

Menstrual Health: How Aware and healthy young girls are?

Sharma Priyanka

**Abstract:-**

**Background:** *Menstruation is a normal physiological process occurring every month throughout the reproductive age of females. Menstruation is still considered as something shameful and young girls face self-imposed and external restrictions during mensural cycle. The school going girls still lack knowledge regarding menstruation, menstrual hygiene, reproduction, and dietary knowledge as well. The objective of this study is to see the awareness level regarding menstruation amongst adolescent girls of Jammu region. An attempt is also made to find the association between knowledge regarding menstruation and depression level amongst urban and rural adolescent girls of Jammu.*

**Method:** *The study was conducted in four schools in which 106 girls participated. Girls were to complete questionnaire concerning demographic characteristics, menstruation practices detailing, depression, anxiety and stress scale consisting of 21 questions (DASS-21). Girls voluntarily agreed to answer questionnaire under the supervision of researcher. The data was then analyzed and conclusions were drawn regarding mensural practices amongst the girls.*

**Results:** *Mean age of the sampled girls was 10.6 years. Mean age at menarche was 7.6 years. 53.77% girls did not have adequate knowledge about menstruation and for 71.69% girls first informant about menstruation was the mother. 75.47 % girls did not have adequate knowledge about the menstrual hygiene. 57.55% girls felt that pain during menstruation. 34.90 % girls were reported missing school during menstruation. About 58.49% of the subjects had stress, 77.36% had depression and 78.30% had anxiety during mensural cycle.*

**Conclusion:** *The knowledge regarding menstruation was found to be inadequate among majority of the adolescent girls, however whatever knowledge girls had about mensuration their major source was mothers. Over 80% girls are disposing of sanitary napkins in dustbin or open which may turn out to be hazardous. Menstruation also contributes to absenteeism among school girls in Jammu region. Girls are missing school because of poor product supply, water and sanitation facilities and a lack of pain management. Strengthening of MHM programme in Jammu is needed. Education on awareness, access to hygienic absorbent and disposal of MHM items need to be addressed.*

**Keywords:** *Menstruation, Adolescent girls, Menstrual Hygiene, Mother-daughter relationship, Depression, Jammu.*

**Conceptual framework.**

“Feminism isn’t about making women strong. Women are already strong. It’s about changing the way the world perceives that strength.”

**G.D. Anderson**

Health in the contemporary world in general is referred as a social adaptability and biological homeostasis of a human genome. The persons and groups resilience to adapt and respond to multifarious changes to the external environment.

“A state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity”, is the formal definition of health provided by the international organization WHO.

As can be inferred from the changing definitional patterns of WHO, health can be safely referred as the ability to maintain homeostasis and recover from insults. Mental, intellectual, emotional, and social health referred to a person's ability to handle stress, to acquire skills, to maintain relationships, all of which form resources for resilience and independent living.

Health is regarded as the multidimensional concept ranging from social support networks, Education and literacy, Employment/working condition, social environments, Physical environment, Personal health practices and coping skills, Healthy child development, Biology and genetics, Health care services, Gender and Culture.

The maintenance and promotion of health is achieved through different combination of physical, mental and social well-being, together sometimes referred to as the "health triangle".

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## **Mental Health**

Mental health as stated in WHO's documents is regarded as a state of well-being in which one optimizes one's own abilities to cope with the life pressures, work productively and fruitfully, enabling oneself to make optimal contribution to the society. Mental health is to be envisioned as not merely the absence of mental illness but is to be viewed broadly beyond the wider spectrum of cognitive, emotional and behavioral conditions that interfere with social and emotional capacities. Having a mental illness can seriously impair, temporarily or permanently, the mental functioning of a person.

Many studies indicate that teens are affected largely from mental health issues in response to the pressures of society and social problems they encounter, forms and kinds of prevalent mental health problems in present day society include depression, eating disorders and drug abuse. Many factors contribute to mental health problems including: - ➤ Biological factors, such as genes or brain chemistry.

- Life experiences, such as trauma or abuse.
- Family history of mental health problems.

Achieving and maintaining health is a continual and one's rigorous attempts and commitment to healthy life style shaped by both the evolution of health care knowledge and practices as well as personal strategies and organized interventions for staying healthy.

Diet plays an important role to maintain personal health. A healthy diet includes a variety of plant-based and animal based foods that provide necessary nutrients and energy to the body. Nutrients help build and strengthen bones, muscles and tendons and also regulate body processes (i.e.; blood pressure). Making healthy food choices is equally important because it can lower the risk of heart disease, developing different types of cancer, and contributing towards maintenance of healthy weight, Physical exercise enhances or maintains physical fitness and overall health and wellness. It strengthens muscles and improves the cardiovascular system.

## **Sleep**

Sleep is an essential component to maintaining health. In children, sleep is also vital for growth and development. Ongoing sleep deprivation had been linked to an increased risk for chronic health problems. In addition, sleep deprivation has been shown to correlate with both increased susceptibility

to illness and slower recovery times from illness. Due to the role of sleep-in regulating metabolism, insufficient sleep may also play a role in weight gain or conversely, in impeding weight loss.

### Role of science

Health science is the branch of science focused on health. There are two main approaches to health science: the study and research of the body and health-related issues to understand how humans' function, and the application of the knowledge to improve health and to prevent and cure diseases and other physical and mental impairments.

### Self-care strategies

Personal health depends partially on the active, passive and assisted cues people observe and adopt about their own health. These include personal actions for preventing or minimizing the effects of a disease, usually a chronic condition through integrative care. They also include hygiene practices to prevent infection and illness, such as bathing and washing hands with soap, brushing and flossing teeth, storing, preparing and handling food safely, and many others.

Personal health also depends partially on the social structure of a person's life. The maintenance of strong social relationships, volunteering and other social activities had been linked to positive mental health and also increased longevity. Stress management is the application of methods to either reduce stress or increase tolerance to stress. Psychological methods include cognitive therapy, meditation, and positive thinking, which work by reducing response to stress.

## Theories/ Models of Health

In behavioral medicine, professionals base their interventions on models that attempt to explain people's health-related behavior: the health belief model, reasoned and planned behavior theory, learning theories/classical conditioning, and social cognitive theory. These models are termed continuum theories, for they aim to recognize variables that influence people's behavior, and using the sum of variables, how likely the person will engage in a particular behavior (Weinstein, Rothman, & Sutton, 1998). They are often criticized for their narrow focus on outcome behavior of interest (e.g., smoking cessation) and its non-inclusion of race, gender, and socioeconomic status — all features known to have a somewhat strong influence on health behavior. Nonetheless, the model dynamics are useful to describe types of behavior.

### 1. Health Belief Model

As one of the earliest frameworks for understanding human behavior, the health belief model declares that individuals will take health related actions based on six types of factors and associated beliefs:

**Perceived Susceptibility:** The condition may hurt the individual on any aspect of the bio - psychosocial model.

**Perceived Severity:** The condition is severe enough to have a negative consequence.

**Perceived Benefits:** The advised actions may stop, lower, or lessen the affect, risk, and consequences of the condition, respectively.

**Perceived Barriers/Costs:** The corrective/preventive benefits outweigh the psychological and physical harms of abiding to the advised behavior.

**Cues to Action:** There is an internal or external cue, or both, that trigger the individual to finally act.

This model is better for predicting simple, one-time, or limited behaviors (e.g., immunizations) than habitual behaviors.

## 2. Reasoned Action & Planned Behavior Theory

This theory recognizes that individuals act rationally and emphasizes the power of individual's intention to induce behavior governed by three principles:

**Attitudes:** The individual's positive or negative feelings about engaging in each behavior.

**Subjective Norms:** Standards or influences established by the individual's larger context, for instance, familial beliefs, media conceptions, and societal models.

3. **Perceived Behavioral Control:** The degree to which the individual could perform a behavior.

The theory is limited to discrete sample populations and does not incorporate profiles of previous behaviors nor does it address when positive intentions are not enough to enact behaviors (e.g. cues of action).

4. **Precaution Adoption Process Model:** As per the precaution Adoption Modal, the Change process goes through seven stages:

Stage 1	Stage 2	Stage 3	Stage 4	Stage 5	Stage 6	Stage 7
Now aware of the problem.	Limited awareness however, not appreciative of personal risk.	Acknowledges personal susceptibility of hazard, but fails to make a decision on acting.	Decides the action is unwarranted.	Decides the action is warranted.	The behaviors are publicly modified to provoke change	Sustains change, usually over six months

This model differentiates personal risk profiles and whether the person decides to act. Further studies should reflect upon the effectiveness of each model as well as on the circumstances which best predicts the health behavioral change; however, it is likely that they are each best for specific types of individuals or behaviors.

## Adolescence.

The word adolescence is derived from the Latin word "adolescent" meaning "to grow up". WHO defines "adolescence" as the time period between 10 and 19 years of life characterized by critical

physical and psychological changes leading to adulthood. This age requires adequate nutrition, education, counseling, and guidance to ensure their development into healthy adults.

One-fifth of the world's population lies between this age group (i.e) 10-19 years of age (WHO) 1996, numbering over one billion. India has the fastest-growing adolescent population in the world, with an estimated 190 million. In India, there are 190 million adolescents comprising 21% of India's total population. Adolescents represent major potential human resources for the overall development of a nation.

Adolescence is a period of increased risk-taking and therefore susceptible to behavioral problems at the time of puberty and new concerns about reproductive health. Reproductive health is an important component of general health, it is a prerequisite for the social and economic growth of individuals as human energies and creatives are the driving forces of development. In parts of India, adolescent health is a subject that is not taught in the manner it should be in its required depth. This is unfortunate as certain health-related factors, if managed properly during adolescence, can minimize complications later in life.

Adolescence in girls has been recognized as a turbulent period that signifies the transition from girlhood to womanhood and is considered as a landmark of female puberty. This transitional period is marked by the onset of "Menarche" which is generally accepted by young girls, as a sign of maturity. However, some girls show negative responses such as shame, fear, anxiety, and depression. The onset of menstruation is one of the most important changes occurring among girls during adolescence. The first menstruation (menarche) occurs between 11-15 years with a mean age of 13 years. In the prevalent existing Indian culture, there are several traditions, myths, misconceptions, mysteries, and superstitions prevailing about menstruation. The center social research in 1990 reported restrictions in daily activities not being allowed to take bath, change clothes, comb hair, and enter holy places, apart from their dietary restrictions (taboo on the consumption of food like rice, curd milk, lassie, onion, sugarcane, etc.).

There is very little awareness about menstruation among girls when they experience it for the first time. Social prohibitions and negative attitudes of parents in discussing related issues openly have blocked the access of adolescent girls to the right kind of information especially in rural, urban, and tribal communities. Lack of timely information and guidance on these matters may cause complications for individuals in adulthood. In less advanced economies, adolescent girls face challenges in identifying their health and hygiene status. When these issues are not adequately addressed, both physical (health and hygiene) and psychological problems (low self-esteem) emerge as a result. Healthy women reflect a healthy society. But several studies have found that one of the causes of inferior health among Indian women is the prejudicial/differential perception and treatment, especially in meeting the nutritional needs of men and women.

The status of girls and women in society and how they are treated or mistreated is a crucial determinant of their reproductive health. Educational opportunities for girls and women powerfully affect their status and the control they have over their own lives and their health and fertility. In some countries, complications of unsafe abortions leading cause of death among teenage women.

Adolescent girls constitute a vulnerable group, particularly in India where a female child is neglected. Menstruation is still regarded as something unclean (or) dirty in Indian society. The reaction to menstruation depends upon awareness & knowledge about the subject. Hygiene-related practices of women during menstruation are of considerable importance as it has an impact on health in terms of increased vulnerability to reproductive tract infections. Today millions of women are sufferers of

reproductive tract infections and their complications and other infections are transmitted to the offspring's as well. Therefore, increased knowledge about menstruation right from childhood may escalate safe practices and may help in mitigating the suffering of millions of women potentially for infections thus providing adolescents with access to seek information education and services is the main challenge for future programmers.

## **Menstruation**

Menstruation is a natural, normal biological process experienced by all adolescent girls and women, yet it is not spoken about openly causing unnecessary embarrassment and shame. Menstruation (men-Stray-shuhn) is a woman's monthly bleeding. Menstruation, also known as a period or monthly, is the regular discharge of blood and mucosal tissue from the inner lining of the uterus through the vagina. The first period usually begins between twelve and fifteen years of age, a point in time known as menarche. However, periods may occasionally start as young as eight years old and still be considered normal. The typical length of time between the first day of one period and the first day of the next is 21 to 45 days in young women, and 21 to 31 days in adults (an average of 28 days). Bleeding usually lasts around 2 to 7 days. Menstruation stops occurring after menopause, which usually occurs between 45 and 55 years of age. Periods also stop during pregnancy and typically do not resume during the initial months of breastfeeding.

Up to 80% of women report having some symptoms prior to menstruation. Common signs and symptoms include acne, tender breasts, bloating, feeling tired, irritability, and mood changes. Sometimes the impact on mood can affect a woman's quality of life. Once a young woman starts menstruating, she may begin to experience emotional changes around the time of her period. Premenstrual syndrome, or PMS, affects 30 to 80 percent of women. Psychological symptoms of PMS include:

- Depression.
- Anger.
- Irritability.
- Anxiety.
- Sensitivity to rejection.
- Sense of feeling overwhelmed.
- Social withdrawal.
- Mood swings.

Physical symptoms of PMS include

- Fatigue (feeling tired). ▪ Sleep disturbance.
- Increased appetite.
- Abdominal bloating.
- Breast tenderness.

A lack of periods, known as amenorrhea, is when periods do not occur by age 15 or have not occurred in 90 days. Other problems with the menstrual cycle include painful periods and abnormal bleeding such as bleeding between periods or heavy bleeding.

## **Menstruation Management**

Menstruation is managed by menstruating women to avoid damage to clothing or to accord with the norms of public life. Menstrual management practices range from medical suppression of menstruation, through wearing special garments or other items, washing or avoidance of washing,

disposal, and laundry of stained materials, to the separation of menstruations to places or activities. Menstrual products are made to absorb or catch menstrual blood. Several different products are available- some are disposable, and some are reusable.

### **Disposable**

**Items:** - Sanitary napkins.

- Tampons.
- Palettes.
- Disposable menstrual cups.

### **Reusable Items:** -

Reusable cloth pads.

- Menstrual cups.
- Sea sponges.
- Padded panties.
- Blanket, towel (also known as draw sheet).

Non-commercial materials: -

Absorption materials that may be used by women who cannot afford anything else include sand, ash, small hole in the earth, cloth- new or re-used, whole leaf, leaf fiber (such as banana, papyrus, cotton fiber), paper (toilet paper, re-used newspaper, pulped and dried paper), animal pelt e.g., goat skin, double layer of underwear, skirt or sari.

### **Review of literature:** -

A review of the literature is an essential aspect of research work. It is of great help to the researcher and works as a guide for him. A review of related literature serves as a pointer to the lacuna in the concerned piece of research work. The review is conducted in a manner as to indicate and elaborate on the causes, problems, consequences, and contributions in the field being studied.

According to the Nutrition Foundation of India, the average age of menarche is 13.4, yet 50% of girls aged 12-15 do not know about menstruation. This is true for rural as well as the urban poor. The lack of information can be attributed to a veil of secrecy and taboos associated that surrounds menarche (U.S. Agency for International Development 2001).

Karthiga, Borate, Datta, S Suba Joice, Abraham, S and Purty, A (2010) conducted a study on menstrual problems and pattern of consultation among adolescent school girls in Pondicherry, India. The result of the study revealed that 193 (52.02%) girls had experienced dysmenorrhea and 150 (40.43%) 27 reported passing of clots in menstrual flow. 272 (73.32%) girls stated that they had some or other kind of menstrual problem since menarche. Eleven (2.96%) girls had menses the first time (just prior to survey) and were unable to comment on the duration of the menstrual cycle and regularity. Two third (66.39%) girls had menses for the duration from 1-5 days while rest reported beyond 5 days. Three-fourth (75.83%) of the study subjects had regular menstrual cycles. Out of 272 adolescent girls whoever had faced menstrual problem, 73 (26.84%) had sought consultation. Majority 43 (58.09%) girls had consulted doctors and 3 (4.12%) girls had consulted health worker while 25 (34.25%) girls had discussed their problem with their mother and concluded that there is an urgent need for strong

health educational activities among the adolescent girls, their parents, and teachers for effective management of menstrual problems among all adolescent girls.

A survey of 160 girls in West Bengal, India, (Dasgupta & Sarkar, 2008) found that 67.5 per cent were aware of menstruation prior to menarche, but 97.5 per cent did not know the source of menstrual bleeding. In Nepal, 92 per cent of 204 adolescent girls surveyed had heard about menstruation, but most respondents reported that they were not prepared in any way for their first period (Water Aid in Nepal, 2009). A common belief amongst Gujjar girls (a semi-nomadic tribal group in Jammu and Kashmir) was that menstruation was the removal of bad blood from the body necessary to prevent infection (Dhingra, Kumar, & Kour, 2009). Most girls learn about menstruation from their mothers, sisters, and girlfriends (Dasgupta and Sarkar 2008; Water Aid in Nepal 2009; Dhingra, Kumar, & Kour, 2009). The evidence from these few studies suggests that in South Asia, formal education about reproductive health is very limited. Teachers were given as a source of information on menstruation only in the Nepal study, and this was by one fifth of the respondents. 28 Focus group discussions with girls revealed that teachers generally avoided teaching reproductive health. One girl reported that her teacher had said, 'This topic need not be taught, you can do a self-study at home. It is like knowing to go to toilet with slippers/shoes' (Water Aid in Nepal 2009). The girls in this study also reported that the information they received was mainly regarding use of cloth, the practice of rituals, the concept of (cultural) pollution, and cautions about behavior towards men and boys. Very little information was shared regarding the physiological process involved. Patil and Wasnik Wadke (2010) studied health problems amongst adolescent girls in rural areas of Maharashtra, India and found that majority of the girls had one or the other problems related to their menstrual problems. Dysmenorrhea (44.2 %) was the commonest problem stated by adolescent girls and more than 50% of the study subjects had one or the other symptoms of PMS. Sharma, Malhotra, Taneja and Saha (2010) studied type and frequency of problems related to menstruation among adolescent girls in New Delhi, India. The results revealed that dysmenorrhea (67.2) was the commonest problem and 63.1% had one or other symptoms of PMS. Daily routine of 60% girls was affected due to prolonged bed rest, missed social activities/commitments, disturbed sleep and decreased appetite. Seventeen percent had to miss a class and 25% had to abstain from work. Mothers and friends were the most common source of information on the issue. Petta, Osis, Depidua, Bahamondes and Makuch (2010) described the perspectives and attitudes of 1053 Brazilian women towards PMS. The result showed that 96.1% had heard of PMS, 65.4% considered that all or almost all women experienced the condition, 87.5% stated that symptoms occurred prior to menstruation. The emotional and physical symptoms most frequently mentioned were anxiety (76.4%), mood swings/crying (55.7%), pain and breast tenderness (45.4%). Rapkin and Winer (2009) studied PMS quality of life and burden of illness in Los Angeles. The result showed that typical symptoms of PMS include irritability, anger, mood swings, depression, and anxiety. The symptoms recur monthly and last for an average of 6 days per month. Severe form of PMS can disable as major depressive disorder. It has been estimated that affected women experience almost 3000 days of severe symptoms during the reproductive years. Bakhshani, Mousavi and Khodabandeh (2009) investigated the frequency of premenstrual symptoms and prevalence of PMS among young Iranian women. Overall, 300 participants were asked to complete an anonymous questionnaire assessing premenstrual symptoms. Of the 300 participants, 98.2% reported at least one mild to severe premenstrual symptom and 16% met the criteria of DSM-IV for PMS. Most common symptoms were feeling of tiredness or lethargy (84%), depressed mood (72.3%), sudden feeling of sadness or tearfulness (70.3%), anxiety (70%), backache (69%) and sleep problems (66%). There was no significant difference in severity of symptoms based on marital status and living conditions (living with parents or away from parents), but severity of symptoms was significantly higher for the younger women (18-20 years) compared to the older women (21-24 and 25-27 years).Gonda et al. (2008) studied 63 mentally healthy women about fluctuation of psychological symptoms during luteal phase

with use of prospective record of symptoms for three cycles and in addition they used state trait anxiety inventory, Zung self-rating depression scale and concluded that there is a significant increase in psychological symptoms related to neuroticism and depression during late luteal phase. Yonkers, Brien and Erikson (2008) stated that women of reproductive age have some physical discomfort or dysphoria in the weeks before menstruation. Symptoms are often mild, can be severe enough to substantially affect daily activities, most of these women also meet criteria for PMS. Mood and behavioral symptoms, including irritability, tension, depressed mood, tearfulness, and mood swings are the most distressing. Adigzel, Tafkin and Danaci (2007) studied 541 women living in the area of Turkey and found 6.1% had severe PMS symptoms and 72.2% had mild PMS. The most common symptoms were feeling irritable and restless (72%), anxiety (67.3%), pain in the abdomen (66.6%), lack of energy or easily fatigued (66.6%) and fatigue in the legs (65.5%). Mint Thu, Edessa Ore-Giron Diaz, and Sawhsarkapaw (2006) presented the results of research on PMS among female students at Assumption University in Bangkok, Thailand. A cross sectional descriptive survey, including a total of 266 female students between the age of 16 and 35, were utilized. Result revealed that almost 60% of the respondents expressed breast pain and discomfort during the premenstrual period. Around 50% complained of lower abdominal cramp or discomfort, headache and increasing stress before period. Around 40% of the respondents noticed that sadness, depression, confusion, weight gain, irritability and conflicts with friends were common before menstruation. Less than 30% reported high rate of anxiety, withdrawal feeling, ineffective coping and bloated body image. 28% of the respondents suffered these symptoms before every period. A total of 41% of the respondents had symptoms with mild severity, that is, the symptoms were present but not a problem and did not interfere with daily functioning. But 53% reported moderate PMS symptoms with significant discomfort. 6% of the respondents reported severe PMS symptoms interfering daily function such as school performance and interpersonal relationships. When they noticed the symptoms, 41.4% of the PMS victims used Paracetamol, 24.4% used Ponstan and 3.4% used Advil. Other non-pharmacologic treatments were sleep (75.9%), exercise (23%) and dietary change (10%). Derman, Kanbur, Tokur and Kutluk (2004) investigated the frequency of PMS in adolescent girls. Modified DSM - IV criteria were used for the diagnosis of PMS. Result revealed that 61.4% of girls met DSM – IV criteria of PMS. Half of the girls that is 49.5% had mild, 37.1% had moderate and 13.4% had severe PMS. The most common symptoms were negative effect particularly in the form of stress (87.6%) and nervousness (87.6%)

Lane and Francis (2003) investigated the relationships between premenstrual symptomatology, locus of control, anxiety, and depression in women with normal menstrual cycles. Sixty-nine female participants completed a survey. Result revealed that both overall and specific subtypes of premenstrual symptomatology were found to correlate with external locus of control, anxiety, and depression. In addition, locus of control was found to moderate the relationship between premenstrual symptomatology, anxiety, and depression. Finally, women who were in the premenstrual phase when completing the questionnaire scored significantly lower on the internal scale than those in either the follicular or early luteal phases. It was concluded that an external locus of control may be associated with a susceptibility to depression or anxiety when certain premenstrual or postmenstrual changes are experienced. Zhao, Wang, and Qu (1998) investigated the prevalence of PMS and its influential factors among 454 reproductive women aged 15 – 49 in Beijing. Result revealed that the prevalence of PMS in these women was 30.4% among which 61.6% was mild, 34.1% moderate and 4.3% severe. The order of frequency of the symptoms occurring in PMS was irritation, depression, anxiety, lack of concentration and hypersomnia women with greater stress in life and depression had a higher incidence of PMS. Yonkers (1997) studied relationship between anxiety symptoms and anxiety disorders and PMS. And stated that premenstrual symptoms are common among young menstruating women, but the psychiatric disorder PMDD is seen only in approximately 3% of this group. The most reported symptoms are depression and mood swings, but a substantial number of women reported

tension and anxiety. Lifetime psychiatric illness is also common in women with PMDD, and although mood disorders predominate, past histories of anxiety disorders are also common, further suggesting an association between PMDD and anxiety disorders. Finally, treatments that are effective for anxiety disorders are also useful in the treatment of PMDD.

### Objectives

- To find the source of information and awareness level regarding menstruation amongst Rural and Urban adolescent girls of Jammu.
- To assess the relationship between menstrual problems and mental stress amongst Rural and Urban adolescent girls of Jammu.

### Hypothesis

- There will be a difference in the level of awareness regarding menstruation among Rural and Urban adolescent girls of Jammu.
- The adolescent girls with the more menstrual problems will have higher levels of depressive symptoms.

### Research Methodology: -

The present study has been conducted to determine the awareness level regarding menstruation amongst adolescent girls of Jammu region (urban and rural) and explores the depression level amongst Urban and Rural adolescent girls of Jammu.

### Sample selection

106 respondents (55 urban and 51 rural respondents) have been selected from rural and urban areas of Jammu, using Simple random sampling method. The adolescent girls were selected from two schools from Urban Areas of Jammu (Luthra. Hr. sec. school, Kachi chhawani and Govt. middle school, Kachi chhawani) and two schools from Rural areas of Jammu. (Tiny. tots. hr. sec. school, Paloura and Raina hr. sec. school, Paloura).

### Tools used

Tool: The questionnaire was constructed to collect the data, keeping in view the objectives of the study. The tool consists of questions containing information with respect to study socio-demographic details, knowledge of menstruation, practices of menstruation. DASS-21, Scale was used to assess depression, anxiety, and stress.

### TABULATION & ANALYSIS OF DATA

**Table 1: -** Socio-demographic Variables

Age of respondents at the onset of the first mensural cycle (years)	Urban respondents. (N=55)		Rural respondents. (N=51)	
	Freq.	% Age	Freq.	% Age
12	05	9.09	15	29.41
13	12	21.82	09	17.64
14	19	34.54	15	29.41

15+	19	34.54	12	23.52
Grade				
Seventh	14	25.45	23	45.09
Eighth	17	30.90	11	21.56
Ninth	24	43.64	17	33.33
With whom do you live at present				
With my father & mother	48	87.27	51	100
With my mother only	03	5.45	0	0
With my father only	02	3.63	0	0
With step mother and my father	02	3.63	0	0
Father's education level				
Illiterate	03	5.45	03	5.88
Primary school	24	43.63	14	27.45
Secondary school	18	32.72	26	50.98
College diploma and above	10	18.18	08	15.68
Mother's education level				
Illiterate	12	21.48	05	9.80
Primary school	14	25.45	16	31.37
Secondary school	20	36.36	24	47.05
College diploma	09	16.36	06	11.76
Occupation of father				
Farmer	07	12.72	0	0
Govt. employee	14	25.45	17	33.33
Pvt. Org. employee	09	16.36	13	25.49
Daily laborer	09	16.36	12	23.52
Others	16	29.09	9	17.64
Occupation of mother				
Housewife only	42	76.36	46	90.19
Govt. employee	04	7.27	01	1.96
Pvt. Org. employee	05	9.09	04	7.84
Daily laborer	4	7.27	0	0

Table 1 depicts the socio-demographic profile of respondents. It shows that in urban areas 9.09% of respondents come under the age of 12 years, 21.81% of respondents come under the age of 13, 34.54% respondents are 14 years old, 34.54% respondents are 15 years old, and in rural areas 29.41% respondents come under the age of 12 years, 17.64% respondents are 13 years old, 29.41% respondents are 14 years old, 11.76% respondents are 15 years old and 11.76% respondents are 16 years old. 25.45% urban respondents' study in seventh grade, 30.90% urban respondents' study in eighth grade and 43.63% urban respondents' study in ninth grade and in rural area 45.09% respondents study in seventh grade, 21.56% respondents are in eighth standard and 33.33% respondents study in ninth grade. 87.27% urban respondents are live with their mother and father and in rural areas 100% respondents live with their mother and father. With respect to the literacy level of respondent's father, it shows that 5.45% urban respondent's father are illiterate, 43.63% urban respondent's father educated at the level of primary school, 32.72% urban respondent's father educated at the level of secondary school and 18.18% urban respondent's father educated at the level

of college and in rural area 5.88% respondent's father are illiterate, 27.45% respondent's father educated at level of primary school, 50.98% respondent's father educated at the level of secondary school and 15.68% respondent's father educated at the level of college. In case of mother's education level it shows that in urban area 21.81% respondent's mother are illiterate, 25.45% respondent's mother educated at the level of primary school, 36.36% respondent's mother educated at the level of secondary level and 16.36% respondent's mother educated at the level of college and in rural area 9.80% respondent's mother are illiterate, 31.37% respondent's mother educated at the level of primary school, 47.05% respondent's mother educated at the level of secondary school and 11.76% respondent's mother educated at the level of college. It shows that 12.72% urban respondent's father are farmers, 25.45% urban respondent's father are govt. employee, 16.36% urban respondent's father are employed in private organization, 16.36% urban respondent's father are daily laborers and 29.09% urban respondent's father are involved in other occupational sources and in rural area 33.33% respondent's father are govt. employee, 25.49% respondent's father are employed in private organization, 23.52% respondent's father are daily laborers and 17.64% respondent's father are engaged in other sources of income. In case of mother's occupation, it shows that 76.36% urban respondent's mother are housewife and in rural area 90.19% respondent's mother are housewife.

**Table 2:** About Menstruation

Age of menarche (years)	Urban Respondents. (N=55)		Rural Respondents. (N=51)	
	Freq.	% age	Freq.	% age
8	0	0	02	5.26
9	0	0	03	7.89
10	04	9.75	02	5.26
11	03	7.31	01	2.63
12 and 12+	34	82.92	30	78.95
First reaction to menstruation				
Happy	0	0	0	0
Scared	10	24.39	12	31.57
Discomfort	23	56.09	17	44.73
Emotional disturbance	7	17.07	9	23.68
Physical symptoms when first time you had menstruation				
Abdominal and back pain	26	63.41	15	39.47
Sleeplessness	6	14.63	9	23.68
Heavy bleeding	9	21.95	14	36.84
Before the onset of menstruation, you had any class session in school				
Yes	17	41.46	0	0
No	24	58.53	38	100
Any problem associated with menstruation				
Vomiting	3	7.31	1	2.63
Weakness	13	31.72	22	57.89
Abdominal pain	10	24.39	4	10.53
Back pain	15	36.59	11	28.95

Table 2 illustrate the age of menarche, and problems associated with menstruation among the respondents and shows that 9.75% urban respondents experience menarche at the age of 10, 7.31% urban respondents attain their menarche in 11 years and 82.92% urban respondents experience in 12+ years and in rural area 5.26% respondents experience menarche at the age of 8, 7.89% respondents experience menarche at the age of 9 years, 5.26% respondents attain their menarche in 10 years and 81.57% respondents attain their menarche in 12+ years. It shows that in urban area 24.39% respondents feel scared when they attain their menarche, 56.09% respondents feel uncomfortable and 17.07% respondents feel emotionally disturbed and in rural area 31.57% respondents feel scared, 44.73% respondents feel uncomfortable and 23.68% respondents feel emotionally disturbed. In urban area, 63.41% respondents have abdominal and back pain during their menarche, 14.63% respondents feel sleeplessness and 21.95% respondents have the problem of heavy bleeding and in rural area 39.47% respondents have abdominal and back pain, 23.68% respondents feel sleeplessness and 36.84% respondents have the problem of heavy bleeding. Only 41.46% urban respondents experience no class session in their respective school where as in rural area, they experience no class session in the school. It also shows that among the urban respondents 7.31% respondents have the problem of vomiting, 31.71% respondents feel weakness, 24.39% respondents have the problem of abdominal pain and 36.59% respondents have the problem of back pain whereas in rural respondents, 2.63% respondents have the problem of vomiting, 57.89% respondents feel weakness, 10.53% respondents have the problem of abdominal pain and 28.95% respondents have back pain.

**Table 3:-** Knowledge on menstruation

Basic nature of menstruation	Urban res. (N=55)		Rural res. (N=51)	
	Freq.	%age	Freq.	%age
Physiological	33	60	16	31.37
Curse	02	3.64	11	21.57
Don't know	20	36.36	24	47.06
Causes of menstruation				
Hormones	35	63.64	20	39.21
Curse of God	03	5.45	08	15.70
Caused by disease	04	7.27	02	3.92
Don't know.	13	23.64	21	41.48
Source of Menstruation.				
Uterus.	32	58.18	11	21.57
Vagina.	04	7.27	23	45.09
Bladder.	03	5.45	01	1.96
Don't know.	16	29.09	16	31.37
At what age do you think most girls usually get their period.				
11 years.	05	9.09	12	23.53
12 years.	06	10.90	09	17.65
13 years.	35	63.64	09	17.65
Don't know.	09	16.36	21	41.18
Anyone tell you about menstruation before you started.				
Yes	30	54.55	25	49.02
No	25	45.45	26	50.08
Source of information				

Mother	43	78.18	33	64.70
Teacher	21	38.18	0	0
Friends	09	16.36	18	35.29
Sister	02	3.64	0	0
Menstrual problem interfere with school performance				
Yes	25	45.45	30	58.82
No	30	54.55	21	41.17
Do you know about menstrual hygiene				
Yes	10	18.18	16	31.37
No	45	81.82	35	68.63
Menstrual blood is unhygienic				
Yes	29	52.73	34	66.67
No	26	47.27	17	33.33
Pain during menstruation means someone is sick				
Yes	12	21.82	33	64.71
No	43	78.18	18	35.29
Harmful for a women's body if she runs or dance during her period				
Yes	28	50.91	18	35.29
No	06	10.91	15	29.41
Just a myth	06	10.91	6	11.76
May be	15	27.27	12	23.55

Table 3 depicts the knowledge of menstruation among the adolescent girls. It reflects that in Urban Areas, 60% respondents reported that menstruation is a physiological process and 36.36% respondents answered that they didn't know what is menstruation and in rural area 31.37% respondents replied that menstruation is a physiological process, 21.57% respondents stated that it is a curse and 47.07% respondents replied that they didn't know what is menstruation. In case of urban respondents 63.64% respondents stated that hormones is the cause of menstruation and 23.64% respondents answered that they don't know about the causes of menstruation and in rural area 39.21% respondents stated that it is caused by hormones and 41.18% respondents answered that they don't have the knowledge about cause of menstruation. Among the respondents of urban area 58.18% respondents replied that from uterus menstrual blood occur and 29.09% respondents answered that they don't know from which organ does menstrual blood occur and in rural area, 21.57% respondents stated that uterus is the organ from where menstrual blood occur, 45.09% respondents answered that vagina is the source of bleeding during menstruation and 33.33% respondents replied that they don't have the knowledge about from which organ menstrual blood occur. 63.69% urban respondents replied that at the age of 13 years girls get their period and 16.36% urban respondents answered that they don't have the knowledge about it and in rural area 23.53% respondents stated that at the age of 11 years girls usually get their period, and 41.18% respondents stated that they don't have the knowledge about which age girls usually get their periods. Only 54.55% urban respondents have the knowledge about the menstruation before they attain their menarche. On the other hand, only 49.02% rural respondents have the knowledge about menstruation before they attained it. 78.18% urban respondents stated that they get the information from their mother. On the other hand, 64.70% rural respondents replied that they get the information from their mother followed by friends. 45.45% urban respondents answered that menstrual problem interfere with school performance whereas 58.82% rural respondents stated that menstrual problem interfere

with school performance. Only 18.18% urban respondents reported that they know about the menstrual hygiene whereas in rural area, 31.37% respondents stated that they know about the menstrual hygiene. 52.73% urban respondents answered that menstrual blood is unhygienic whereas in rural area, 66.67% respondents stated that menstrual blood is unhygienic.

21.82% urban respondents replied that pain during menstruation means someone is sick whereas in rural area, 64.71% respondents reported that pain during menstruation means someone is sick. It also shows that 50.19% urban respondents answered that it is harmful for a women's body if she runs or dance during her period, and in rural area, 35.29% respondents reported that it is harmful for a women's body if she runs or dance during her period.

**Table 4:- Practices of menstruation**

7	Urban res. (N=55)		Rural res. (N=51)	
	Freq.	%age	Freq.	%age
Yes	41	100	38	100
No	0	0	0	0
What absorbent material do you use				
Sanitary pads	28	68.29	21	55.26
Napkin (soft paper)	6	14.63	8	21.05
Rag made pad	0	0	7	18.42
Cloth	23	56.09	19	50
If you are using cloth as pad how do you clean it				
Soap & water	17	73.92	17	89.47
Only water	6	26.08	2	10.52
How do you dry cloth				
Sunlight	13	56.52	15	78.95
Inside the house	10	43.48	4	21.05
How many times do you change the cloth/pad in a day				
Three or more	22	53.66	7	18.42
Once	5	12.19	6	15.79
Twice	14	34.15	25	65.79
Where do you dispose your pads				
Dustbin	40	97.56	34	89.47
Toilet	1	2.44	1	2.63
Open field	0	0	3	7.89
Types of wrap used for disposing pads				
Paper	23	56.09	15	39.47
Plastic bag	18	43.90	17	44.74
Not wrap	0	0	6	15.79
When will you bath during period				
Daily	27	65.85	36	94.74
First day	1	2.44	1	2.63
Second day	12	29.27	1	2.63
Third day	1	2.44	0	0

Table 4 illustrates about the practices of menstruation and shows that the respondents from both areas use the absorbent material. Also, shows that 68.29% urban respondents use commercially made sanitary pads, 14.63% urban respondents use napkin (soft paper) and 56.09% urban respondents use cloth as absorbent material whereas in rural area 55.26% respondents use commercially made sanitary

pads, 21.05% respondents use napkin(soft paper), 18.42% respondents use rag made pad and 50% respondents use cloth as a absorbent material. In urban area, 73.92% respondents use soap & water to clean the cloth and in rural area, 89.47% respondents use soap & water to clean the cloth. 56.52% urban respondents dry the used cloth in sunlight and 43.48% urban respondents dry the used cloth inside the house. On the other hand, 78.95% rural respondents dry their used cloth in sunlight and 21.05% rural respondents dry their used cloth inside the house. In urban area 53.66% respondents change their pad/cloth three and more times in a day and 34.15% respondents change their pad/cloth twice in a day whereas in rural area 18.42% respondents change their pad/cloth three and more times in a day, and 65.79% respondents change their pad/cloth twice a day. 97.56% urban respondents answered that they dispose their used pads in dustbin and 89.47% rural respondents reported that they dispose their used pads in dustbin, and 7.89% respondents reported that they dispose their used pads in the open field. In urban area, 56.09% respondents use paper for wrapping the used pads before disposing and 43.90% respondents replied that they use plastic bags for wrapping the used pads and in rural area, 39.47% respondents use paper for wrapping the used pads, 44.74% respondents answered that they use plastic bag for wrapping the used pads and 15.79% respondents dispose the used pads without wrapping it. 65.85% urban respondents stated that they bath daily during their periods, 2.44% urban respondents reported that they bath during first day of their periods, 29.27% urban respondents replied that they bath during second day of their periods and 2.44% urban respondents answered that they bath during third day of their periods whereas in rural area, 94.74% respondents stated that they bath daily, 2.63% respondents reported that they bath during first day of their periods and 2.63% respondents replied that they bath during second day of their periods.

**Table 5:-** Missing school during your period

How many days you miss school because of your period in a month	Urban res. (N=41)		Rural res. (N=38)	
	Freq.	%age	Freq.	%age
0	23	56.09	19	50
1	8	19.51	15	39.47
2	10	24.39	4	10.53
Miss my school because I am afraid of staining my clothes				
Yes	18	43.90	13	34.21
No	23	56.10	25	65.79
Because periods can cause pain				
Yes	18	43.90	13	34.21
No	23	56.10	25	65.79
Because periods can make me feel uncomfortable or tired				
Yes	18	43.90	13	34.21
No	23	56.10	25	65.79
Because there isn't anywhere for girls to wash and change at school				
Yes	17	41.46	7	18.42
No	24	58.54	31	81.58
Because there is nowhere to dispose of sanitary products				

Yes	10	24.39	7	18.42
No	31	75.61	31	81.58
Because I do not have sanitary products				
Yes	7	17.07	2	5.26
No	34	82.93	36	94.74

Table 5 reflects about the reasons for school absenteeism. It shows that in urban area, 56.09% respondents reported that they never missed the school, 19.51% respondents answered that they missed their school only one day in a normal month and 24.39% respondents stated that they missed their school twice in a normal month and in rural area, 50% respondents replied that they never missed their school, 39.47% respondents stated that they missed their school once a time in a normal month and 10.53% respondents replied that they missed their school twice in a month. 43.90% urban respondents answered that they miss their school because they afraid of staining their clothes during the menstruation period whereas in rural area, 34.21% respondents stated that they miss their school because they afraid of staining their clothes during menstruation period. 43.90% urban respondents reported that they miss their school because of pain caused by periods and in rural area, 34.21% respondents miss their school because of pain caused by periods. 43.90% urban respondents replied that they miss their school because they feel uncomfortable and tired whereas in rural area, 34.12% respondents miss their school because they feel uncomfortable and tired. In urban area, 41.46% respondents miss their school because of unavailability of facilities for girls to wash and change at school and in rural area, 18.42% respondents answered that they miss their school because there isn't anywhere for girls to wash and change at school. In urban area, 24.39% respondents reported that they miss their school because there is nowhere to dispose of sanitary products and in rural area, 18.42% respondents replied that they miss their school because there is nowhere to dispose of sanitary products. 17.07% urban respondents miss their school because they don't have sanitary products and rural area, 5.26% respondents reported that they miss their school because they don't have sanitary products.

**Table 6:-** Depicts the level of depression, anxiety and stress amongst the adolescent girls of urban and rural area.

Rating	Depression				Anxiety				Stress			
	Urban res.		Rural res.		Urban res.		Rural res.		Urban res.		Rural res.	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Normal	8	14.54	16	31.37	4	7.27	6	11.76	23	41.82	21	41.18
Mild	13	23.64	9	17.65	3	5.45	5	9.80	10	18.18	23	45.10
Moderate	22	40	23	45.10	16	29.09	13	25.49	14	25.45	6	11.76
Severe	7	12.73	3	5.88	14	25.45	13	25.49	5	9.09	1	1.96
Extremely severe	5	9.09	0	0	18	32.73	14	27.45	3	5.45	0	0

Table 7 depicts the level of depression, anxiety and stress among the adolescent girls of urban and rural area of Jammu region. It shows that 14.54% urban respondents have normal level of depression, 23.64% urban respondents have mild level of depression, 40% urban respondents have moderate depression, 12.73% urban respondents have severe depression and 9.09% urban respondents have extremely severe level of depression and in rural area, 31.37% respondents have normal level of depression. 17.65% respondents have mild level of depression, 45.10% respondents have moderate depression and 5.8% respondents have severe level of depression. 7.27% urban respondents have

normal anxiety level, 5.45% urban respondents have mild level of anxiety, 29.09% urban respondents have moderate anxiety, 25.45% urban respondents have severe anxiety and 32.73% urban respondents have extremely severe anxiety whereas in rural area, 11.76% respondents have normal level of anxiety, 9.80% respondents have mild level of anxiety, 25.49% respondents have moderate anxiety, 25.49% respondents have severe anxiety and 27.45% respondents have extremely severe level of anxiety. In urban area, 41.28% respondents have normal level of stress, 18.18% respondents have mild level of stress, 25.45% respondents have moderate level of stress, 9.09% respondents have severe level of stress and 5.45% respondents have extremely severe level of stress and in rural area, 41.18% respondents have normal stress level, 45.10% respondents have mild level of stress, 11.76% respondents have moderate level of stress and 1.96% respondents have severe level of stress.

### **Interpretation discussion and conclusion.**

Women are the pillars of family and society. Wellbeing of family and social health at large depends on the wellbeing and pillar of the family i.e women fulfillment. Their health and socio-cultural needs gratification has direct impact on the physical, mental, and psychological health of members of the family members. One of the most critical periods of a woman's life is adolescence which is an onset menstruation as well as beginning of many developmental milestones which has significant impact on the persona of a women. These days this area has received significant attention and research on this area has gained impetus. Nearly all related aspects menstruation is given importance and given equal focus in the research endeavor's undertaken in the field. Despite the fact that mensural and related issues are so important and they have direct impact on the overall health, yet they are not discussed enough due to the taboos attached to the issue. Menarche is a physiological and developmental phenomenon significant in the life of a female. It occurs between 8 and 15 years of age. The present study reveals that the mean age of female sampled respondents is 11 years and 10.2 years (urban and rural adolescent girls). The average of menarche age of the sampled girls is observed as 8.2 and 7.6 years among urban and rural respondents respectively. This clearly indicates that rural girls in Jammu achieve early menarche as compared to urban teenage girls. However, a deeper concern still hits all is that the trends of menarche in other parts of India are much higher. In a study conducted by Shan bhag et al., 2012 found that average menarche age for adolescents in Bangalore is 13.4 years. Khanna et al, 2017 found menarche amongst adolescent girls in Rajasthan was 13.2 years. It certainly is a matter of concern to probe at deeper level reasons for lower menarche age in Jammu region.

Early puberty is also known as precocious puberty signifies having signs of puberty such as the development of breasts, pubic and hair under arm. It also includes higher menstrual bleeding than usual. Early puberty leads to a lot of psychological problems and physical discomfort for the girls as mind and body are not mature enough to deal with the changes, not to forget the massive mood swings, PMS-like symptoms and other 'teen emotions'.

Rustagi V (2009), esclaim that "early puberty leads to the development of sexual urges at an early age. This can be dangerous as the girl is not mentally mature enough to understand and constructively channelize these urges."

The girls hitting puberty early due to multi factorial reasons like lifestyle, environmental contamination & social factors but before linking it to these factors, one should rule out pathological conditions by taking the girl to the doctor.

Venugopal. R (2011) lists factors that are responsible for the girls hitting puberty so early.

- Increasing childhood obesity due to sedentary life style and unhealthy food habits.
- Eating poultry food and meat treated with hormones and antibiotics. Eating genetically engineered vegetables and cereals.
- Synthetic chemicals in plastics like Bisphenol A (BPA).
- Pesticides.
- Dichlobenzene in moth balls and solid blocks of toilet bowl and air deodorizers.
- Intense stress in childhood or child is sensitive to conflict around her.
- Fluoride which is added to most public water supplies reduces the level of circulating melatonin and triggers early onset of puberty.

Hence, it is important to educate our girls early so that when they attain menarche they are in no fear, anxiety or misconception regarding menstruation. In the present study as indicated in numerous studies mothers was the first informant to girls. When a girl experiences menarche there is a feeling of anxiety and nervousness. Girl child receives most of the information about menstruation from her mother who in majority of our cases are illiterate or just have primary schooling. Hence, little guidance is given and lack of healthy education programmes in school added to the gravity to the situation. There is a need to educate the mothers as well for significant positive changes. The schools should add health education in the curriculum so that the adolescents know the changes they are going through.

Most of the girls in the study were not aware of the reason for having menstruation. Significantly large number of urban girls i.e nearly 63.64% and approx. 39.21% rural girls did not know the correct cause of menstruation. Although 58.18% urban and 45.09% rural girls knew the correct source of menstruation. Though large number of 66.67% girls still opined to the age-old belief system which is partially true also that mensural flow being the passage of impure blood. Girls unawareness with regard to the time interval between two menstrual cycles is certainly a cause which call for awareness programmes in the area for obvious reasons. More than fifty percent girls being clueless about the menstruation before they attain is still a worrisome issue. 64.71% rural girls opined that pain during mensuration as a sign of sickness is matter which needs thorough understanding. This indicates that menstruation is still regarded as something impure in our society and the myths and misconceptions are running down the generations.

Around 50% girls admitted/reported being absent from school during menstrual cycle. This was due to the lack of privacy and non-availability of clean toilets and disposal facilities in the schools. In a study by Neilsen, (2010), conducted in India, reported that inadequate protection during the days of the menstrual cycle forces adolescent girls miss 5 days of school in a month (50 days annually) and 23% of girls drop out of school after they start menstruating. Our schools need to have better sanitation facilities for menstrual management. School absenteeism not only is detrimental to academic performance but also reinforces a negative attitude towards menstruation.

Study revealed that 55.26% and 68.29% rural and urban girls used sanitary pads. This may be due to the fact that although the girls did not belong to affluent families but due to the urban location of the area the sanitary pads were easily available. In a study by Kendre and Ghattegi (2013), in Solapur usage of sanitary pads was very less in girls from slum areas (1.4%) as compared to non-slum areas (97.73%). In present study 94.74% rural girls had daily baths and the rest bathed on 2<sup>nd</sup> day of menses whereas in case of urban area 65.85% girls had daily bath and the rest bathed on 2<sup>nd</sup> or 3<sup>rd</sup> day of menses. This showed the lack of knowledge regarding menstrual hygiene amongst these 34% girls. This was related to socioeconomic and educational status of the family. Juyal et al., (2014) highlighted

that issues associated with menstruation were never discussed openly and this burdens young girls by keeping them ignorant of this biological function. Sommer et al., (2013), highlighted that menstruation remains a taboo in many societies and educational MHM materials are still rare. Both teachers and students often lack knowledge about puberty and menstruation hygiene management. Menstruation in our country is associated with various myths and restrictions leading to lack of awareness among adolescent girls. Insufficient knowledge about the menstrual hygiene practices are the causes of stress associated with menstruation and reproductive tract infections. The study showed that the level of depression is moderate and mild among the urban and rural respondents respectively. Though its hurting that the level of depression among the urban girls is moderate which is serious indication and threat to the society. Also, the study showed that the level of anxiety and stress is severe and mild respectively among the adolescent girls of both areas. As the study showed that all the adolescent girls feel scared have feeling of discomfort and are emotionally disturbed when they attain their menarche. The findings of the present study showed that the highest prevalence of signs of uneasiness was during bleeding (nearly all girls reported so). Prevalence of negative signs such as uneasiness during menstruation specially during when bleeding was at peak were observed to be higher in the present study. About the prevalence of menstruation signs in various parts of the world with different cultures and races, Derman's (2004) study reported the prevalence of pre-menstruation signs as 61.4% among female students in Turkey. In addition, Vichin (2006) reported the prevalence of pre-menstruation signs as 59% among 13-18-year-old students in the USA. The obtained result also showed that the problem of abdominal pain, weakness and back pain were common during bleeding. Meanwhile, the most reported menstruation signs among students were abdominal cramps (46.5%), low back pain (28.4%), acne (21.4%), and tender breasts (17.5%) in Lee's (2011) study. Chang et al. (2009) reported the most common signs as dysmenorrhea, acne, and tiredness. In the study of Chen et al. (2005), abdominal cramps, tiredness, low back pain, abdominal bloated feeling, and tender breast were reported as the symptoms. Soheila Mohamadirizi and Masoumeh Kordi (2013) study showed a positive correlation between menstruation signs in pre-menstruation, during bleeding, and post menstruation periods and signs of depression, anxiety, and stress; therefore, an increase in menstruation signs increased the intensity of depression, anxiety, and stress. Lonelli (2010) showed a positive correlation between pre menstruation signs and depression, anxiety, and stress disorder.

Rakhi Jain, Puneet Anand and deshant (2014) observed that there are lots of issues to be addressed at various levels. It revealed that menstrual hygiene awareness is only satisfactory among adolescent girls and emphasizes the need for school adolescent health or sex education programs. It will also be helpful in empowering the girl child. Health education programs need active participation of mothers so that they can break all barriers and discuss this topic with their adolescent daughters and make them confident in dealing this transition phase. Also, teachers need to be adequately trained for imparting well-directed, continuous reproductive health education knowledge in schools to adolescent girls which increase their awareness on menstrual practices, sexuality and puberty-related concerns and removes traditional beliefs and myths associated with menstruation.

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