Available online freely at www.isisn.org

# Bioscience Research

Print ISSN: 1811-9506 Online ISSN: 2218-3973

*Journal by Innovative Scientific Information & Services Network*

**RESEARCH ARTICLE** BIOSCIENCE RESEARCH, 2023 20(1): 64-76. **OPEN ACCESS**

# Adolescent Girls' Psychological problems and attitude during Menstruation. Taif City KSA

**Khadiga Zain Alabdeen Moustafa Mohammed[1,2] and Suheir .A.M.Sayed[1]**

[1]Department of Nursing, Collage of Applied Medical Sciences, Taif University, **KSA**
[2]Lecturer of pediatric nursing, Zagazig University, **Egypt**

***Correspondence:** suheir.a@tu.edu.sa **Received: 04-02-2023, Revised: 05-03-2023, Accepted: 06-03-2023 e-Published: 07-03-2023**

The monthly set of adjustments a female body makes to get ready for the potential of pregnancy is known as the menstrual cycle. Teenagers have a reputation for being temperamental, argumentative, rude, and sometimes all of these things at once. Teenage females are a particularly susceptible population in terms of their health as well as their social position. The authors were inspired to develop the study's objectives since there is currently little discussion on the subject of how menstruation affects adolescent girls' psychological behavior and attitudes, particularly. The study's main aim was to examine how menstruation affected the teenage girls in Taif City's psychological behavior and attitude. A quantitative approach (cross-sectional study) was adopted, and 235 students were participated in the study. The study was conducted from January to April of 2022. The survey employed the Menstrual Distress Questionnaire (MDQ) and the Menstrual Attitude Questionnaire (MAQ). The SPSS V23. application was used to examine the data after they were obtained in a random manner. Pain, attention, behavioral change, autonomic reactions, water retention, negative affect, arousal, and control are just a few of the clusters of symptoms that the development of MDQ represents. Scores on these eight groups of symptoms showed no association between menstrual distress and attitude despite the participants generally had positive attitudes. Reaching a high level of attitude and psychological behavior may be facilitated by the need for additional research to clarify adolescent practice during the menstrual cycle.

**Keywords: Adolescent girls, Menstrual periods, psychological Problems, Attitude**

## INTRODUCTION

The menstrual cycle is the monthly series of changes a woman's body goes through in preparation for the possibility of pregnancy. Menstrual blood flows from the uterus through the small opening in the cervix and passes out of the body through the vagina. Most menstrual periods last from 3 to 5 days (Pardeshi, 2019).

Ovulation is the term for the monthly release of an egg from one of the ovaries. Additionally, hormonal adjustments prepare the uterus for pregnancy. When ovulation occurs but the egg is not fertilized, the uterine lining sheds via the vagina. (Okamoto, 2018). The Periods can be light or heavy, painful or painless, long or short, and yet be deemed normal regardless of whether the menstrual cycle is regular, roughly the same duration every month, or somewhat irregular. "Normal" refers to each woman's normal within a broad range. (Senthikumari, 2018).

In some cases, girls or women can face the experience of Pre-Menstrual Syndrome, also known as Premenstrual syndrome (PMS). Some women experience a range of symptoms known as PMS around the time of their cycles. Back discomfort, impatience, moodiness, feeling depressed or emotional, bloating, and breast tenderness are a few symptoms that may accompany it. (Lata and Lohan, 2018). On the other hand, there are various factors, such as stress, lifestyle, drugs, and some medical disorders, as well as typical hormonal changes associated with aging, that might affect the menstrual cycle dates. (Farland et al. 2017).

Women and girls can also be affected by a strong smell which is most usually caused by bacteria, blood, and tissues leaving the vagina. The presence of bacteria in the vagina is normal, but women should contact a doctor right away if their period odours are accompanied by any strange symptoms. (D'Almeida, Ifthikar and Rao, 2015).

The menstrual cycle, which is not the same for every woman, is typically measured from the first day of one period to the first day of the next. Every 21 to 35 days, and lasting two to seven days, menstruation may occur. (Jasrotia et al. 2018). The beginning day of one period to the first day of the next is commonly used to calculate the menstrual cycle, which varies for every woman. Menstruation can happen every 21 to 35 days and persist for two to seven days. (Gordon & Girdler, 2014).

Any person between the ages of 10 and 19 is

considered an adolescent by the World Health Organization (WHO). Adolescence is often thought of as a stage of physical and mental development that takes place between puberty and the age of legal adulthood (age of majority)(Knopf, 2015). There are many key physical changes in puberty which include breasts will start developing, the hair will start growing underarms, the girls become taller and the body shape will change (O'Donohue, Benuto & Tolle, 2013).

Additionally, pubic hair will begin to develop and get darker and thicker over time. Additionally, females may have a clear or yellowish discharge from their vagina for several months prior to the start of their periods. (The Lancet Child & Adolescent Health, 2018). Additionally, she may get headaches or stomach cramps prior to and during her period, and initially, her cycles may be erratic. The authors will concentrate on the adolescent girls between the ages of 13 and 15 in respect to this study group. (Arnold & Depew, 2018).

Adolescents have a reputation for being surly, uncommunicative, moody and argumentative, sometimes all at the same time. These behaviors, when exhibited from time to time, maybe normal for teens because being a teen is tough (Guha, P. 2019). Biological growth and development, an ambiguous position, increased decision-making, increasing demands, and the quest for identity are the five main features of adolescence. (Gordon & Girdler, 2014). Changes in hormone levels are thought to be the underlying process. With minor symptoms, the only usual advice is to increase exercise while reducing salt, coffee, and stress. Supplementing with calcium and vitamin D may be helpful in some cases. Naproxen and other anti-inflammatory medications may be helpful for physical discomfort. (Wiebe, E., Jaffar, S., Zelmer, J. and Byczko, B. (2015).

Adolescents represent great potential human resources for the overall development of a nation. Presently, almost 1 in 5 persons in the world is an adolescent, which is 1.2 billion people between the ages of 10 and 19 years, accounting for 17 percent of the global population. The findings of the study of (Al Omari et al. 2016) indicated the relationship between increasing of knowledge and improving the attitude of the participants because whatever girls have more knowledge about the reproductive system, and its functions, positive feelings of them will increase (Al Omari et al. 2016). Currently, there is limited discussion about issues of effects of the menstrual periods on the psychological behavior and attitude of the adolescent girls especially in Al Taif City which motivated the authors to create the aim of this study.

## MATERIALS AND METHODS

## METHOD

### Design

The design of this research used a quantitative method. It is a type of descriptive study that analyses data collected from a population by using a cross-sectional study. Due to this, a survey (questionnaire) was used in order to achieve the aim of this study.

### Setting and Sample

The data were collected from 235 girls from January to April 2022 and the survey has distributed electronically through google drive link. Social media was used to distribute the link with a small message which explained the aim of the study and the qualifications of the researchers. The survey was targeted the intermediate schools located in Taif City in order to discuss the adolescent girls' attitude and psychological behavior during menstrual periods.

### Inclusion criteria

The authors set inclusion criteria for the targeted group which includes

1- Girls aged 13 to 15 years.
2- Girls who have started their menstrual cycle.
3- Girls who speak and read Arabic language.
4- No specification of their social status.

### Exclusion criteria

The characteristic of the girls who should not be involved in the survey are:

1- Girls less than 13 or over than 15 years.
2- Girls who did not start their menstrual cycle.
3- Girls who did not speak or read Arabic language.

### Tools of data collection

The questionnaire divided into three parts. The first one has divided into two parts which are the basic data (demographic data) and menstruation history. The demographic data includes

(Age, Education level, Residence, Marital status and the Number of children). The second part includes the menstrual history of participants which have an include (Age of menarche by years, Regularity, Duration by days and Amount of the menstruation). The second part discussed the Menstrual Distress Questionnaire (MDQ) (Moos, 1968) which is the most extensively criticized instrument for assessing premenstrual symptomatology, and as it is the most widely used instrument for assessing such, there is a real need to assess its many criticisms such as this study.

Brooks- Gunn and Ruble developed in 1980 in New York an instrument, so as to examine the relationship of attitudes about menstruation, through self-reports of menstrual-related symptoms, with other sides of behavior. A lot of researchers used Menstrual Attitude Questionnaire (MAQ), with the purpose of comparing the psychometric properties among different cultures and draw inferences about the beliefs of women which motivated the researchers to include this instrument in the questionnaire as a third part. The multiple-choice answer

was 1- Strongly agree; 2- Agree; 3- Neither agree nor disagree; 4- Disagree and 5- Strongly disagree (Brooks-Gunn & Ruble, 1980).

The researchers used a professional translator in order to translate the questionnaire to the Arabic language. Then, validating the questions on the expert group of nurses in order to measure the time and understanding of the questions were done.

**Data collection and analysis**

Samples were collected from January to April 2022 and data were collected from 233 girls and the survey has distributed electronically through google drive link. Social media was used to distribute the link with a small message which explained the aim of the study and the qualifications of the researchers. The participants had the right to withdraw before answering questions. Thus, they had ticked a choose of approval before on that to be like an agreement between the authors and the participants to include their answers in the study. The questionnaire was opened for one week until the data saturation and the targeted number of participants was reached.

Then, the data were analyzed through the Excel sheet in order to encode all data. SPSS v23 was used to find out the result relating to the demographic data of the targeted group and find out the effect of menstrual periods in the psychological behavior and attitude on the targeted group. In order to get the correlation between the MDQ and MAQ relating to the demographic data, the researchers used ANOVA, Chi-square and T test. Organized tables were used to categorize the three parts of the questionnaire which was precise to help the researchers to analyze the results part.

**Ethical consideration**

The study had obtained the ethical clearance from ethical committee at Al -Taif University No (43-417) before data collection. No potential identifiers such as name, email or phone no. At the outset of the questionnaire, participants were questioned for their agreement.

Message for explaining the major aim of the research was written at the beginning of the survey in order to give the participants clarifications about the research. By agreeing to answer the survey, that has considered as approval of the participants to involving in the study. Additionally, all of the collected data were kept with the researchers in order to protect persons' confidentiality who involved in this study.

**RESULTS**

Table (1) shows demographic data of the studied sample, it is revealed from the table that the mean age of the participants was 14.42±0.72 years. 57.93% of them were in grade 8. In relation to residence 81.27% of them live in rural areas. Concerning number of sibling 62.66% of participants have less than five siblings. In relation to birth order 35.19% were the fourth and above.

**Table 1: Demographic data of the studied sample**

| Categories | N=233 | % |
|---|---|---|
| **Age of menarche (years)** | | |
| **<12** | 85 | 36.48 |
| **12** | 46 | 19.74 |
| **>12** | 104 | 44.63 |
| **Regularity** | | |
| **Regular** | 89 | 38.19 |
| **Irregular** | 146 | 62.66 |
| **Duration (days)** | | |
| **<3** | 5 | 2.14 |
| **3-7** | 29 | 12.44 |
| **>7** | 201 | 86.26 |
| **Amount** | | |
| **Less than average** | 12 | 5.15 |
| **More than average** | 18 | 7.72 |
| **Normal** | 205 | 87.98 |

**Table 2: Menstrual history of participants**

| Categories | N=233 | % |
|---|---|---|
| **Age (years)** | | |
| **13-** | 31 | 13.30 |
| **14-** | 74 | 31.75 |
| **15-** | 130 | 55.79 |
| **Range** | 13-15 | |
| **Mean±SD** | 14.42±0.72 | |
| Education Level | | |
| **Grade 7** | 35 | 15.02 |
| **Grade 8** | 135 | 57.93 |
| **Grade 9** | 65 | 27.89 |
| Residence | | |
| **Urban** | 44 | 18.72 |
| **Rural** | 191 | 81.27 |
| Number of siblings | | |
| **1 - 4** | 146 | 62.66 |
| **> 5** | 75 | 32.18 |
| **None** | 14 | 6.01 |
| Birth order | | |
| **First** | 52 | 22.31 |
| **Second** | 55 | 23.60 |
| **Third** | 46 | 19.74 |
| **Fourth and above** | 82 | 35.19 |

**Table 3: Menstrual Distress Questionnaire (MDQ)**

| Categories | N=233 | % |
|---|---|---|
| **1.Pain** | | |
| **Muscle stiffness** | 65 | 27.89 |
| **Headache** | 20 | 8.58 |
| **Cramps** | 5 | 2.14 |
| **Backache** | 108 | 46.35 |
| **Fatigue** | 25 | 10.72 |
| **General aches and pain** | 10 | 4.29 |
| 2.Concentration | | |

| | | |
|---|---|---|
| **Insomnia** | 84 | 36.05 |
| **Difficulty concentrating** | 35 | 15.02 |
| **Lowered judgment** | 37 | 15.87 |
| **Forgetfulness** | 17 | 7.29 |
| 3.Behavioural change | | |
| **Take naps; stay in bed** | 104 | 44.63 |
| **Stay at home** | 38 | 16.30 |
| **Lowered school or work performance** | 10 | 4.29 |
| **Decreased efficiency** | 42 | 18.02 |
| **Avoid social activities** | 39 | 16.73 |
| 4.Autonomic reactions | | |
| **Dizziness, faintness** | 46 | 19.74 |
| **Cold sweats** | 47 | 20.17 |
| **Nausea, vomiting** | 88 | 37.76 |
| **Hot flashes** | 52 | 22.31 |
| 5.Water retention | | |
| **Painful breasts** | 120 | 51.50 |
| **Skin disorders** | 20 | 8.58 |
| **Swelling** | 22 | 9.44 |
| **Weight gain** | 71 | 30.47 |
| 6.Negative affect | | |
| **Restlessness** | 5 | 2.14 |
| **Depression** | 20 | 8.58 |
| **Crying** | 44 | 18.88 |
| **Tension** | 9 | 3.86 |
| **Loneliness** | 8 | 3.43 |
| **Anxiety** | 12 | 5.15 |
| **Mood swings** | 116 | 49.78 |
| **Sensitive** | 19 | 8.15 |
| 7. Arousal | | |
| **Active** | 31 | 13.30 |
| **Organized** | 20 | 8.58 |
| **Affectionate** | 24 | 10.30 |
| **Feelings of well-being** | 81 | 34.76 |
| **Bursts of energy, activity** | 77 | 33.04 |
| 8. Control | | |
| **Chest pains** | 73 | 31.33 |
| **Feeling of suffocation** | 34 | 14.59 |
| **Numbness, tingling** | 47 | 20.17 |
| **Heart pounding** | 32 | 13.73 |
| **Blind spots, fuzzy vision** | 39 | 16.73 |
| **Ringing in the ears** | 8 | 3.43 |

The MDQ assessed eight premenstrual symptomatology which includes (pain, concentration, behavioral change, autonomic reactions, water retention, negative affect, arousal and control). All of the eight premenstrual symptomatology has different percentages among girls which shown [Table 3]. The highest pain complained was with 108 girls (46.35%) is a headache while 5 girls (2.14%) complained from cramps. The effectiveness of the concentration shown 84 girls (36.05 %) complained of insomnia but 17 girls (7.29%) complained from forgetfulness. Their behavior changed according to 104 girls (44.63%) wanted to stay in bed or take naps, but 10 girls (4.29%) have lowered school or work performance. Autonomic reactions appeared by nausea and vomiting for 88 girls (37.76%) and dizziness with faintness for 46 girls (19.74%). The water retention affected 120 girls (51.50%) as pain on breasts while the skin disorders affected 20 girls (8.58%). The restlessness has affected 5 girls (2.14%) and mood swings have appeared with 116 girls

(49.78%) due to factor of negative affect. 20 girls (8.58%) felt organized but 81 girls (34.76%) felt of well-being from the perspective of arousal effect. 73 girls (31.33%) could not control their chest pain and 8 girls (3.43%) complained of uncontrol ringing in the ears.

The analysis of the thirty-three questions which is connected to the attitude of the participants was shown in [Table 4]. All of the attitudes have significant results unless item X14 which discussed this question (in some ways I enjoy my menstrual periods) with p=value 0.157, mean= 2.60 SD=1.177 and rank= 29. However, for the highest rank shown with item x23 which discussed this question (I can tell my period is approaching because of the breast tenderness, backache, cramp or other physical signs) mean= 4.240, SD=1.005, p=value <0.001*. The low rank was showed on item x27 which discussed this question (Other should be critical of a woman who is easily upset before or during menstruation) mean= 1.815, SD=1.036, p=value <0.001*.

**P-value** = <0.001*

### 4.4. Correlation analysis

[Table 6] displays the correlation between MAQ and demographic information. However, there was no discernible connection between individuals' attitudes and their demographic information. The on-board p=value 0.058 was linked the single girls while the highest p=value 0.809 was related to age. Additionally, [Table 7]'s participants' MAQ scores and menstrual history did not significantly correlate with one another. The correlation between the MDQ and MAQ was presented in [Table 8]. There was no significant connection in any of the eight categories; the only category with a significant value with a p value of 0.05 was the negative effect component.

**Table 4: Distribution of the participants according to their attitude toward menstruation**

| Items | Attitude | Rank | T-test (value=2.5) |
|---|---|---|---|
| | Mean ± SD | | T |
| **Menstruation as a debilitating event:** | | | |
| A woman's performance in sports is not affected negatively by menstruation | 2.79±1.09 | 26 | 4.084* |
| Women are more tired than usual when they are menstruating | 4.09±0.97 | 3 | 25.019* |
| I expect extra consideration from my friends when I am menstruating | 3.37±1.16 | 18 | 11.502* |
| The physiological effects of menstruation are normally no greater than other usual fluctuations in physical state | 1.98±1.82 | 32 | -4.288* |
| Menstruation can adversely affect my performance in sports | 3.67±1.15 | 10 | 15.455* |
| I feel as fit during menstruation as I do during any other time of the month | 2.32±1.05 | 30 | -2.574* |
| I don't allow the fact that I'm menstruating to interfere with my usual activities | 2.71±0.97 | 27 | 3.387* |
| Avoiding certain activities during menstruation is often very wise | 3.14±1.09 | 22 | 9.023* |
| I am more easily upset during my premenstrual or menstrual periods than at other times of themonth | 4.03±0.97 | 4 | 24.08* |
| I don't believe my menstrual period affects how well I do on intellectual tasks | 3.13±1.13 | 23 | 8.56* |
| I realize that I cannot expect as much of myself during menstruation compared to the rest of themonth | 3.51±0.97 | 14 | 15.90* |
| Women just have to accept the fact that they may not perform as well when they are menstruating | 3.39±0.97 | 17 | 13.97* |
| Menstruation as a bothersome event | | | |
| Menstruation is something I just have to put up with | 3.82±0.92 | 8 | 21.88* |
| In some ways I enjoy my menstrual periods | 2.60±1.17 | 29 | 1.41 |
| Men have a real advantage in not having the monthly interruption of a menstrual period | 3.85±1.36 | 6 | 15.18* |
| I hope it will be possible someday to get a menstrual period over within a few minutes | 3.66±0.99 | 12 | 17.94* |
| The only thing menstruation is good for is to let me know I'm not pregnant | 3.78±1.27 | 9 | 15.42* |
| Menstruation provides a way for me to keep in touch with my body | 3.17±1.04 | 21 | 9.77* |
| Menstruation as a natural event | | | |
| Menstruation is a reoccurring affirmation of womanhood | 3.49±1.25 | 15 | 12.07* |
| Menstruation allows women to be more aware of their bodies | 3.27±1.13 | 19 | 10.37* |
| Menstruation is an obvious example of the rhythmicity which pervades all of life | 3.48±1.02 | 16 | 14.71* |
| The recurrent monthly flow of menstruation is an external indication of a woman's general good health | 2.96±0.99 | 24 | 7.09* |
| Anticipation and predication of the onset of menstruation | | | |
| I can tell my period is approaching because of breast tenderness, backache, cramps, or other physical signs | 4.24±1.00 | 1 | 26.42* |
| I have learned to anticipate my menstrual period by the mood changes which precede it | 3.62±1.24 | 13 | 13.77* |
| My own moods are not influenced in any major way by the phase of my menstrual cycle | 2.29±1.16 | 31 | -2.68* |
| Most women show a weight gain just before or during menstruation | 2.69±1.07 | 28 | 2.72* |
| Denial of any effect of menstruation | | | |
| Others should not be critical of a woman who is easily upset before or during her menstrual period | 1.81±1.03 | 33 | -10.08* |
| Cramps are bothersome only if one pays attention to them | 2.91±1.08 | 25 | 5.90* |
| A woman who attributes her irritability to her approaching menstrual period is neurotic | 4.18±0.98 | 2 | 25.96* |
| I barely notice the minor physiological effects of my menstrual periods | 3.86±1.02 | 5 | 20.31* |
| Women who complain of menstrual distress are just using that as an excuse | 3.23±1.22 | 20 | 9.20* |
| Premenstrual tension/irritability is all in a woman's head | 3.82±1.00 | 7 | 20.14* |
| Most women make too much of the minor physiological effects of menstruation | 3.67±0.97 | 11 | 18.26* |

**Table 6: Relation between the MAQ and demographic data among participants**

| Items | | N | Attitude | f ore t | ANOVA or T-test | |
|---|---|---|---|---|---|---|
| | | | Mean ± SD | | test value | P-value |
| **Number of children** | 1-4 | 145 | 108.048 ± 9.652 | f | 1.103 | 0.334 |
| | >4 | 75 | 109.333 ± 10.895 | | | |
| | None | 13 | 111.846 ± 7.925 | | | |
| **Rank** | Frist | 51 | 108.627 ± 9.629 | f | 0.805 | 0.492 |
| | Second | 46 | 110.043 ± 10.916 | | | |
| | Third | 54 | 109.426 ± 9.691 | | | |
| | More than third | 82 | 107.439 ± 9.911 | | | |
| **Age of menarche** | <12 | 45 | 110.289 ± 9.519 | f | 0.862 | 0.424 |
| | 12 | 85 | 107.871 ± 10.337 | | | |
| | >12 | 103 | 108.631 ± 9.920 | | | |
| **Regularity** | Regular | 145 | 108.931 ± 9.869 | t | 0.503 | 0.615 |
| | Irregular | 88 | 108.250 ± 10.240 | | | |
| **Duration (days)** | <3 | 5 | 108.400 ± 20.032 | f | 0.354 | 0.703 |
| | 3-7. | 199 | 108.467 ± 10.106 | | | |
| | >7 | 29 | 110.138 ± 6.744 | | | |

**Table 7: Relation between the MAQ and mensural history among participants**

| **Items** | | **N** | **Attitude** | **f ore t** | **ANOVA or T-test** | |
|---|---|---|---|---|---|---|
| | | | **Mean ± SD** | | **test value** | **P-value** |
| **Age** | **13** | 31 | 109.484 ± 10.516 | f | 0.212 | 0.809 |
| | **14** | 73 | 108.959 ± 11.165 | | | |
| | **15** | 129 | 108.318 ± 9.202 | | | |
| **Residence** | **Urban** | 189 | 108.746 ± 10.453 | t | 0.228 | 0.820 |
| | **Urban** | 44 | 108.364 ± 7.815 | | | |
| **Marital status Single** | **Married** | 7 | 115.714 ± 10.177 | t | 1.903 | 0.058 |
| | **Single** | 226 | 108.456 ± 9.932 | | | |
| **Education Level** | **First year in the intermediate school** | 35 | 108.914 ± 10.912 | f | 0.878 | 0.417 |
| | **Second year in the intermediate school** | 64 | 109.984 ± 10.364 | | | |
| | **Third year in the intermediate school** | 134 | 107.985 ± 9.570 | | | |

**Table 8: Relation between the MDQ and MAQ**

| Items | | N | Attitude | | | ANOVA | |
|---|---|---|---|---|---|---|---|
| | | | Mean | ± | SD | f | P-value |
| **Amount** | **Less than average** | 12 | 107.000 | ± | 10.531 | 0.642 | 0.527 |
| | **Average** | 203 | 108.571 | ± | 9.859 | | |
| | **More than average** | 18 | 110.944 | ± | 11.347 | | |
| **Pain** | **Headache** | 10 | 112.300 | ± | 11.116 | 2.280 | 0.062 |
| | **Cramps** | 25 | 109.120 | ± | 10.005 | | |
| | **Backache** | 108 | 109.898 | ± | 9.237 | | |
| | **Fatigue** | 65 | 105.677 | ± | 10.299 | | |
| | **General aches and pain** | 25 | 109.280 | ± | 10.895 | | |
| **Concentration** | **Insomnia** | 84 | 107.310 | ± | 9.969 | 1.515 | 0.211 |
| | **Difficulty concentrating** | 95 | 109.937 | ± | 10.148 | | |
| | **Lowered judgment** | 37 | 109.676 | ± | 9.378 | | |
| | **Forgetfulness** | 17 | 106.176 | ± | 10.089 | | |
| **Behavioral change** | Take naps; stay in bed | 104 | 108.635 | ± | 10.041 | 0.660 | 0.621 |
| | Stay at home | 38 | 109.474 | ± | 9.817 | | |
| | Lowered school or work performance | 10 | 108.700 | ± | 15.550 | | |
| | Decreased efficiency | 42 | 109.976 | ± | 8.607 | | |
| | Avoid social activities | 39 | 106.590 | ± | 9.928 | | |
| **Autonomic reactions** | Dizziness, faintness | 46 | 110.348 | ± | 9.284 | 0.632 | 0.595 |
| | Cold sweats | 47 | 108.234 | ± | 6.604 | | |
| | Nausea, vomiting | 88 | 108.625 | ± | 11.722 | | |
| | Hot flashes | 52 | 107.673 | ± | 10.043 | | |
| **Water retention** | Painful breasts | 120 | 107.525 | ± | 8.708 | 2.105 | 0.100 |
| | Skin disorders | 20 | 109.050 | ± | 13.020 | | |
| | Swelling | 22 | 113.182 | ± | 7.938 | | |
| | Weight gain | 71 | 109.113 | ± | 11.328 | | |
| **Negative affect** | Restlessness | 5 | 94.600 | ± | 6.504 | 2.034 | 0.05* |
| | Depression | 20 | 110.400 | ± | 12.369 | | |
| | Crying | 44 | 110.386 | ± | 9.674 | | |
| | Tension | 9 | 108.556 | ± | 7.126 | | |
| | Loneliness | 8 | 107.250 | ± | 12.658 | | |
| | Anxiety | 12 | 109.000 | ± | 12.380 | | |
| | Mood swings | 116 | 107.983 | ± | 9.451 | | |
| | Sensitive | 19 | 111.263 | ± | 8.191 | | |
| **Arousal** | Active | 20 | 107.850 | ± | 11.472 | 0.566 | 0.688 |
| | Organized | 24 | 106.792 | ± | 11.096 | | |
| | Affectionate | 81 | 109.395 | ± | 9.648 | | |
| | Feelings of well-being | 31 | 107.290 | ± | 9.067 | | |
| | Bursts of energy, activity | 77 | 109.273 | ± | 10.065 | | |
| **Control** | Chest pains | 73 | 108.630 | ± | 9.414 | 0.740 | 0.594 |
| | Feeling of suffocation | 34 | 107.265 | ± | 7.688 | | |
| | Numbness, tingling | 47 | 107.915 | ± | 12.344 | | |
| | Heart pounding | 32 | 108.313 | ± | 10.909 | | |
| | Unclear vision | 39 | 111.308 | ± | 9.420 | | |
| | Ringing in the ears | 8 | 108.125 | ± | 7.549 | | |

On the other hand, the menstrual history data were compared to the demographic data one by one, starting with the participants' age, which is displayed in [Table 9]. Only the control-related characteristics, with a p-value of 0.031, were found to have a significant value. Second, none of the remaining demographic characteristics, such as education level, place of residence, and marital status Single [Table 10,11], revealed a statistically significant value.

**9: Menstrual history data compared to the age data**

| Items | | Age | | | | | | Chi-square | |
|---|---|---|---|---|---|---|---|---|---|
| | | 13 | | 14 | | 15 | | | |
| | | N | % | N | % | N | % | $X^2$ | P-value |
| Amount | Less than average | 3 | 9.7% | 3 | 4.1% | 6 | 4.7% | 3.579 | 0.466 |
| | Average | 25 | 80.6% | 67 | 91.8% | 111 | 86.0% | | |
| | More than average | 3 | 9.7% | 3 | 4.1% | 12 | 9.3% | | |
| Pain | Headache | 2 | 6.5% | 3 | 4.1% | 5 | 3.9% | 3.097 | 0.928 |
| | Cramps | 2 | 6.5% | 8 | 11.0% | 15 | 11.6% | | |
| | Backache | 12 | 38.7% | 35 | 47.9% | 61 | 47.3% | | |
| | Fatigue | 11 | 35.5% | 21 | 28.8% | 33 | 25.6% | | |
| | General aches and pain | 4 | 12.9% | 6 | 8.2% | 15 | 11.6% | | |
| Concentration | Insomnia | 12 | 38.7% | 30 | 41.1% | 42 | 32.6% | 4.113 | 0.661 |
| | Difficulty concentrating | 13 | 41.9% | 28 | 38.4% | 54 | 41.9% | | |
| | Lowered judgment | 3 | 9.7% | 9 | 12.3% | 25 | 19.4% | | |
| | Forgetfulness | 3 | 9.7% | 6 | 8.2% | 8 | 6.2% | | |
| Behavioral change | Take naps; stay in bed | 13 | 41.9% | 39 | 53.4% | 52 | 40.3% | 13.715 | 0.090 |
| | Stay at home | 7 | 22.6% | 13 | 17.8% | 18 | 14.0% | | |
| | Lowered school or work performance | 0 | 0.0% | 4 | 5.5% | 6 | 4.7% | | |
| | Decreased efficiency | 3 | 9.7% | 9 | 12.3% | 30 | 23.3% | | |
| | Avoid social activities | 8 | 25.8% | 8 | 11.0% | 23 | 17.8% | | |
| Autonomic reactions | Dizziness, faintness | 6 | 19.4% | 14 | 19.2% | 26 | 20.2% | 11.677 | 0.070 |
| | Cold sweats | 4 | 12.9% | 19 | 26.0% | 24 | 18.6% | | |
| | Nausea, vomiting | 14 | 45.2% | 32 | 43.8% | 42 | 32.6% | | |
| | Hot flashes | 7 | 22.6% | 8 | 11.0% | 37 | 28.7% | | |
| Water retention | Painful breasts | 11 | 35.5% | 38 | 52.1% | 71 | 55.0% | 4.884 | 0.559 |
| | Skin disorders | 5 | 16.1% | 6 | 8.2% | 9 | 7.0% | | |
| | Swelling | 3 | 9.7% | 7 | 9.6% | 12 | 9.3% | | |
| | Weight gain | 12 | 38.7% | 22 | 30.1% | 37 | 28.7% | | |
| Negative affect | Restlessness | 0 | 0.0% | 1 | 1.4% | 4 | 3.1% | 18.227 | 0.197 |
| | Depression | 2 | 6.5% | 5 | 6.8% | 13 | 10.1% | | |
| | Crying | 3 | 9.7% | 13 | 17.8% | 28 | 21.7% | | |
| | Tension | 1 | 3.2% | 1 | 1.4% | 7 | 5.4% | | |
| | Loneliness | 2 | 6.5% | 2 | 2.7% | 4 | 3.1% | | |
| | Anxiety | 5 | 16.1% | 4 | 5.5% | 3 | 2.3% | | |
| | Mood swings | 15 | 48.4% | 38 | 52.1% | 63 | 48.8% | | |
| | Sensitive | 3 | 9.7% | 9 | 12.3% | 7 | 5.4% | | |
| Arousal | Active | 3 | 9.7% | 8 | 11.0% | 9 | 7.0% | 6.287 | 0.615 |
| | Organized | 2 | 6.5% | 8 | 11.0% | 14 | 10.9% | | |
| | Affectionate | 13 | 41.9% | 23 | 31.5% | 45 | 34.9% | | |
| | Feelings of well-being | 2 | 6.5% | 7 | 9.6% | 22 | 17.1% | | |
| | Bursts of energy, activity | 11 | 35.5% | 27 | 37.0% | 39 | 30.2% | | |
| Control | Chest pains | 11 | 35.5% | 15 | 20.5% | 47 | 36.4% | 19.771 | 0.031* |
| | Feeling of suffocation | 3 | 9.7% | 8 | 11.0% | 23 | 17.8% | | |
| | Numbness, tingling | 4 | 12.9% | 18 | 24.7% | 25 | 19.4% | | |
| | Heart pounding | 6 | 19.4% | 11 | 15.1% | 15 | 11.6% | | |
| | Unclear vision | 7 | 22.6% | 19 | 26.0% | 13 | 10.1% | | |
| | Ringing in the ears | 0 | 0.0% | 2 | 2.7% | 6 | 4.7% | | |

**Table 10: Correlation between Menstrual attitudes with the educational level of the participants**

| Items | Education Level | | | | | | Chi-square | |
|---|---|---|---|---|---|---|---|---|
| | Grade 7 | | Grade 8 | | Grade 9 | | | |
| | N | % | N | % | N | % | $X^2$ | P-value |
| - Amount: | | | | | | | | |
| Less than average | 3 | 8.6% | 3 | 4.7% | 6 | 4.5% | 2.15 | 0.70 |
| Average | 29 | 82.9% | 58 | 90.6% | 116 | 86.6% | | |
| More than average | 3 | 8.6% | 3 | 4.7% | 12 | 9.0% | | |
| - Pain: | | | | | | | | |
| Headache | 2 | 5.7% | 3 | 4.7% | 5 | 3.7% | 5.34 | 0.72 |
| Cramps | 2 | 5.7% | 10 | 15.6% | 13 | 9.7% | | |
| Backache | 14 | 40.0% | 28 | 43.8% | 66 | 49.3% | | |
| Fatigue | 13 | 37.1% | 18 | 28.1% | 34 | 25.4% | | |
| General aches and pain | 4 | 11.4% | 5 | 7.8% | 16 | 11.9% | | |
| - Concentration: | | | | | | | | |
| Insomnia | 16 | 45.7% | 22 | 34.4% | 46 | 34.3% | 3.58 | 0.73 |
| Difficulty concentrating | 13 | 37.1% | 28 | 43.8% | 54 | 40.3% | | |
| Lowered judgment | 3 | 8.6% | 9 | 14.1% | 25 | 18.7% | | |
| Forgetfulness | 3 | 8.6% | 5 | 7.8% | 9 | 6.7% | | |
| - Behavioral change: | | | | | | | | |
| Take naps; stay in bed | 15 | 42.9% | 34 | 53.1% | 55 | 41.0% | 13.01 | 0.11 |
| Stay at home | 8 | 22.9% | 13 | 20.3% | 17 | 12.7% | | |
| Lowered school or work performance | 1 | 2.9% | 3 | 4.7% | 6 | 4.5% | | |
| Decreased efficiency | 3 | 8.6% | 7 | 10.9% | 32 | 23.9% | | |
| Avoid social activities | 8 | 22.9% | 7 | 10.9% | 24 | 17.9% | | |
| - Autonomic reactions: | | | | | | | | |
| Dizziness, faintness | 7 | 20.0% | 14 | 21.9% | 25 | 18.7% | 8.27 | 0.21 |
| Cold sweats | 6 | 17.1% | 14 | 21.9% | 27 | 20.1% | | |
| Nausea, vomiting | 16 | 45.7% | 28 | 43.8% | 44 | 32.8% | | |
| Hot flashes | 6 | 17.1% | 8 | 12.5% | 38 | 28.4% | | |
| - Water retention: | | | | | | | | |
| Painful breasts | 14 | 40.0% | 34 | 53.1% | 72 | 53.7% | 2.70 | 0.84 |
| Skin disorders | 4 | 11.4% | 5 | 7.8% | 11 | 8.2% | | |
| Swelling | 3 | 8.6% | 6 | 9.4% | 13 | 9.7% | | |
| Weight gain | 14 | 40.0% | 19 | 29.7% | 38 | 28.4% | | |
| - Negative affect: | | | | | | | | |
| Restlessness | 0 | 0.0% | 1 | 1.6% | 4 | 3.0% | 22.36 | 0.07 |
| Depression | 3 | 8.6% | 3 | 4.7% | 14 | 10.4% | | |
| Crying | 2 | 5.7% | 15 | 23.4% | 27 | 20.1% | | |
| Tension | 1 | 2.9% | 2 | 3.1% | 6 | 4.5% | | |
| Loneliness | 2 | 5.7% | 2 | 3.1% | 4 | 3.0% | | |
| Anxiety | 6 | 17.1% | 3 | 4.7% | 3 | 2.2% | | |
| Mood swings | 18 | 51.4% | 30 | 46.9% | 68 | 50.7% | | |
| Sensitive | 3 | 8.6% | 8 | 12.5% | 8 | 6.0% | | |
| - Arousal: | | | | | | | | |
| Active | 5 | 14.3% | 8 | 12.5% | 7 | 5.2% | 9.22 | 0.32 |
| Organized | 2 | 5.7% | 7 | 10.9% | 15 | 11.2% | | |
| Affectionate | 12 | 34.3% | 22 | 34.4% | 47 | 35.1% | | |
| Feelings of well-being | 3 | 8.6% | 5 | 7.8% | 23 | 17.2% | | |
| Bursts of energy, activity | 13 | 37.1% | 22 | 34.4% | 42 | 31.3% | | |
| - Control: | | | | | | | | |
| Chest pains | 10 | 28.6% | 14 | 21.9% | 49 | 36.6% | 15.43 | 0.11 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Feeling of suffocation | 4 | 11.4% | 7 | 10.9% | 23 | 17.2% | | |
| Numbness, tingling | 5 | 14.3% | 15 | 23.4% | 27 | 20.1% | | |
| Heart pounding | 6 | 17.1% | 9 | 14.1% | 17 | 12.7% | | |
| Unclear vision | 9 | 25.7% | 17 | 26.6% | 13 | 9.7% | | |
| Ringing in the ears | 1 | 2.9% | 2 | 3.1% | 5 | 3.7% | | |

**Table 11: Menstrual history data compared to the residence data**

| Items | | Residence | | | | Chi-square | |
|---|---|---|---|---|---|---|---|
| | | Urban | | Urban | | | |
| | | N | % | N | % | $X^2$ | P-value |
| Amount | Less than average | 10 | 5.3% | 2 | 4.5% | 0.169 | 0.919 |
| | Average | 165 | 87.3% | 38 | 86.4% | | |
| | More than average | 14 | 7.4% | 4 | 9.1% | | |
| Pain | Headache | 9 | 4.8% | 1 | 2.3% | 3.417 | 0.491 |
| | Cramps | 23 | 12.2% | 2 | 4.5% | | |
| | Backache | 86 | 45.5% | 22 | 50.0% | | |
| | Fatigue | 51 | 27.0% | 14 | 31.8% | | |
| | General aches and pain | 20 | 10.6% | 5 | 11.4% | | |
| Concentration | Insomnia | 72 | 38.1% | 12 | 27.3% | 3.781 | 0.286 |
| | Difficulty concentrating | 77 | 40.7% | 18 | 40.9% | | |
| | Lowered judgment | 26 | 13.8% | 11 | 25.0% | | |
| | Forgetfulness | 14 | 7.4% | 3 | 6.8% | | |
| Behavioral change | Take naps; stay in bed | 85 | 45.0% | 19 | 43.2% | 1.056 | 0.901 |
| | Stay at home | 31 | 16.4% | 7 | 15.9% | | |
| | Lowered school or work performance | 9 | 4.8% | 1 | 2.3% | | |
| | Decreased efficiency | 34 | 18.0% | 8 | 18.2% | | |
| | Avoid social activities | 30 | 15.9% | 9 | 20.5% | | |
| Autonomic reactions | Dizziness, faintness | 39 | 20.6% | 7 | 15.9% | 2.849 | 0.416 |
| | Cold sweats | 34 | 18.0% | 13 | 29.5% | | |
| | Nausea, vomiting | 73 | 38.6% | 15 | 34.1% | | |
| | Hot flashes | 43 | 22.8% | 9 | 20.5% | | |
| Water retention | Painful breasts | 94 | 49.7% | 26 | 59.1% | 2.546 | 0.467 |
| | Skin disorders | 18 | 9.5% | 2 | 4.5% | | |
| | Swelling | 17 | 9.0% | 5 | 11.4% | | |
| | Weight gain | 60 | 31.7% | 11 | 25.0% | | |
| Negative affect | Restlessness | 3 | 1.6% | 2 | 4.5% | 13.500 | 0.061 |
| | Depression | 17 | 9.0% | 3 | 6.8% | | |
| | Crying | 32 | 16.9% | 12 | 27.3% | | |
| | Tension | 9 | 4.8% | 0 | 0.0% | | |
| | Loneliness | 7 | 3.7% | 1 | 2.3% | | |
| | Anxiety | 12 | 6.3% | 0 | 0.0% | | |
| | Mood swings | 92 | 48.7% | 24 | 54.5% | | |
| | Sensitive | 17 | 9.0% | 2 | 4.5% | | |
| Arousal | Active | 16 | 8.5% | 4 | 9.1% | 6.389 | 0.172 |
| | Organized | 20 | 10.6% | 4 | 9.1% | | |
| | Affectionate | 64 | 33.9% | 17 | 38.6% | | |
| | Feelings of well-being | 21 | 11.1% | 10 | 22.7% | | |
| | Bursts of energy, activity | 68 | 36.0% | 9 | 20.5% | | |
| Control | Chest pains | 59 | 31.2% | 14 | 31.8% | 5.413 | 0.368 |
| | Feeling of suffocation | 26 | 13.8% | 8 | 18.2% | | |
| | Numbness, tingling | 42 | 22.2% | 5 | 11.4% | | |
| | Heart pounding | 24 | 12.7% | 8 | 18.2% | | |
| | Unclear vision | 33 | 17.5% | 6 | 13.6% | | |
| | Ringing in the ears | 5 | 2.6% | 3 | 6.8% | | |

The level of participants was different which appear in [Fig 1]. Participants with a low level were only 2 girls (.9%), but for the high level were 15 girls (6.4%), and 216 girls (92.7%) have an average level.

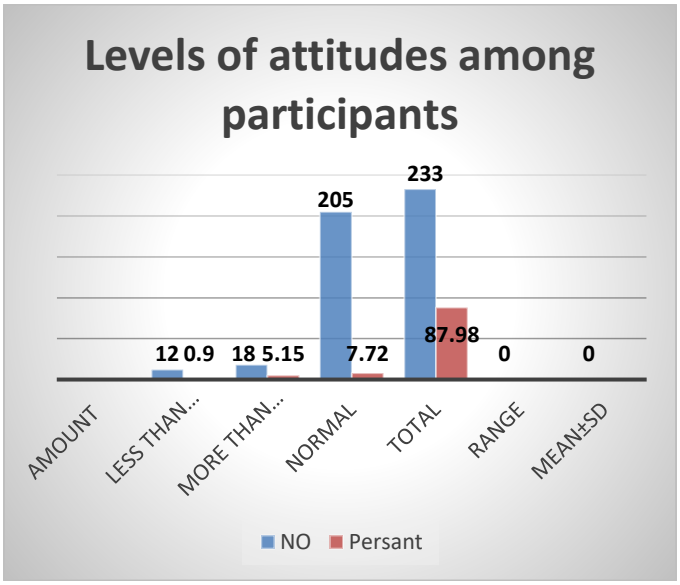


**Figure 1: Levels of attitudes among participants:**

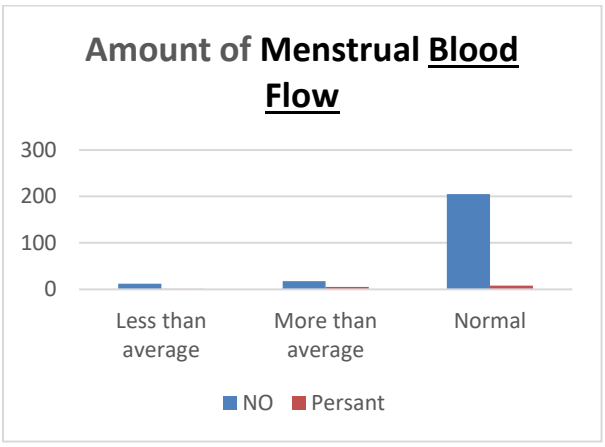


**Figure 2: Amount of Menstrual Blood Flow**

As reported by the studied girls, the blood amount was normal for 205 girls (87.98%), but 12 girls (5.15%) had less than the average, while 18 girls (7.72%) had more than the average.

## DISCUSSION

The findings of the study revealed that rural adolescent girls achieved a significantly higher mean score on responding to this study as compared to the adolescent girls of the urban area. In the study of John and Nath, 2019, the mean age of the adolescent girls who participated is 14.23 years from the rural area which is the majority of the study participants (94.8%) and this is similar to our results that showed 81.97% of the participants were from a rural area and the mean age of the participants was 14.42 years John and Nath, 2019, Whereas there was the committee on adolescent health care of America in 2016 found most of the adolescent have irregular menstruation for more than 7 days which is are consistent with our results that showed irregular menstruation by 62.66% for the duration of more than 7 days by 86.26% (Committee on Adolescent Health Care, 2016). In essence, the findings revealed that rural and urban girls differed significantly in their mean achievements of attitude towards control during the menstrual period. On another hand, the researchers have argued that a negative effect towards attitude represents a sense of dissatisfaction among adolescent girls during the menstrual period which is consistent with Phulambrikar study done in 2018 (Phulambrikar, 2018). The findings further exhibited significant negative among participants' attitude and their demographic data with their menstrual history that consist with the study of (Kalyani, 2019). Similarly, the results revealed significant negative correlations between the MDQ and the demographic data with their menstrual history. Although, the findings of the study indicated various responses to MDQ significantly. The results also showed a significant negative correlation between the scores for all of the eight categories of the MDQ except the negative effect factor was the only category which has a significant value with p=value 0.05. It was a valuable result that all of the participants have a normal average for their attitude level during the menstrual period by 92.7%.

The development of MDQ On the other hand, the menstrual history data were individually compared to the demographic data, starting with the first cluster of symptoms, which includes pain, concentration, behavioral change, autonomic reactions, water retention, negative affect, arousal, and control, but which is represented by separate but empirically intercorrelated clusters of symptoms. Scores on these eight groups of symptoms have no relationship to demographic information like age. However, the scores of the participants were average relating to the MAQ. The need for further studies in order to explain adolescent practice during the menstrual period can be helpful in reaching a high level of attitude and psychological behavior.

## CONCLUSION

menstrual history data, which Pain, attention, behavioral change, autonomic reactions, water retention, negative affect, arousal, and control are just a few of the clusters of symptoms that the development of MDQ represents. Scores on these eight clusters of symptoms not correlated with age and other demographic data. However, The scores of the participants were average relating to the MAQ. The need for further studies in order to explain

adolescent practice during the menstrual period can be helpful in reaching a high level of attitude and psychological behavior.

## CONFLICT OF INTEREST

The authors declared that present study was performed in absence of any conflict of interest.

## ACKNOWLEDGEMENT

We thank the participants who were all contributed samples to the study.

## AUTHOR CONTRIBUTIONS

All the authors listed have made a substantial and intellectual contribution to the work and approved it for the publication.



## REFERENCES

Al Omari, O., Abdel Razeq, N., & Fooladi, M. (2016). Experience of Menarche Among Jordanian Adolescent Girls: An Interpretive Phenomenological Analysis. Journal Of Pediatric And Adolescent Gynecology, 29(3), 246-251. doi.org/10.1016/j.jpag.2015.09.005

Arnold, G., & Depew, B. (2018). School starting age and long-run health in the United States. Health Economics, 27(12), 1904-1920. doi: 10.1002/hec.3810

Brooks-Gunn, J., & Ruble, D. (1980). The Menstrual Attitude Questionnaire. Psychosomatic Medicine, 42(5), 503-512. doi.org/10.1097/00006842-198009000-00005

Committee on Adolescent Health Care. (2016). Menstruation in Girls and Adolescents: Using the Menstrual Cycle as a Vital Sign. Pediatrics, 137(3), e20154480. https://doi.org/10.1542/peds.2015-4480

D'Almeida, J., Ifthikar, A., & Rao, S. (2015). CROSSECTIONAL STUDY OF PREVALENCE OF DYSMENORRHEA AND PRE MENSTRUAL SYNDROME IN COLLEGE STUDENTS. Journal Of Evidence Based Medicine And Healthcare, 2(29), 4185-4190. doi: 10.18410/jebmh/2015/594

Farland, L., Mu, F., Eliassen, A., Hankinson, S., Tworoger, S., & Barbieri, R. et al. (2017). Menstrual cycle characteristics and steroid hormone, prolactin, and growth factor levels in premenopausal women. Cancer Causes & Control, 28(12), 1441-1452. doi: 10.1007/s10552-017-0971-2

Gordon, J., & Girdler, S. (2014). Mechanisms underlying hemodynamic and neuroendocrine stress reactivity at different phases of the menstrual cycle. Psychophysiology, 51(4), 309-318. doi: 10.1111/psyp.12177

Guha, P. (2019). The age of interruption. The Lancet Child & Adolescent Health, 3(1), 13. doi: 10.1016/s2352-4642(18)30378-x

Jasrotia, R., Kanchan, A., Harsoda, J., Saini, R. and Agarwal, M. (2018). Pain sensitivity and cardiovascular reactivity to the experimental induced cold pressor pain during different phases of menstrual cycle in young Indian females. National Journal of Physiology, Pharmacy and Pharmacology, 8(5), p.1.

John, J., & Nath, K. (2019). Knowledge of Menstrual Hygiene among Adolescent Girls in a Rural Area of Kanyakumari District of Tamilnadu. International Journal Of Preventive, Curative & Community Medicine, 05(01), 22-27. https://doi.org/10.24321/2454.325x.201905

Kalyani, S. (2019). A Study of Knowledge, Attitude and Practices Regarding Menstrual Health among Adolescent Girls in North Goa. Epidemiology International, 4(1), 1-5. https://doi.org/10.24321/2455.7048.201901

Knopf, A. (2015). Maternal internalizing disorders linked to depression at age 15, continued depression at age 20. The Brown University Child and Adolescent Behavior Letter, 31(2), 3-3. doi: 10.1002/cbl.30018

Lata, P., & Lohan, U. (2018). Effect of Aerobic Training on Premenstrual Syndrome Amongst College Girl Students. International Journal of Physical Education & Sports Sciences, 13(5), 30-35. doi: 10.29070/13/57739

O'Donohue, W., Benuto, L., & Tolle, L. (2013). Handbook of adolescent health psychology. New York, NY: Springer.

Okamoto, N. (2018). Period power. Simon & Schuster. يحتاج تكملة

Pardeshi, A. (2019). Comparison of perceived stress and cardiovascular reactivity during different phases of menstrual cycle. National Journal of Physiology, Pharmacy and Pharmacology, (0), p.1.

Phulambrikar, R. (2018). Study of Knowledge, Attitude and Practices regarding Reproductive and Sexual Health among School Going Adolescent Girls in Rural Area of Maharashtra. Indian Journal Of Youth And Adolescent Health, 05(04), 15-18. https://doi.org/10.24321/2349.2880.201823

Senthikumari, D. (2018). Relationship between Menstrual Cycle Regularity and Sleep Quality. Journal Of Medical Science And Clinical Research, 6(4). doi: 10.18535/jmscr/v6i4.134

The Lancet Child & Adolescent Health. (2018).

Normalising menstruation, empowering girls. The Lancet Child & Adolescent Health, 2(6), 379. doi: 10.1016/s2352-4642(18)30143-3

Wiebe, E., Jaffar, S., Zelmer, J., & Byczko, B. (2015). Using marijuana to cope with the pain and other symptoms of medical abortions and menstrual periods. Contraception, 92(4), 402. doi: 10.1016/j.contraception.2015.06.188