

Menstrual Awareness, Attitude and Associated Psychological Distress among Urban and Rural Girls of Western Uttar Pradesh: Evidence from Greater Noida

Rashmi Sen¹, Abhijit Pathak^{2*}, Preetika Badgujar³

ABSTRACT

Background: Menarche and menstruation are indications of a girl's puberty but not always pleasant and accompany lots of social restrictions guided by taboo and unawareness around it. **Aim:** The present study aims to find out the level of awareness, psychological distress and type of attitude held by rural and urban adolescent girls of Greater Noida Uttar Pradesh. **Methodology:** A sample of 30 girls was drawn from 2 schools in an urban and rural part of Greater Noida. A sociodemographic datasheet, an interview schedule on awareness towards menstruation, Adolescent Menstrual Attitude Questionnaire (AMAQ) and Kessler Psychological Distress Scale (K-10) was used to distinguish attitude, awareness and distress of rural and urban adolescent girls. **Results:** Overall, rural girls have a more positive attitude towards menstruation than urban adolescent girls after the result was reported to be significant at 0.05 level on Student T-Test. However, there is no significant differences have been found in distress and awareness of rural and urban adolescent girls. Further research with a robust sample size and in more districts of Western Uttar Pradesh will yield significant findings and will give more insight into the attitude and associated practices among teenage girls on menstruation.

Keywords: Attitude, menstrual awareness, psychological distress, adolescents, urban, rural

INTRODUCTION

Adolescence is a significant milestone where a child from late childhood enters into puberty. Both boys and girls experience major alterations and changes in the body. These changes occur in physical, psychological and cognitive aspects. This is the stage where gender roles are identified. Boy's experiences hair under armpits, pubic region, hair on face and thin line of hair above lips as an indication of moustache and natural attraction towards female leading to ejaculation and masturbation. Girl's experiences enlargement of mammary glands, pubic hairs, hairs under the armpit, broadening of hips, fallopian tube, uterus and vaginas also enlarge. Apart from such changes, the change that occurs abruptly and is only experienced by girls is menarche, the first onset of the menstruation cycle.

Menarche denotes physical maturity and fertility. Menstruation is a normal cycle that lasts for 3 to 5 days and occurs after a length of 28 days in the normal span (Mayo Clinic, 2018). It has been observed through many studies that the age of onset of menarche has gradually declined over the centuries. Which was between the age of 16-17 has now between 10-14. The reason for such decline has been a recent rise in the standard of living, access to quality health care, easy availability of food than before or simple rise in socioeconomic status and increase in education & awareness and favourable natural environment. Thus, this trend and associated factors show the pace of development experienced globally in the last couple of centuries (Evans & Helene, 2016; Dambhare et al., 2012; Goon et al., 2010; Ersoy et al., 2005; Bagga & Kulkarni, 2000; Adadevoh et al., 1989; Zacharias et al., 1969). Brooks-Gunn & Peterson (1983)

¹Psychologist, Rama De-Addiction & Rehabilitation Centre- New Delhi, India

²Research Scholar, Department of Humanities and Social Sciences, National Institute of Technology Rourkela, India * Email: abhijitpathak29@gmail.com

³Assistant Professor, Department of Psychology, Institute of Home Economics, Delhi University, India

proposed that a girl's body requires a certain amount of fat before menstruating; good food availability leads to faster accumulation of fat, resulting in earlier onset of menstruation.

Nevertheless, menarche often becomes dramatic, meaningful and may leave a positive or negative scar in young adolescent girls. Such transformation in the psycho-sexual stage may often be unwelcomed by the young ladies. Menstruation blood flow from the vagina can bring anxiety, excitement, and fear in the pre-menarche phase and complain of sickness and shame in post menarche phase (Stubbs, Rierdan & Koff, 1989).

Twentieth-century psychoanalysts like Thompson (1942) & Deutch (1944) claimed that menarche and menstrual cycle are unpleasant events that they wanted to avoid since it snatches their freedom. Imposition of certain restrictions on them by culture and society they are living harms their self esteem since 'menarche' is a taboo in society and forbidden to be discussed. Thus, it make the teen clueless, causes anxiety among them, which further concretises their concepts of something ominous and bad; perceived dangerous by them, preventing them to acknowledge their sexuality.

In India, Muslim women are prevented from entering the mosque, not touching the Quran, or keeping a fast in Ramadan during menstruation (Fetohy, 2007). In Hinduism, females experiencing menstruation are termed "polluting agents" thus prevented from cooking, forbidden in religious gatherings (Ten,2007). Malwi & Pilliteri (2011) conducted a pilot study in seven secondary schools. They found that females teen imposes self-restriction to attain school during menstruation cycle and even other children were instructed not play with the teens. They were also advised by the elders to teens under the menstruation cycle to take a separate bath. Such practices and beliefs strengthen the negative attitude towards the menstrual cycle. The prohibition of discussion and grapevine information cements the maladaptive thoughts on menarche and menstruation.

Cultural Perception on Menstruation

Several factors shape the attitude towards menarche & menstruation. The culture in which an individual grows their mindset is framed accordingly. A person's belief system, values and behaviour are determined by the culture (Delaney et al., 1988). So as for menarche and menstruation, many cultures, religions, and societies have not taken this biological process positively, and an open talk on it is completely forbidden. Thus, taboo got associated with menarche and menstruation.

The Indian society is not free from this stigma and leaves no chance to punish and ostracising adolescent girls during the menstrual cycle. Patil et al. (2011) did a cross-sectional study to find out the myths and misconceptions associated with menstruation from villages of Pondicherry. A total of 339 households were included, in which one adult has been interviewed from each household using a pre-structured questionnaire. It was found there was no significant difference in opinion between the illiterate and literate on this issue, and 97.8% illiterate, and 90.2% literate were agreed on the prohibition of women entering into the kitchen, temple and sleeping on the bed. People cements their justification by referring to their religious texts (Chawla., 2014). The duality of society can be seen in this perspective that holding such misconceptions, they understand menstruation as a sign of maturity to reproduce. Therefore, patriarchy which is unequal to women, forces them to leave their school to be married or assist at home (Khanna et al., 2005).

Common Mental Disorder & Menstruation

Restrictions imposed by culture generate a more negative attitude on the pre and post menstruation period, leading to the development of Common Mental Disorder among teenage school girls. Mohamadirizi & Kardi (2013) did a cross-sectional study on 407 high school girls in Mashhad (Iran) through two-step random sampling to find the association between menstruation signs and anxiety, depression and stress in school girls in Mashhad in 2011-2012. Depression, Anxiety and Stress Scale of 21 questions (Dass-21) was used. The result showed that the majority of adolescents had anxiety, depression and stress, i.e. 44.3%, 45.5% and 47.2%, respectively. Pearson's Correlation Coefficient showed a significant relationship between menstruation signs and depression, anxiety and stress. Another study was conducted by Quraishi et al. (2015) to find out the association of menstrual problems with mental health. The study conducted with 605 college girls of Sangli district of Maharashtra were samples collected through cluster random samples technique and binary logistic regression was used to predict mental health problems through menstrual problems. It was found that embarrassment due to body type, body image, social phobia associated with menstruation has caused anxiety and depression, worsening menstrual problems. Thus, the social construct needs changes through knowledge and awareness generation.

Knowledge of Menstruation

Knowledge on menstruation is determined by the source of information a girl gets, how rich the source is, and how much cultural taboos influence that source. Across the world, mothers are the main source of information regarding menarche & menstruation (Abioye- Kuteyi, 2000; Mahon & Fernandes, 2010; Fetohey, 2007). In most cases, mothers transfer stigma rather than comforting their child on the episodes of menstruation (Adinma & Adinma, 2008).

Mother or jointly say parent level of knowledge and attitude is directly proportional to the attitude and awareness of the girls on menstruation (Aniebue et al., 2009). The study conducted on 500 girls in Nigeria by Aniebue et al. (2009) stated that or linked the knowledgeable parents had transferred scientific knowledge to their daughter before menarche. Coming back on cultural taboos that have been taught from generation to generation also had a stronghold on teachers. Therefore, they skip topics related to menstruation while teaching in school (Mahon & Fernandes, 2010), thus concretising cultural beliefs. Thus promotion of objective & scientific knowledge and behaviour change on menstruation is a need of time. Through their paper, Das Gupta and Sarkar (2008) proposed to include Menstrual Hygiene Management in school for adolescent girls' knowledge generation. But universal coverage still looks unfeasible dream.

Menstruation and Socio-economic Status

Knowledge of menstruation and cultural stigmas vary due to socioeconomic status. Thakur et al. (2014) conducted a study to assess the knowledge, practices, and restrictions of menstruation among young women from low socioeconomic communities in Mumbai, India. Through both quantitative and qualitative approaches, they found cultural restriction, limited knowledge, and ill menstrual management have led to various health problems. Another study from across the continent also shared the same result (Boosey et al., 2014). Socioeconomic status is a predictor of other attributes related to menstruation. Moffit et al. (1992) had stated that continuous stress due to socioeconomic turmoil could lead to early puberty and teenage pregnancy. Similar studies also predicted the same (Blum et al., 2000; Richardson, Radziszewika, Dent & Flay, 1993). Many studies predicted the onset through socioeconomic status, but studies were rare and could talk about the adjustment to menarche as per socioeconomic background. The study conducted by Benjet & Hernandez- Guzman (2002)

stated that girls from higher class had received more positive messages leading to favourable acceptance to menarche and vice versa.

The summarisation of the entire discussion states attitude is being shaped in both ways, i.e. positive and negative, and it is directly proportional to the knowledge or awareness provided before menarche, age, duration of the cycle and cultured norms and practices (Busari, 2012; Morrison et al., 2010; Roberts, 2004; Koff & Rierdan,1995). Regarding menstrual hygiene, Thakre et al. (2011) strictly emphasise that menstrual hygiene practices are majorly influenced by socioeconomic status and residential status, i.e. rural-urban.

Thus, the study aims to look out the differences in awareness, attitude and associated psychological distress on menarche and menstruation among urban and rural girls and hypothesise 1) there is a high low awareness, negative attitude and higher psychological distress on menarche and menstruation; 2) there is a difference in the attitude, awareness and psychological distress level of urban and rural teenage girls on menarche and menstruation..

METHODOLOGY

Study Area: The current study is a cross-sectional study conducted in the Gautambudh Nagar district of Uttar Pradesh, in the Aprils and May 2019.

Sample: A total of 30 respondents from two schools (where female adolescents girls from Urban and Rural area come to study) were taken in the study with the inclusion and exclusion criteria as follows:

Inclusion: Respondents must be in the age between 10-18 years. Girls who had given consent for being the respondent of the study.

Exclusion: Girls below the age of 10 and above the age of 18 were excluded from the study. Girls who have not reported menarche at the age of 10 is excluded in the study. Adolescent girls having problems in communication due to physical and developmental disabilities were excluded.

The researcher used a convenient sampling technique while selection of schools and purposive sampling in selection of respondents.

Measures

- *Socio Demographic Data Sheet:* A social demographic data sheet is a tool which helps in recording socio- demographic variables like sex, marital status, age, caste etc.
- *Semi Structured Interview Schedule on Menarche & Menstruation:* A semi – structured interview schedule was developed to record the level of awareness and existing practices which might be influenced by culture and community related to menstruation and hygiene management. These question were 1) Do you have the knowledge of menstruation? 2) What is the source of your information? 3) Is there any availability of toilet in your house? 4) what are the ways you use to clean your private part? 5) what kind of absorbers do you use during menstruation cycle?
- *Adolescent Menstrual Attitude Questionnaire:* The Adolescent Menstrual Attitude Questionnaire (AMAQ) (Morse, Kieren, & Bottorff, 1993) is a scale developed to assess menstrual attitudes of both pre- and post menarcheal adolescents. We have used the hindi version of this questionnaire developed by Kapoor and Khari (2016) and it consist of 30 items on 3 point likert scale (1 being disagree, 2 as neutral and 3 as agree). The 30 items divided into five sub scale which covers preparedness before menarche and menstruation (8 items; Cronbach alpha .88), secrecy (7 items; Cronbach alpha .88), pleasantness (6

items; Cronbach alpha .59), annoyance (4 items; Cronbach alpha .30), worrying thoughts (5 items; Cronbach alpha .891).

- *Kessler Psychological Distress Scale*: The researcher will be using the Kessler Psychological Distress Scale (K10). It is a tool that measures the degree of psychological distress. This scale involves 10 questions on various emotional states with five level of response scale. Thus this scale is able to spot the distress in each individual patient. The tool can be given to the respondent to complete or the practitioner or researcher can read the question for the respondents. *Scoring Instruction*: Each emotion is scored from 0”none of the time” to 4 “all the time”. Scores of the 10 emotional states are then totalled, yielding a minimum score of 10 and a maximum score of 50. A low scores indicate low levels of psychological distress and vice versa with an excellent reliability score (0.90 Cronbach alpha). *Interpretation of scores*- The 2001 Victorian Population Health Survey adopted a set of cut- off scores that may be used as a guide for screening for psychological distress. These are discussed as follows: Acore range = 10-19 - Likely to be well, 20-24 – Likely to have a moderate disorder, 25-29- Likely to have a moderate disorder and 30-50- Likely to have a severe disorder.

Procedure for data collection: The researchers went to the chosen schools after taking permission from the school authority. We met the respondents and asked for their consent to be part of the study. After that, we interviewed under the supervision of teachers. The respondents were asked to fill the Socio-demographic Data Sheet, AMAQ and Semi-Structured Interview Schedule.

Data Analysis: Statistical Package for the Social Sciences (SPSS) Windows Version 16.0: SPSS Inc., Chicago (IL), US was used to compute frequency and percentage of the sociodemographic data of the respondents. To find out the differences in attitude, awareness and distress level between the adolescent girls living in rural and urban area, Independent Sample T- Test has been used. Pearson correlation has been used to find out the correlation between attitude, awareness, distress and sociodemographic variables. Further, regression analysis had been carried out to study the relationship among awareness and attitude, income and attitude and attitude and distress of the adolescent girls.

RESULTS

Social Demographic Profile of the Respondent

The table 1 shows the demographic data of two groups i.e. rural and urban adolescent girls of Gautam Budh Nagar of Western Uttar Pradesh. In which general, OBC and SC were 26.7%, 26.7% and 46.7% respectively in rural area and 40.0%, 26.7% and 33.3% in urban area. As per the Age category 6.7% are in early adolescent, 93.3 % in middle adolescent in rural area. In urban, 60% are in middle adolescent group followed by adult group 26.7% and late adolescent i.e. 13.3%. The entire respondents belong to Hindu religion and speak in Hindi language i.e. 100%. In family type, 40% belongs to the nuclear family and 60% belongs to the joint or extended family in rural area whereas, 100% of the respondents belong to the nuclear family in urban area. As per the education most of the rural adolescent girls are studying in 8th and 9th standard i.e. 53.3% and 46.7% respectively whereas, in urban areas 40%, 13.3%, 40% & 6.7% studies in 8th, 9th, 10th and in intermediate. As per the annual income of the family of rural adolescent girls majority of income of this group lies in between 20,000 to 100000, 100001 to 200000, 200001 to 300000 i.e. 73.3%, 20.7% and 6.7% respectively. Whereas for urban group the majority of income lies between 20000 to 100000, 100001 to 200000, 200001 to 300000, 300001 to 400000 & 400001 to 500000 i.e. 26.7%, 26.7%, 26.7%, 6.7% & 13.3% respectively.

Table:1 Socio-demographic Profile of Urban & Rural Adolescent Girls (N=30)

Variable	Categories	Rural (15) F (%)	Urban (15) F (%)
Caste	General	04 (26.7%)	06 (40.0%)
	OBC	04 (26.7%)	04 (26.7%)
	SC	07 (46.7%)	05 (33.3%)
Age	Early Adolescent(10-12)	1 (06.7%)	00 (0.0%)
	Middle Adolescent (13-15)	14(93.3%)	09 (60%)
	Late Adolescent (16-17)	00 (0.0%)	02 (13.3%)
	Adult (18+)	00(0.0%)	04 (26.7%)
Religion	Hindu	15 (100%)	15 (100%)
	Muslim	00 (0.0%)	00 (0.0%)
	Sikh	00 (0.0%)	00 (0.0%)
	Other	00 (0.0%)	00 (0.0%)
Language	Hindi	15 (100%)	15 (100%)
	English	00 (0.0%)	00 (0.0%)
	Other	00 (0.0%)	00 (0.0%)
Family Type	Nuclear	06 (40%)	15 (100%)
	Joint/Extended	09 (60%)	00 (0.0%)
Education	8 th standard	08 (53.3%)	06 (40.0%)
	9 th standard	07 (46.7%)	02 (13.3%)
	10 th standard	00 (0.0%)	06 (40.0%)
	Intermediate	00 (0.0%)	01 (6.7%)
Annual Income	20000 to 100000	11 (73.3%)	04 (26.7%)
	100001 to 200000	00 (20.7%)	04 (26.7%)
	200001 to 300000	01 (6.7%)	04 (26.7%)
	300001 to 400000	00 (0.0%)	01 (6.7%)
	400001 to 500000	00 (0.0%)	02 (13.3%)

Awareness on Menarche and Menstruation**Table:2 Awareness on Menarche and Menstruation among Rural and Urban Adolescent Girls (N=30)**

Group of the Subject	Knowledge of the Menstruation cycle				
	Yes		No		
Rural	11 (73.3%)		04 (26.7%)		
Urban	05 (33.3%)		10 (66.7%)		
Group of the Subject	Source of Information				
	Mother	Sister	Friend	Teacher	Other
Rural	04 (26.7%)	04	07(46.7%)	00	00 (0.0%)
Urban	07(46.7%)	(26.7%) 02 (13.3%)	04(26.7%)	(0.0%) 01 (6.7%)	01 (6.7%)
Group of the Subject	Availability of Toilet				
	Yes		No		
Rural	15 (100%)		00 (0.0%)		
Urban	15 (100%)		00 (0.0%)		
Group of the Subject	Ways of Cleaning Genitalia				
	Water	Soap & Water	Water, Soap & Antibiotic		
Rural	09 (60.0%)	06 (40.0%)	00 (0.0%)		
Urban	06 (40.0%)	07 (46.7%)	02 (13.3%)		
Group of the Subject	Type of Absorber Used				
	Pad	Cloth		Both	
Rural	09 (60.0%)	02 (13.3%)		04 (26.7%)	
Urban	12 (80.0%)	00 (0.0%)		03 (20.0%)	

Data from the table 2 concludes both the group have sufficient amount of awareness on menarche and menstruation. However, in terms of “knowledge of the menstruation cycle”, rural adolescent girls score fairly above urban adolescent girls and urban adolescent girls fairly score above rural adolescent girls in the domain of “ways of cleaning genitalia and type of absorber used.”

Attitude towards Menarche and Menstruation**Table:3 Attitude on Menarche & Menstruation in Rural & Urban Adolescent Girls (N=30)**

Group	Adolescent Menstrual Attitude Questionnaire (Category)		
	Negative Attitude	Towards Positivity	Positive Attitude
Rural	00 (0.0%)	10 (66.7%)	5 (33.3%)
Urban	00 (0.0%)	14 (93.3%)	1 (6.7%)

The table 3 provides an optimistic picture of attitude of adolescent girls towards menarche and menstruation. Both the groups present a positive attitude towards it.

Psychological Distress on the onset and of Menarche and ongoing Menstruation**Table:4 Psychological Distress among Adolescent Girls during Menarche and Menstruation (N=30)**

Group	Kessler Psychological Distress Scale (Category)		
	Likely to be well	Likely to have a Mild Disorder	Likely to have a Severe Disorder
Rural	11 (73.3%)	04 (26.7%)	00 (0.0%)
Urban	11 (73.3%)	03 (20.0%)	01 (6.7%)

The table 4 conclude that the majority of girls irrespective of rural and urban area are well and devoid of any common mental disorder.

Table: 5 Comparison on Menstrual Awareness, Attitude and Distress among Rural & Urban Adolescent Girls (N=30)

Variables	Group	Mean \pm SD	Independent Sample T-Test Value	Sig
Awareness	Rural	7.60 \pm 1.35	-.583	.564
	Urban	7.93 \pm 1.75		
Attitude	Rural	58.20 \pm 8.01	2.343	0.02*
	Urban	51.20 \pm 8.35		
Distress	Rural	14.87 \pm 4.70	-.559	.580
	Urban	16.07 \pm 6.85		

Note: *significant at 95% confidence interval.

Table 5 shows the comparison of mean score of awareness, attitude and distress associated with menarche and menstruation among rural and urban adolescent girls. The mean score of the awareness, attitude and distress are positive but found only significant differences in the attitude, where rural girls had more positive attitudes than urban girls on menstruation.

DISCUSSION

The study aimed to determine the prevalence of awareness, attitude and psychological distress and statistical differences, if any, among the rural and urban adolescent girls. The study's findings revealed that adolescent girls have substantial awareness, positive attitude, and negligible psychological distress. The existing results contradict the previous research conducted in the country's different parts (Rembech et al., 2006; Shoor, 2017). Most of the girls reported that their mother and friends were the major sources of information about these pubertal changes, corroborating the previous studies done in India (Shoor, 2017; Mudey et al., 2010). The study also compared the awareness, attitude and psychological distress. Unlike awareness and distress, the study revealed significant differences in attitude among rural and urban adolescent girls. The rural adolescent girls were more receptive to menarche and menstruation than urban adolescent girls, contradicting the previous studies (Shanbag et al., 2012; Mudey et al., 2010). The following findings indicate the role of government and NGOs in spreading knowledge on menstruation among rural adolescent girls (Geertz et al., 2016; Rashtriya Kishore Swasthya Karyakram, 2014). The study also revealed the better mental health outcomes of adolescent girls, which contradicts the previous findings (Borjigen et al., 2019; Yu, Han, & Nam, 2016). The possibility of having low distress is may be due to the positive attitude shown by the adolescent girls. However, attitude as the determinant of distress is a matter of further enquiry.

The study has shown some optimistic results in the domain of knowledge, attitude, practice, and mental health with certain limitations: 1) The research conducted on a small sample size with convenient sampling technique which restrict the findings to extrapolate to the general population; 2) The social demographic data like caste, family type etc are unmatched which also prevent the researcher to draw more inferences.

Recommendations

- To generalise the findings, the future study should take respondents to multiple districts of Uttar Pradesh.
- Further, higher and robust sample techniques will make possible to run the regression analysis to determine the awareness, attitude and distress level through other sociodemographic variables or by using the variables above as independent and dependent variable for each other.

CONCLUSION

Menarche and menstruation is a transcending feature of the girl child to attain puberty. However, the phase mostly remains unpleasant and societal obligations and moral codes make it more difficult for a girl to withstand menstruation easily. The current findings contradicted the aforementioned scenario, and there is a wider possibility that social programmes run by various NGOs and government agencies are bearing fruit and resulting in the painful phase of menstruation less painful for an adolescent girl child.

REFERENCES

- Abioye- kuteyi, EA (2000). Menstrual Knowledge & Practices among secondary school girls in Ile Ife, Nigeria. *The Journal of the Royal Society for the Promotion of Health*. 120(1): 23-26.
- Adadevoh, S.W., Agble, T.K., Hobbs, C., Elkiins, T.E. (1989). Menarcheal age in Ghanaian school girls. *International Journal of Gynecology & Obstetrics*. 30 (1): 63-8.
- Adinma, E.D. Adinma, J.I.(2008). Perception and practices on menstruation amongst Nigerian secondary school girls. *African Journal of Reproductive Health*. 12(1):74-83.
- Aniebue,U.U., Aniebue, P.N., Nwankwo, T. O. (2009). The impact of pre- enarcheal training on menstrual practices and hygiene of Nigeria School girls. *Pan African Medical Journal*. 2(9), 1-9.
- Bagga, A., Kulkarni, S. (2000). Age at menarche and secular trend in Maharashtra (Indian) girls. *Acta Biologica Szegediensis*. 44(1-4): 53-57.
- Benjet, C., Hernandez- Guzman, L. (2002). A short term longitudinal study of pubertal change, gender, and psychological well- being of Mexican early adolescents. *Journal of Youth & Adolescence*. 31(6):429-442.
- Blum, R. W., Beuhring, T, Shew, M. L., Bearinger, L. H., Sieving, R. E., & Resnick, M. D. (2000). The effects of race/ethnicity, income, family structure on adolescent risk behaviors. *American Journal of Public Health*, 90, 1879-1884.
- Boosey, R., Prestwich, G., Deave, T.(2014). Menstrual Hygiene management amongst schoolgirls in the Rukungir district of Uganda and the impact on their education. A cross- sectional study. *The Pan African Medical Journal*. 19:253.
- Borjigen, A., Huang, C., Liu, M., Lu, J., Peng, H., Sapkota, C., & Sheng, J. (2019). Status and Factors of Menstrual Knowledge, Attitudes, Behaviors and Their Correlation with Psychological Stress in Adolescent Girls. *Journal of pediatric and adolescent gynecology*, 32(6), 584–589.
- Brooks, G.J., Peterson, A.C. (1983). Girls at Puberty: Biological & Psychological Perspectives. Retrieved from <http://www.springer.com/gp/book/9780306411411>.
- Busari, A.O. (2012). Menstrual Knowledge and health care behaviour among adolescent girls in rural, Nigeria. *International Journal of Applied Science and Technology*. 2(4): 149-154.

- Chawla, J.(2014). The Mythic Origins of the Menstrual Taboo in the Rig Veda. Retrieved from <http://www.matrika-india.org/Research/MythicOrigins.html>.
- Dambhare, D.G., Wagh, S.V., Dudhe, J.Y.(2012). Age at menarche and menstrual cycle pattern among school adolescent girls in central India. *Global Journal of health science*. 4(1):105-111.
- Dasgupta, A., Sarkar, M.(2008). Menstrual Hygiene. *Indian Journal of Community Medicine*. 33(2):77-80.
- Delaney, J., Lupton, M. J., & Toth, E. (1988). *The curse: A cultural history of menstruation* (2nd ed.). Chicago: University of Illinois Press.
- Deutsch, H. (1944). *The psychology of women: A psychoanalytic interpretation*. New York: Grune & Stratton.
- Ersoy, B., Balkan, C., Gunay, T., Egemen, A. (2005). The factors affecting the relations between the menarcheal age of mother and daughter. *Child: Care, Health & Development*.31(3): 303-308.
- Evans, P.K.A., Helene, A.G. (2016). Age at menarche and factors that influence it: A study among Female, North Ghana. *PLOS ONE*. 11(5):e0155310.
- Fetohy, E. M. (2007) Impact of a health education program for secondary school Saudi girls about menstruation at Riyadh city. *The Journal of the Egyptian Public Health Association*. 82 (1-2), 105–126.
- Geertz, A., Iyer, L., Kasen, P., Mazzola, F., & Peterson, K. (2016). Menstrual health in India: Country's Landscape Analysis.
- Goon, D.T., Toriola, A.L., Uever, J., Wuam, S., Toriola,O.M. (2010). Growth Status and menarcheal age among adolescent school girls in Wannune, Benue State, Nigeria. *BMC Pediatrics*. 10(1): 1-6.
- Kapoor, A., & Khari, S. (2016). Knowledge, attitude and socio-cultural beliefs of adolescent girls towards menstruation. *Journal of Nepal Paediatric Society*, 36(1), 42-49.
- Khanna, A., Goyal, R.S., Bhawsar, R.(2005). Menstrual practices and reproductive problems. A study of adolescent girls in Rajasthan. *Journal of Health Management*. 7(2): 91-107.
- Koff, E., & Rierdan, J. (1995). Early adolescent girls' understanding of menstruation. *Women and Health*, 22, 1-19.
- Mahon, T., Fernandes, M.(2010). Menstrual hygiene in South Asia: a neglected issue for WASH(Water, Sanitation & Hygiene) programmes. *Gender & Development*. 18(1): 99-113.
- Mayo Clinic. (2018). *Preparing your child for menstruation*. Mayo Clinic. www.mayoclinic.org/healthy-lifestyle/tween-and-teen-health/in-depth/menstruation/art20046004
- Moffitt, T.E., Caspi, A., Belsky, J., Silva, P.A. (1992). Childhood experience and the onset of menarche: A test of a socio- biological model. *Child Development*. 63(1):47-58.
- Mohamadirizi, S., Kordi, M. (2018). Association between menstruation signs & anxiety, depression and stress in school girls in Mashad in 2011-2012. *Iranian Journal of Nursing and Midwifery Research*. 18(5): 402-407.
- Morrison, A.L., Sievert, L.L., Brown, E.D., Rohberg, N., Reza, A. (2010). Relationships between menstrual and health characteristics: The Hilo Women's Health Study. *Women Health*. 50(5): 397- 413.
- Morse, J. M., Kieren, D., & Bottorff, J. (1993). The adolescent menstrual attitude questionnaire, part I: Scale construction. *Health Care for Women International*, 14, 39-62.
- Mudey, A. B., Kesharwani, N., Mudey, G. A., & Goyal, R. C. (2010). A cross-sectional study on awareness regarding safe and hygienic practices amongst school going adolescent girls in rural area of Wardha District, India. *Global journal of health science*, 2(2), 225-231.
- National Health Portal. (2014). Rashtriya Kishore Swasthya Karyakram. National Health Portal. https://www.nhp.gov.in/rashtriya-kishor-swasthya-karyakram-rksk_pg
- Patil, R., Agarwal, L., Khan, I.M, Gupta, K.S., Vedapriya, D.R., Raghavia, M., Mittal, A. (2011). Beliefs about menstruation: a study from rural Pondicherry. *Indian Journal of Medical Specialties*. 2(1):23-26.

- Pillitteri, S. P. (2011) *School menstrual hygiene management in Malawi : More than toilets.* Available from: www.shareresearch.org/LocalResources/MenstrualHygieneManagement_Malawi.pdf.
- Quraishi, S.R., Waghechavare, V.B., Gore, A.D., Dhumale, G.B. (2015). Are Menstrual Problems Associated with the Mental Health? A cross Sectional Study among the Graduation College Girls. *The International Medical Journal Malaysia*.14 (2): 53-60.
- Rembeck, G.I, Möller, M, Gunnarsson, R.K.(2006). Attitudes and feelings towards menstruation and womanhood in girls at menarche. *Acta Paediatr.* 95(6):707-14.
- Richardson, J.L., Radziszewska, B., Dent, C.W., Flay, B.R.(1993). Relationship between after-school care of adolescents and substance use, risk taking, depressed mood, and academic achievement. *Pediatrics.* 92 (1): 32-38.
- Roberts, T.A. (2004). Female Trouble: The Menstrual Self- Evaluation Scale and Women's Self-Objectification. *Psychology of Women Quarterly.* 28(1):22-26.
- Shanbhag, D., Shilpa, R., D'Souza, N., Josephine, P., Singh, J., & Goud, B. R. (2012). Perceptions regarding menstruation and practices during menstrual cycles among high school going adolescent girls in resource limited settings around Bangalore city, Karnataka,India. *International Journal of Collaborative Research on Internal Medicine & Public Health*, 4(7), 1353-1362.
- Shoor, P. (2017). A study of knowledge, attitude, and practices of menstrual health among adolescent school girls in urban field practice area of medical college, Tumkur. *Indian Journal of Health Sciences and Biomedical Research (KLEU)*, 10(3), 249-255.
- Stubbs, M. L., Rierdan, J., & Koff, E. (1989). Developmental differences in menstrual attitudes. *Journal of Early Adolescence*, 9, 480-498.
- Ten, VTA (2007) *Menstrual Hygiene: A Neglected Condition for the Achievement of Several Millennium Development Goals*, Zoetermeer, the Netherlands: Europe External Policy Advisors.
- Thakre, S.B., Thakre, S.S., Reddy, M., Rothi, N., Pathak, K., Ughade, S. (2011). Menstrual Hygiene: Knowledge & Practice among adolescent school girls at Saoner, Naghpur district. 5(6): 1027-1033.
- Thakur, H., Aronsson, A., Bansode, S., Lundberg, C.S., Delvie, S., Faxlid, E. (2014). Knowledge, Practices and Restrictions, Related to Menstruation among Young Women from Low Socio economic Community in Mumbai, India. *Frontiers Public Health*. 2:1-7.
- Thompson, C. (1942). Cultural pressures in the psychology of women. *Psychiatry*, 5, 331-339.
- Victorian Population Health Survey (2001) Melbourne: Department of Human Services, Victoria.
- Yu, M., Han, K., & Nam, G. E. (2017). The association between mental health problems and menstrual cycle irregularity among adolescent Korean girls. *Journal of affective disorders*, 210, 43-48.
- Zacharias, L., Wurtman, R.J.(1969). Age at menarche: genetic and environment influences. *The New England Journal of Medicine*. 280: 868-875.

How to Cite this Article: Sen, R., Pathak, A., & Badgular, P. (2022). Menstrual Awareness, Attitude and Associated Psychological Distress among Urban and Rural Girls of Western Uttarpradesh: Evidence from Greater Noida. *National Journal of Professional Social Work*, 23(2), 146-156.. <https://doi.org/10.51333/njpsw.2022.v22.i2.304>