. Hence, a study was undertaken to assess the reproductive health status of Adolescent AGs.

**Methodology:** A cross-sectional study was carried out among 467 AGs attending Adolescent Friendly Health Service (AFHS) clinics in Ahmadabad city during May 2011 to august 2012.

**Result:** Mean age of AGs was 14.5±2.4 years. Out of 467 AGs, 296 (63.3%) had attained Menarche. Mean age at Menarche was 13.31±1.31 years in this study (Fig 1). Source of information regarding menstrual cycle was mother in 77.7% AGs in this study. Dysmenorrhea was present in 59.9% AGs. Dysmenorrhea was seen in 107(67.3%) AG in the late adolescence, 68(53.1%) in mid adolescence and 2(22.2%) in early adolescence. The difference in occurrence of Dysmenorrhea observed in different phases of adolescence was significant ( $\chi^2=37.423, Df=2, p<0.0001$ ). Pre-menstrual tension was complained by 27.7% AGs and Vulval pruritus by 2% AGs.

**Conclusion:** This study highlights the need of AGs to have correct and complete information regarding menstruation at appropriate age from formal channels of communication which is mother in this case. Informal channels such as friends and sister tends to increase the misconception and improper menstrual hygiene which could make the AGs vulnerable to infection.

**Keywords**— Adolescent girls, Menstruation, Dysmenorrhea.

## I. INTRODUCTION

Adolescence is the pivotal time in the life of the child, for it is the gateway to adulthood.<sup>1</sup> It is a journey from the world of the child to the world of the adult. It is a time of physical and emotional change as the body matures and the mind becomes more questioning.

In India, it is estimated that adolescents (10-19 years) constitute 21.8% of the population, i.e. 207 million in number.<sup>2</sup> Adolescents represents over one fifth of our population. In our country, as a result of poor nutritional status of the average Indian adolescent girl (AG), menarche occurs later than in other regions of the world while marriage and consequently the onset of sexual activity and fertility occur far earlier leading to their poor reproductive health and also result in high infant mortality.<sup>3</sup>

Adolescence proves to be the most vulnerable phase in the path of human life cycle after infancy, characterized by rapid growth and development with a transition from childhood to adulthood.<sup>4</sup> Puberty is the period in the growth and development of the child that encompasses the initiation and progression of sexual and physical maturation. The term menarche means the onset of menstruation and it is usually

followed by a period of adolescent sterility till menstruation begins to occur at regular intervals. Unhygienic practices during menstruation endanger the reproductive health and well being of AGs and expose them to RTIs/PIDs and their complications.<sup>5</sup> AGs have many issues related to menstruation which is seldom addressed. Hence, a study was undertaken to assess the reproductive health status of Adolescent AGs.

## **II. METHODOLOGY**

A cross-sectional study was carried out among 467 AGs attending Adolescent Friendly Health Service (AFHS) clinics in Ahmadabad city during May 2011 to august 2012.

### **2.1 AFHS clinics**

Ahmadabad city is divided into 6 zones having 57 wards with Urban Health Centers. As an initiative of Gujarat state health and family welfare department, ten AFHS clinics were established in 10 UHCs to delivered AFHS services to adolescents. AFHS services includes growth monitoring, Hemoglobin (Hb) testing to detect anemia, deworming, health education, information and counseling on sexuality, safe sex and reproductive health; contraceptive provision, HIV counseling (and referral for testing and care); pregnancy testing and antenatal and postnatal care; counseling on sexual violence and abuse (and referral for needed services); and post abortion care counseling and contraception.

### **2.2 Questionnaire**

A semi-structured pre-tested questionnaire was used to obtained information regarding reproductive health status of AGs. Inclusion criteria included all the AGs aged 10-19 years registered and present at that time in AFHS clinics, all apparently normal AGs and all AGs who gave written consent while all the AGs who suffered from any moribund diseases or apparent mental illness and who did not gave written consent were excluded.

### **2.3 Ethical clearance**

Present study was conducted in all the ten AFHS Clinics and all the adolescent AGs who were present on the day of visit were interview. Strict confidentiality and privacy was maintained. Ethical clearance was obtained from Intramural Ethical Committee, Smt. NHL MMC, Ahmadabad prior to the study. Written consent was obtained prior to the interview from the guardian of the AGs.

## **III. RESULTS**

A total of 467 AGs were interviewed who were present at the AFHS clinics. Age of AGs ranged from 10-19 years. Mean age of AGs was 14.5+2.4 years. Forty two percent AGs belonged to the age group 13-15 years (mid adolescence). 23.4% AGs were in early adolescence (10-12 years) and 34.6% AGs were in late adolescence (16-19 years). Maximum numbers of AGs were studying in primary followed by secondary school. As the educational level increases number of AGs studying were decreasing. Only 13 AGs were currently studying after 12th standard. Around 1.3% adolescents were illiterate. In this study School dropout rate was 19.1%. There were 89.9% Hindus and the rest were Muslims. Out of 467, 358(76.7%) AGs belonged to nuclear families. Out of 467 AGs, only 3(0.6%) AGs were married.

### 3.1 Reproductive Health

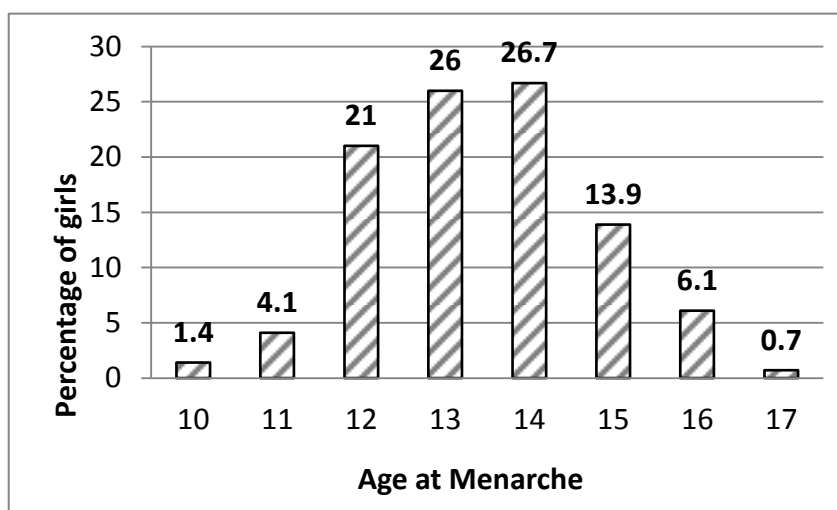
Out of 467 AGs, 296 (63.3%) had attained Menarche. Mean age at Menarche was 13.31±1.31 years in this study (Figure 1). Source of information regarding menstrual cycle was mother in 77.7% AGs in this study. (Table 1)

Out of 296 AGs who had attained menarche, 84.8% AGs reported regular menstrual cycle. About 73.4% AGs had moderate blood flow (3-5 days) and 17.9% had history of heavy blood flow(>6 days) in this study.

Dysmenorrhea was present in 59.9% AGs. Dysmenorrhea was seen in 107(67.3%) AG in the late adolescence, 68(53.1%) in mid adolescence and 2(22.2%) in early adolescence. The difference in occurrence of Dysmenorrhea observed in different phases of adolescence was significant ( $\chi^2=37.423, Df=2, p<0.0001$ ). Pre-menstrual tension was complained by 27.7% AGs and Vulval pruritus by 2% AGs. (Table 2)

Around 57.4% AGs were using cloth while 42.5% were using sanitary pads. 41.5% AGs were disposing sanitary pads in dustbin, 57.1% were reusing the cloth while 1.4% were disposing it in open. (Figure 2&3)

**Figure 1**  
**Distribution of AGs according to age at Menarche(n=296)**



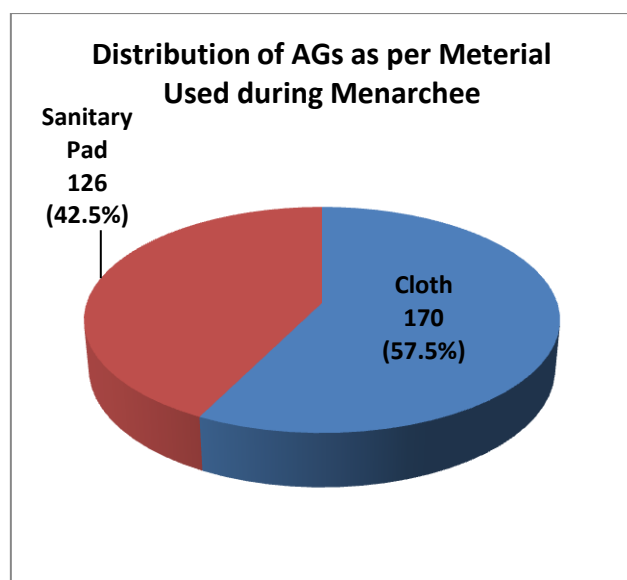
**Table 1**  
**Distribution of AGs as per source of information regarding Menarche and Menstruation(n=296)**

Sr. No.	Source of knowledge regarding Menstrual cycle	Frequency	Percent
1	Mother	230	77.7
2	Sister	30	10.1
3	Teacher	28	9.5
4	Friend	8	2.7
5	Total	296	100

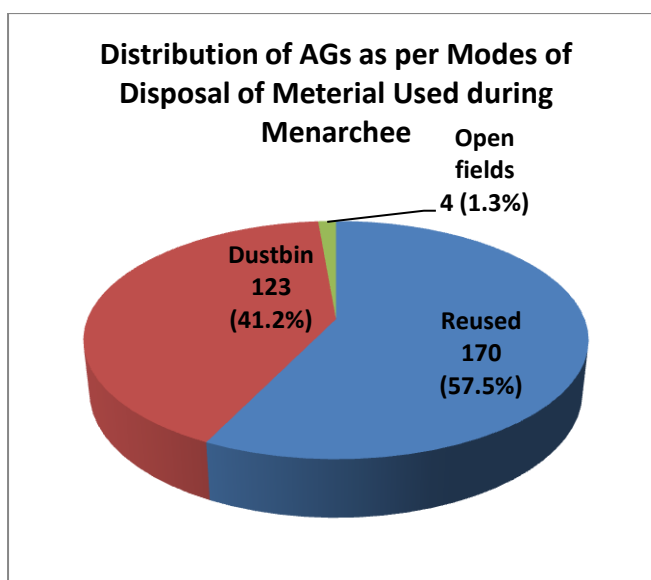
**Table 2**  
**Problems related to Menstrual cycle among AGs (n=296)**

Menstrual Variables	Menstrual problems	Frequency	Percent
Menstrual cycle	Regular	251	84.8
	Irregular	45	15.2
Duration of Menstrual flow	<3 days(oligomenorrhea)	28	9.5
	3-5	215	73.4
	≥6 days(menorrhagia)	53	17.9
Dysmenorrhea	Always	118	39.9
	Frequently	18	6.1
	Occasionally	41	13.9
Pre-menstrual tension	Always	58	19.6
	Frequently	10	3.4
	occasionally	14	4.7
Vulvul pruritus	present	6	2.0

**Figure 2**



**Figure 3**



#### IV. DISCUSSION

In the present study, mean age of Menarche in the present study was 13.31±1.31 years. In the study of Meenal et al<sup>6</sup> mean age at menarche was 13.15±1.3 years. Acharya et al<sup>7</sup> observed that mean age as 13.4±1.3 years. In the study of

Manjula et al<sup>8</sup> mean age was 13.4±0.95 years. In Dipali et al<sup>9</sup> study mean age was 13.2 years. In the study of Nair et al<sup>10</sup>, mean age was 13.6 years. In the study of Durge et al mean age was 13.5 years while in study conducted by Shiela et al and Prasad et al mean age was same i.e. 13.6 years.<sup>8</sup> In the study of Agarwal et al<sup>11</sup> mean age was 12.8 years. In the study of Koshi et al<sup>12</sup> mean age was 14.1 years. In the study of Singh et al<sup>13</sup>, the mean age was 13.6±0.83 years.

Menarche is not only an important milestone in the developmental phase of AGs but also an event which leads to increase anxiety and stress in AGs. If mother is the main informant for this event, it becomes less stressful for AGs to understand the changes occurring in their body and how to cope with

it. However, in the present study mother was the main source of menstrual cycle information for about 77.7% of AGs. In 3% of AGs, friends were the main source of information which could lead to disbeliefs and misconception regarding menstrual cycle and poor menstrual practices and hygiene. In the study by Singh et al<sup>5</sup> source of information was mother in 64.9% AGs. Nair et al<sup>10</sup> observed that mother was the chief source (41%) followed by sister in 22.4% AGs.

Menstrual hygiene is of utmost importance and practices of AGs during menstruation have an important relation with the type of absorbent used during the cycle. Improper menstrual hygiene increases vulnerability of AGs to infections especially of urinary tract and perineum. The type of material used during menstrual cycle is of primary concern since reuse of material could be a potential source of infection if it is improperly cleaned and stored. In the present study, 57.5% AGs were using old cloth as pads and it was reused during next menstrual cycle after washing it with soap and water. But very few AGs knew that it should be dried in proper sunlight. In a study conducted by Thakere et al<sup>14</sup>, 41.8% AGs were using old cloths as pads during menstrual cycle.

Dysmenorrhea was present in 59.9% AGs in this study. In a study conducted by Desai et al<sup>9</sup> 55% AGs had Dysmenorrhea. In the study of Veena et al<sup>15</sup>, Dysmenorrhea was seen in 51% AGs. In the study of Suresh et al<sup>16</sup>, prevalence of Dysmenorrhea was 65%, 11.8% AGs had irregular menstrual cycle and 14.3% AGs had history of heavy flow of menstrual blood. Nair et al<sup>10</sup> observed Dysmenorrhea in 63.8% AGs. In the study of Singh et al<sup>13</sup>, Dysmenorrhea was seen in 40.7% AGs. Dysmenorrhea was present in 107(67.3%) of AGs in the late adolescence, 68(53.1%) in mid adolescence and 2(22.2%) in early

Adolescence in the current study. The difference in occurrence of Dysmenorrhea observed in different phases of adolescence was significant ( $\chi^2=37.423, Df=2, p<0.0001$ ). Dysmenorrhea tends to increase during late adolescence since the cycle becomes ovulatory.

## V. CONCLUSION

This study highlights the need of AGs to have correct and complete information regarding menstruation at appropriate age from formal channels of communication which is mother in this case. Informal channels such as friends and sister tends to increase the misconception and improper menstrual hygiene which could make the AGs vulnerable to infection. Much more efforts are needed to increase the use of sanitary pads by making it available and at a affordable rate to AGs and curbing the re-use of cloths as pads.

## CONFLICT

None declared till date.

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