ASSESSMENT OF MENSTRUAL DISORDERS AND AWARENESS OF MENSTRUAL HYGIENE AMONG ADOLESCENT GIRLS WITH A RURAL BACKGROUND

Vasundhara Padmanabhan[1], Pudi Prathyusha[2], Velineni Neelima[3]

[1]Professor, Department of Obstetrics and Gynaecology, Katuri Medical College and Hospital, Guntur.
[2]Senior Resident, Department of Obstetrics and Gynaecology, Katuri Medical College and Hospital, Guntur.
[3]Junior Resident, Department of Obstetrics and Gynaecology, Katuri Medical College and Hospital, Guntur.

ABSTRACT

BACKGROUND

To gather baseline data about menstrual history and assess the prevalence of menstrual irregularities in adolescent girls and assess the awareness of menstrual hygiene.

In the present study, about 72% of the girls do not have any knowledge of menstruation until they experienced menstruation and the most commonly encountered menstrual abnormality was irregularity of cycles in about 59% girls.61% of girls wear sanitary napkins as the type of absorbent during menstruation.

MATERIALS AND METHODS

A cross-sectional observational study among 200 adolescent schoolgirls from rural area of Guntur and also in adolescents among those who visited Gynaecology OPD Clinic with menstrual problems at Katuri Medical College and Hospital, Guntur.

RESULTS

In the present study, about 72% of the girls did not have any knowledge of menstruation until they experienced menstruation and the most commonly encountered menstrual abnormality was irregularity of cycles about 59%.61%of girls used sanitary napkins as the type of absorbent during menstruation. In present study, about 12.5% girls experienced menorrhagic cycles for about 10-15 days bleeding, but none of them received any blood transfusions to overcome anaemia due to menorrhagia. Only 18.59% had pre menstrual symptoms (PMS) like acne, breast pain and engorgement.

CONCLUSION

This study has highlighted the need for adolescent girls to have accurate and adequate information about menstruation and its appropriate management. Information about menarche and reproductive health should be built into school curriculum foradolescent girls. Evaluation of abnormal menstrual patterns throughout adolescence may permit early identification of potential health concerns for adulthood.

KEYWORDS

Menstruation, Adolescence, Menstrual Disorders, Hygiene.

HOW TO CITE THIS ARTICLE: Padmanabhan V, Prathyusha P, Neelima V. Assessment of menstrual disorders and awareness of menstrual hygiene among adolescent girls with a rural background. J. Evid. Based Med. Healthc. 2017; 4(21), 1186-1192. DOI: 10.18410/jebmh/2017/234

BACKGROUND

Adolescence, as a term, was first used in the west in the 15thCentury and was derived from a Latin word adolescere or "growing into maturity."[1]

Adolescence is the critical process consists of unique sociological, psychological and physiological developments taking the child on a phenomenal journey towards adulthood.[2] We should familiarise themselves with Tanners staging at various ages (Figure 1). We should be able to assure the parents whether the puberty is developing within the normal range and take a judicious decision about when to investigate and how to manage them.[3]

Financial or Other, Competing Interest: None.
Submission 11-01-2017, Peer Review 18-01-2017,
Acceptance 02-02-2017, Published 11-03-2017.
Corresponding Author:
Dr. Vasundhara Padmanabhan,
No. 4-1-40, Ramannapeta, 1st Lane,
Guntur-522007.
E-mail: ananthavasup@gmail.com
DOI: 10.18410/jebmh/2017/234

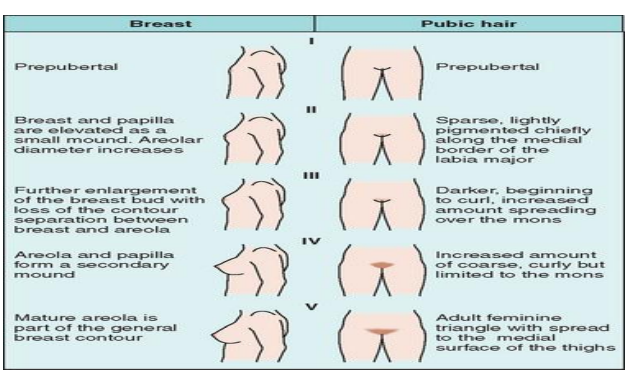


Figure 1. Tanner Staging ofSecondarySexual Characters

Pubertal growth spurt is related to gonadal steroids. There is increase in general growth rate of skeleton, muscle mass and viscera. The budding of breast (the larche) occurs when the secretion of ovary is established. The adrenal androgens initiate pubic and axillary hair growth. Maximum body growth 9-10 cms/year occurs at Tanner's stages II and III of mammary gland development.

The growth in the post menarcheal period is limited as girls can gain 5-6 cms in linear growth only. 50% of the bone growth is completed before puberty onset; 30% in puberty and remaining 20% in late adolescent to adulthood.[4]

Pubertal Disorders

The onset and progression of puberty is under the control of hypothalamic-pituitary-gonadalaxis. The usual age at onset of puberty in girls is around 10 years (normal range 8-12 years) and duration is around 5 years. The larche is the first event followed by the development of pubic hair (pubarche) and onset of menstrual cycles (menarche). Menarche usually occurs 2.5 years after thelarche. Menstrual periods are irregular in the first few years before attainment of regular ovulatory cycles.

AIM OF THE STUDY

- To gather baseline data about menstrual history and assess the prevalence of menstrual irregularities in adolescent girls during the study period.
- To assess the knowledge; attitude of adolescents relating to their menstrual period.
- To improve the knowledge about the need of health and hygiene regarding menstruation among adolescents.

Physiology of menstruation and changes in the spiral arterioles and mechanism of cessation of bleeding is depicted in Figure 2 and 3.

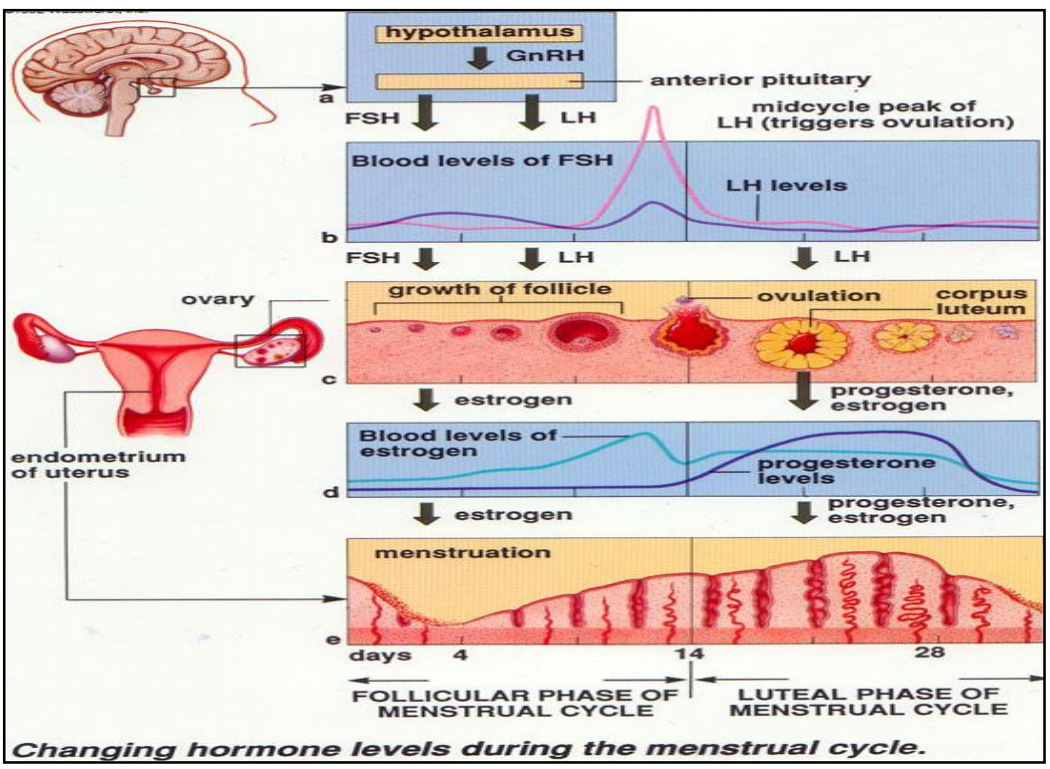


Figure 2. Physiology of Menstruation

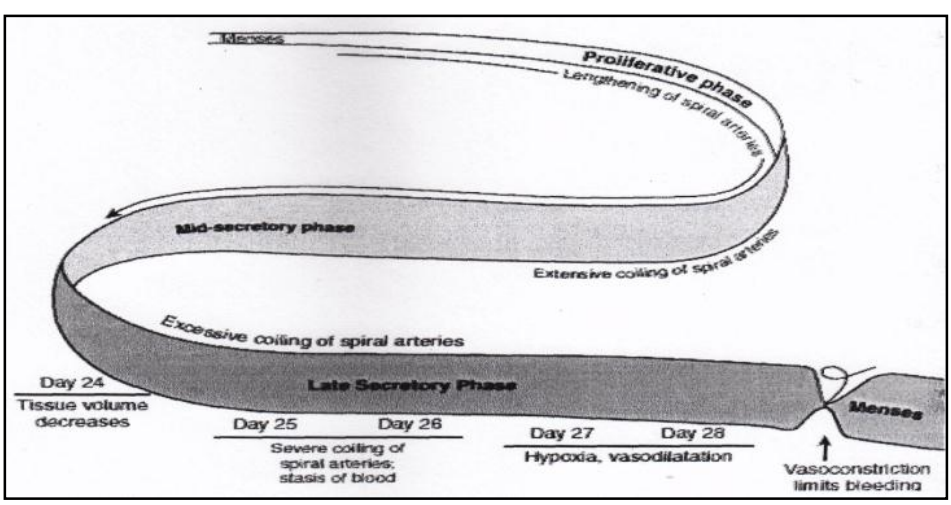


Figure 3.Changes in the Spiral Arterioles during Menstrual Cycle

Menstrual Irregularities

Most commonly encountered adolescent problems are precocious puberty, delayed puberty, oligomenorrhoea, polymenorrhea, menorrhagia, dysmenorrhoea and premenstrual syndrome.[5]

In precocious puberty, most common cause is constitutional (true or complete) (75%) due to premature activation of H-P-O axis. Secondary sexual characters appear in their chronological order and regular menstrual cycles are then established. However, it is advisable to investigate the girl to rule out other serious causes before reassuring the parents. Because the child is not capable of managing her menstrual hygiene, it is desirable to suppress menstruation for a few years until the right age for puberty is reached and the girl attains a proper height.

Pseudopuberty is due to gonadotropins or sex steroid stimulation independent of HPO axis causes are pituitary tumours, encephalitis, meningitis, McCune-Albright syndrome and hydrocephalus.

Investigations required are radiography of pituitary fossa (sella turcica), CT and MRI of brain. Ultrasound abdomen for ovarian tumour, thyroid function tests, hormonal profile-FSH, LH, oestrogen, PRL and radiography for bone age.

Delayed puberty is considered delayed when the secondary sexual characters do not appear by the age of 14 and menarche is not established by 16 years of age. This maybe familial or idiopathic. Family history of delayed puberty is often forthcoming. If the bone age is less than the chronological age, it is reasonable to wait and watch the progress.

Other causes are absent uterus, imperforate hymen or vagina (cryptomenorrhea). Pituitary and hypothalamic inadequacy, ovarian causes- Turner syndrome, resistant ovary, autoimmune disease where FSH level is high, PCOD, testicular feminising syndrome, malnutrition, anorexia nervosa and childhood illness may also delay the onset of puberty and hypothyroidism.[6] Flow diagram for evaluation of delayed puberty (Figure 5).

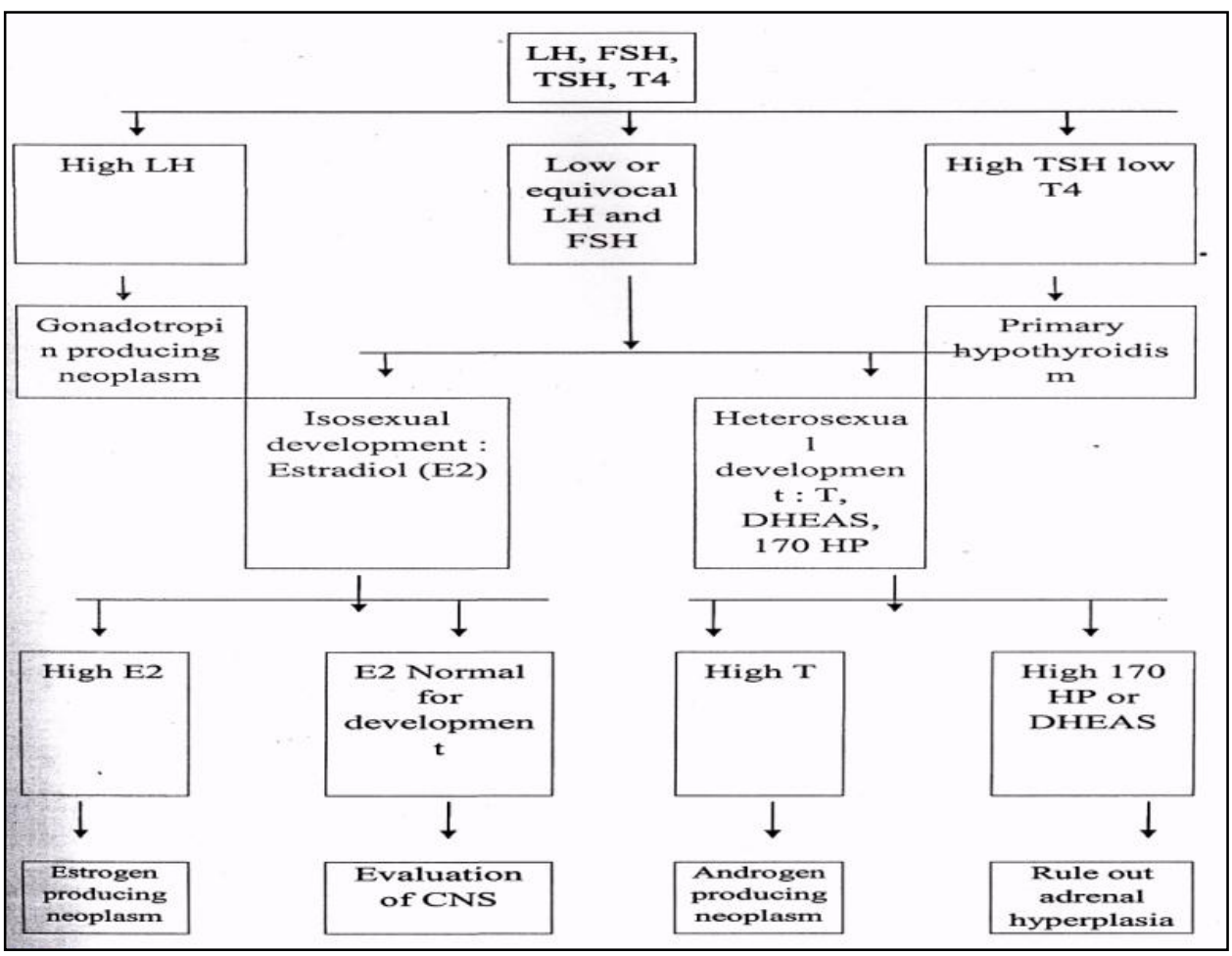


Figure 4. Flow Diagram for the Evaluation of Precocious Puberty in Phenotypic Females

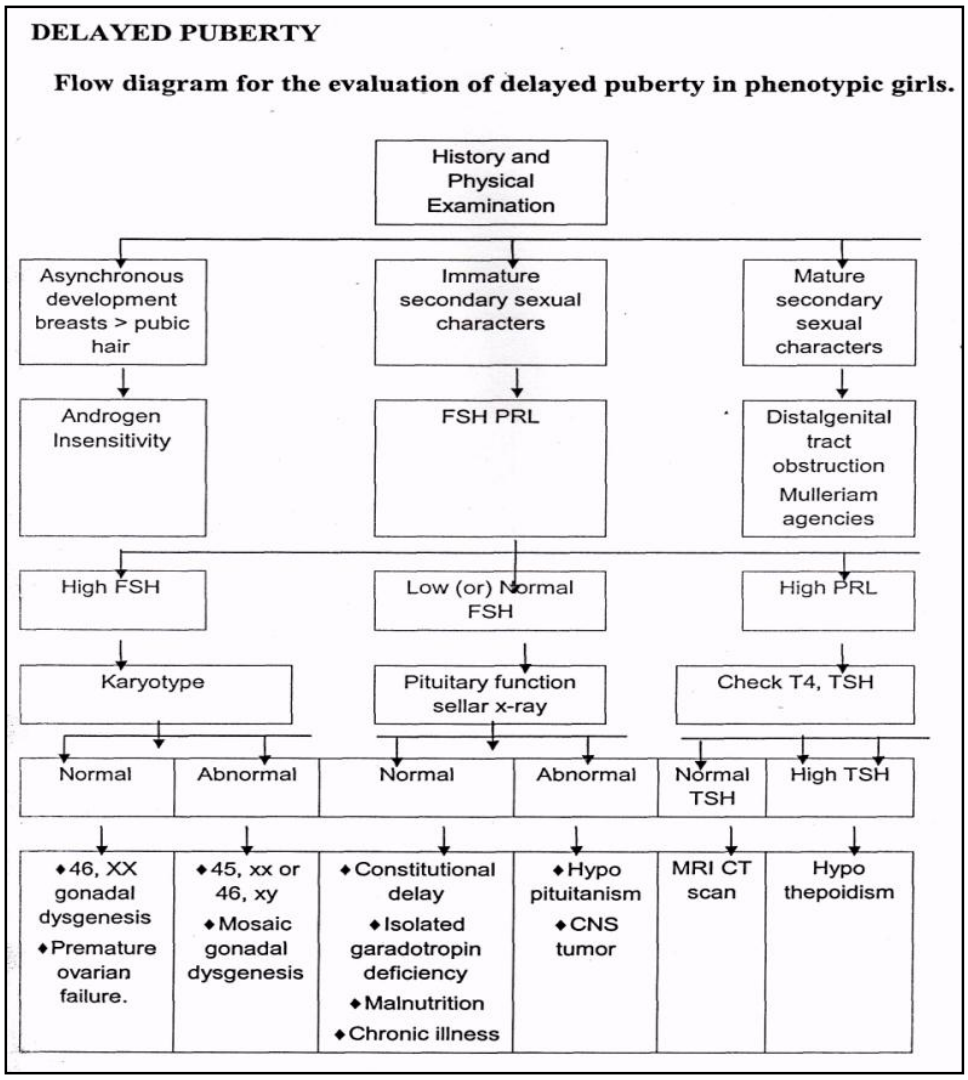


Figure 5. Flow Diagram for the Evaluation Of Delayed Puberty in Phenotype Girls

Oligomenorrhoea with infrequent menstruation and delay of several days is mostly due to inadequate maturation of the HPO axis and inadequate hormonal stimulation. The menstrual cycles are often anovulatory in the first 1 to 2 years. Gradually, full development results in normal ovulatory cycles. Other causes are mental and physical stress like vigorous exercise, anorexia nervosa, hypothyroidism and Polycystic Ovarian Disease (PCOD).

Polymenorrhea is rare and often caused by Corpus Luteal Phase Defect (LPD). Treatment consists of giving progestogens during the postovulatory phase to prolong the cycle. Puberty menorrhagia occurs in about 5% of adolescent girls. Anovulatory cycles with unopposed and excessive oestrogen cause endometrial hyperplasia and prolonged and at times excessive menstruation. If untreated, this can lead to anaemia. Rare causes are coagulation disorder (20%), blood dyscrasias, hypothyroidism, feminising ovarian tumour and pregnancy complications.

Dysmenorrhoea is defined as crampylower abdominal pain related to menstrual blood flow. It is associated with nausea, diarrhoea or headache. It is classified as primary or secondary depending upon associated clinically detectable pelvic pathology. Clinical classification is mild, moderate and severe based on degree of interference with daily routine.

Primary dysmenorrhoea is menstrual pain not associated with pelvic pathology and is more common in ovulatory cycles. The pathophysiology is related to decreased progesterone levels that led to lysosomal breakdown and release of enzymes acting on phospholipids leading to increased synthesis of prostaglandins in endometrium and menstrual fluid. The increased prostaglandins cause excessive uterine contraction and pain.

Conditions associated with secondary dysmenorrhoea include genital tract infection, pregnancy complications, endometriosis, genital tract anomalies, cysts, neoplasms and intrauterine devices. Psychological factors and emotional instability have been found to be related. Occasionally, underlying psychosocial problems such as school phobia, rape, sexual abuse or family problem may contribute to decreased pain tolerance and anxiety centered around the menses.

Premenstrual Syndrome (PMS) is characterised by a variety of physical and psychological symptoms that occur

during the 7-10 days before the onset of menses, which disappears within the first two days of blood flow. It is usually characterised by a cluster of symptoms such as weight gain, abdominal bloating, breast engorgement and pain, peripheral oedema, constipation, headache, increased appetite, food craving, anxiety, irritability, nervous tension, fatigue, depression and inability to concentrate. Incidence is 18-73%. It occurs only in ovulatory cycles and a variety of biological mechanisms are proposed- Eg.- Deficiency of B_6, fluctuations in steroid hormones and releasing factors, change in salt and water balance, prostaglandin synthesis or endorphin and neuron transmitter release. Caffeine ingestion has been implicated, but not proven.

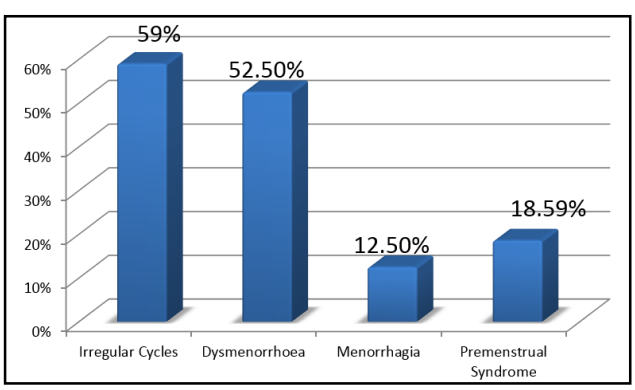
MATERIALS AND METHODS

It is a cross-sectional observational study. It was undertaken among the 200 adolescent schoolgirls of Guntur and also in adolescents among those who visited Gynaecology OPD Clinic who were having menstrual problems at Katuri Medical College and Hospital, Guntur. A predesigned, pretested questionnaire is prepared. After taking permission from school authorities, the birth records of students were checked meticulously. No girl of age less than 12 years and more than 19 years was taken.

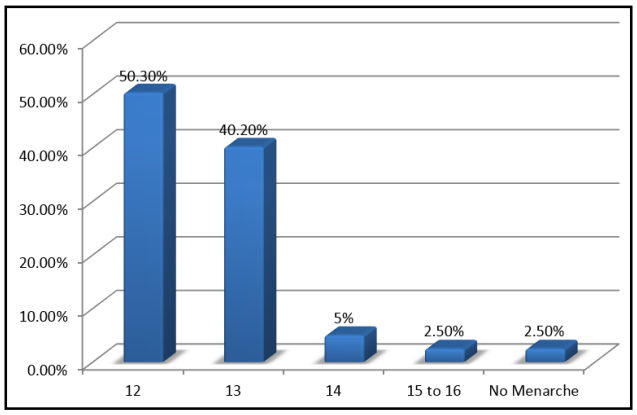
Those students who were having any of the problems regarding menstruation were separated and briefing about the questionnaire was given to them. The questionnaire included topics like type of menstrual problem, awareness about menstruation, age at menarche, hygiene practiced during menstruation and any other problems regarding other systems of the body.

At the end of the study after collecting questionnaires from the students, all the queries were answered satisfactorily. Analysis was done by simple manual analysis using frequency and percentage.

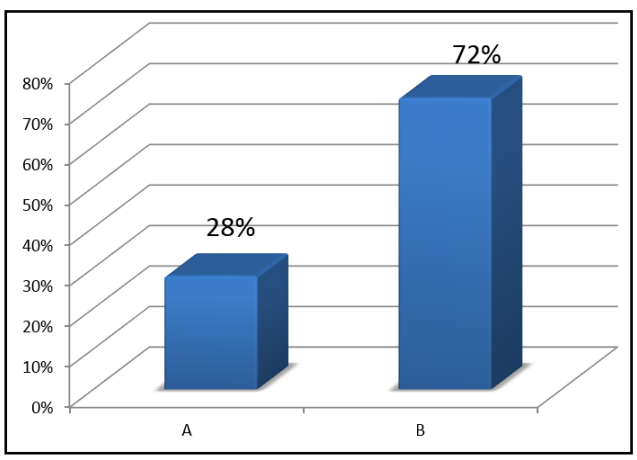
OBSERVATION AND RESULTS



Graph 1. Shows Percentage of the Girls Having Menstrual Irregularities



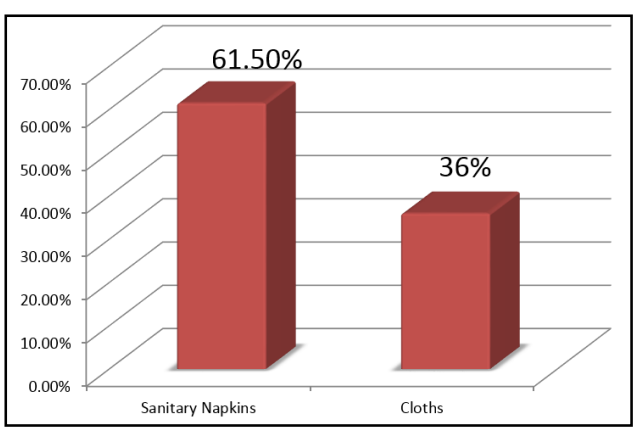
Graph 2. Shows Percentage of Girls Attained Menarche at a Particular Age



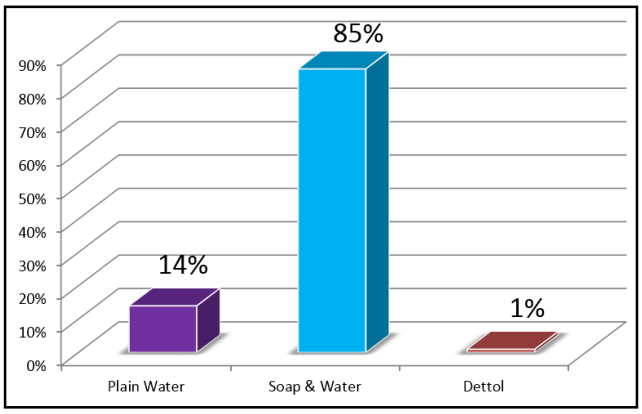
Graph 3.Shows Percentage of Girls Having and Not Having Knowledge About Menstruation before Menarche

(A) Number of girls having knowledge about menstruation before menarche.

(B) Number of girls not having knowledge about menstruation before menarche.



Graph 4. Shows Percentage of Girls Using the Type of Absorbent During Menstruation



Graph 5. Shows Percentage of Girls Using Method of Cleaning Genitalia During Menstruation

DISCUSSION

The present study reveals that the mean age at menarche is 12-13 years in 50.3%. It was corresponding to the mean age of menarche of 12.8 years as in Khanna et al[7] (2005) and 13.2 years in Dasgupta A[8] (2008).

In the present study, about 72% of the girls do not have any knowledge of menstruation until they experienced menstruation.

Their main source of information regarding menstruation were mothers in 60.71% girls, sisters in 32.14% girls and friends in 7.14% girls.

This was coincidental with the studies conducted by Lee LK in Chinese[9] girls where 80% got information from mothers, also correlating with studies of Mudey A3 et al[10] (2010) and Das Gupta (2008)studies.

The gaps may be due to the high illiteracy status of the mothers and inhibitions for the mothers in talking to their daughters regarding the significance, hygienic practices and a healthy attitude towards menstruation.

In the present study about 64% of the girls were using sanitary napkins during menstruation, even though they belonged to low socioeconomic class families as they were studying in schools where sanitary pads were supplied. As they are now accustomed to sanitary napkins, they are not willing to use clothes even when sanitary pads were not supplied.

The hygiene-related practices of women during menstruation are of considerable importance, as they affect their health by increasing their vulnerability to infections, especially infections of the urinary tract and the perineum. Studies which were reported from India and other developing countries like Khanna A et al[7]in which 49.35% girls were using sanitary napkins and Das Gupta A et al only 11.25% were using sanitary napkins. In present study, about 36% of the girls were using cloth during menstruation due to financial reasons.

In present study, 100% girls revealed that they clean their genitalia during menstruation, but only 85% girls'use soap and water and only 1% used lotion like Dettol. About 14% girls clean with only plain water. The reasons for not cleaning properly was lack of privacy due to non-availability of closed toilets in majority of the houses. This was correlating with the study conducted by Mundey AB et al[10] in which 50.23% and as per Das Gupta A et al[8] 97.5% girls clean their genitalia.

In present study, the most commonly encountered menstrual abnormality was irregularity of cycles is about 59% girls. This irregularity in cycles included both oligomenorrhoea in about 61.86% girls and polymenorrhea is 38.13% girls. This is in contrast to the studies conducted in Singapore, which showed about 23.1% girls having irregular cycles. Another study conducted on adolescent girls in Malaysia showed 37.1% girls to be having irregular cycles. In present study, many girls experienced dysmenorrhoea about 52.5%. They also have irregularity of cycles along with menstruation. This is correlating to the other studies conducted by Karthiga V et al on adolescent girls at Pondicherry in which about 52.02% girls experienced dysmenorrhoea.

In present study, about 12.5% girls experienced menorrhagic cycles for about 10-15 days bleeding, but none of them received any blood transfusions to overcome anaemia due to menorrhagic cycles. This is correlating with the studies conducted on adolescent girls at Wardha district, India,[10] which showed about 17.67% girls were having menorrhagic cycles.

In present study, only 18.59% girls have premenstrual symptoms like acne, breast pain and engorgement. Most of the girls are not able to correlate the menstrual cycles with the appearance of these symptoms. Almost, all the girls included in present study were having well-developed secondary sexual characters according to the Tanners staging.

In present study, about 2.5% girls were brought to the outpatient clinics with the complaint of not attaining menarche at the age of about 14-16 years age only with the reason that their siblings attained menarche by that age. As secondary sexual characters were developing normally, those mothers and girls were counselled regarding menstrual patterns and they are to be evaluated.

In present study, we have observed that as BMI is increasing towards overweight, girls are becoming oligomenorrhoeic. This finding is correlating with the study conducted on adolescent girls at Singapore by Anupriya Agarwal et al in 2009.[11]

CONCLUSION

This study has highlighted the need of adolescent girls to have accurate and adequate information about menstruation and its appropriate management. It is very important that the mother be armed with correct and appropriate information on reproductive health, so that she can give this knowledge to her growing girl child.

Teachers also should educate the girls regarding menstruation and hygiene during menstruation so as to curb the incidence of reproductive tract infections among adolescent girls. Information about menarche and reproductive health should be built into school curriculum for adolescent girls. Evaluation of abnormal menstrual patterns throughout adolescence may permit early identification of potential health concerns for adulthood.

In developing countries like India, all organisations, which work on reproductive health should work adequately on neglected issue of menstrual hygiene and health and management of menstrual irregularities to achieve "Sanitation and Dignity of Health for all Women" (The Delhi Declaration of SACOSAN-III, 2008).

REFERENCES

[1] Pratap K, Narendra M. Puberty and Adolescent Gynaecology. Chapter 6. In: Jeffcoate's - principles of gynaecology 7th International edn. Jaypee Brothers Medical Publishers 2008:111-119.

[2] Berek JS. Puberty, amenorrhoea, reproductive physiology. In: Berek & Novak's gynecology. 14thedn. Philadelphia: Lippincott, Williams & Wilkins 2007.

[3] Tanner JM. Growth at adolescence. 2ndedn. Oxford, UK: Blackwell Scientific Publications 1962.

[4] Padubidri VG, Daftary SN. Pediatricgynaecology, adolescent problems and puberty. Chapter 4. In: Howkins & Bourne Shaw's text book of Gynaecology. 14thedn. Elsevier 2008:44-51.

[5] Hoffman B, Bradshaw KD. Delayed puberty and amenorrhoea. Semin Repord Med 2003;21(4):353-362.

[6] Peacock A, Alvi NS, Mushtaq T. Period problems: disorders of menstruation in adolescents. Arch Dis Child2012;97(6):554-560.

[7] Khanna A, Goyal RS, Bhawsar R. Menstrualpractices and reproductive problems: a study of adolescent girls in Rajasthan. Journal of Health Management 2005;7(1):91-97.

[8] Dasgupta A,Sarkar M. Menstrual hygiene: how hygienic is the adolescent girl? Indian J Community Med2008;33(2):77-80.

[9] Lee LK, Chen PC, Lee KK, et al.Menstruation among adolescent girls in Malaysia: a cross-sectional school survey. Singapore Med J2006;47(10):869-874.

[10] Mundey AB, Keshwani N, Mudey GA, et al. A cross-sectional study on the awareness regarding safe and hygienic practices amongst school going adolescent girls in rural areas of Wardha district, India. Global Journal of Health Science 2010;2(2):225-231.

[11] Agarwal A, Venkat A, Questionnaire study on menstrual disorders in adolescent girls in Singapore. J of Pediatr and AdolescGynecol2009;22(6):365-371.