

Original Article

The impact of menstrual cycle on quality of life among college girls in Andhra Pradesh

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Abstract

Menstrual cycles are ubiquitous in every adolescent, but nowadays, many girls have irregular menstrual cycles for several reasons. This study aimed to assess the menstrual cycle's impact on the quality of life among college girls in Andhra Pradesh. This survey was held for 5 months, from January to June 2021, by sharing the Google form link, which comprises questionnaires to different college girls and collects aggregate data followed by analysis to assess the impact of the menstrual cycle on quality of life. A total of 153 responses were recorded, of which undergraduate students were 56.20%, followed by postgraduate 34.60% and 9.20% from Ph.D. This study showed that many college girls have irregular menstrual cycles, itching in the vaginal area, prolonged use of a single Napkin, abdominal cramps, nausea and dizziness. It can be concluded that the menstrual cycle has different effects on college girls, such as on their physical condition, academic performance and daily activities. 26.10% of girls with severe cramps needed to change their lifestyle, take proper diet and practice yoga.

Keywords: menstrual cycle, quality of life, premenstrual symptoms, abdominal cramps, lifestyle, adolescent girls.

Introduction

Menstruation is a natural phenomenon involving the discharge of blood from the uterus through the vagina, occurring at more or less regular monthly intervals during the reproductive life of females [1]. Studies show that menstruating girls face many problems at reproductive age for several reasons. Uterine bleeding can either be a sign of diseases (uterus or ovaries) or lead to anemia, pain, anxiety and frustration [2]. Across the nation, women suffer from hormones and menstruation issues. Young women frequently experience various menstrual-related complaints, including dysmenorrhea, menorrhagia, irregular menses and menstrual-related mood swings. These problems deserve a careful evaluation. Eating disorders and the female athlete's triad increase the risk of osteoporosis and polycystic ovary

syndrome is associated with future cardiovascular risks [3]. Variations in the type and frequency of periods may create anxiety regarding ill, health or serious underlying disorders. With the increase in childhood obesity and subsequent polycystic ovary syndrome, there is a great awareness and presentation of girls with disorders of menstruation [4].

Stress, heavy menstrual flow and pains were significant predictors of premenstrual symptoms [5]. Higher education attainment is linked to improved personal hygiene, family and community health prospects while benefitting the economy in which individuals work [6]. However, understanding and improving the menstrual experiences of university students has not been a priority of global menstrual health and hygiene initiatives [7]. A greater understanding of how college students' experiences of menstruation impact their education attainment



can inform structural changes (e.g., examination accommodations or design of campus sanitation facilities) so menstruating students are adequately supported to meet their menstrual and learning needs. Menstrual problems are common among young girls. They deserve careful evaluation as uncorrected menstrual problems may adversely affect their daily activities and quality of life. The menstrual cycle involves many psychological changes, such as irritability, mood liability, depression and anxiety. The most prevalent physical symptoms of the menstrual cycle include breast tenderness, diarrhea, back pain, vomiting and fluid retention [8]. The menstrual cycle duration, which usually occurs every 28 days, varies from 4–10 days with an average of 6 days.

Moreover, some women reported increased appetite and food cravings, with chocolate being the most commonly craved food item. Overweight, physical activity and stress increased the duration of the menstrual cycle of female college students in the United States. Although the majority of women experience negative effects during the menstrual period, some find that it positively influences their mood and mental status [9]. The menstrual period has a notable role in the academic performance of students. Women with heavy and painful menstrual periods have more problems affecting their academic and social lives [10, 11].

Material and methods

Study design

In this survey study, the data was collected related to the impact of the menstrual cycle on the quality of life among college girls in Andhra Pradesh (after assuring all identification data given by participants remain confidential) by creating and sharing the Google form link using an online platform such as E-mail, WhatsApp and LinkedIn. Google form Link consists of a structured questionnaire to determine the impact of the menstrual cycle on the quality of life among college girls. The responses given by participants were saved and recorded in Google Drive.

Measures

The survey questionnaire related to the menstrual cycle's impact on college girls' quality of life was designed to collect data from the target participants. The questionnaire comprises two sections:

1. Background & socio-demographic data;
2. Questions related to the impact of the menstrual cycle on quality of life.

Study period

This survey was done during the period of 5 months from January to June 2021.

Study/survey location

The study was carried out in the Andhra Pradesh State of India.

Study population

A total of 187 have participated actively in this study and responses were recorded in Google Drive

Inclusion criteria

- Age between 16 to 25 years;
- Unmarried adolescent college girls;
- Girls who have given voluntary consent to participate in this study.

Exclusion criteria

- Married;
- Who did not understand to fill out the data collection form.

Study procedure

The background and socio-demographic data and questions related to the impact of the menstrual cycle on the quality of life, like menstrual cycle pattern and whether they experience any menstrual problems, were collected and recorded in a data collection form.

Data analysis

All the collected data were analyzed using percentages in a Microsoft Excel sheet.

Results

A total of 153 college student girls participated in this study. The demographics and answers related to the impact of the survey's menstrual cycle quality of life were shown in graphs, frequencies and percentages. The background and socio-demographic data of the participant girls are shown in Table 1. 56.2% were from the age group of 21–23years, 26.80% were from the age group of 19–20 years, 7.20% were from the age group of 16–18 years and 9.80% were from the age group of 24–25 years.

A total of 56.2% were undergraduate students, followed by postgraduate 34.60% and 9.20% from Ph.D. Out of all the students who participated in this survey, 88.2% were life sciences students such as pharmacy,

Table 1: Socio-demographic data of participants.

Socio-demographic data (N=153)	Number	%
Age		
16–18 years	11	7.2
19–20 years	41	26.8
21–23 years	86	56.2
24–25 years	15	9.8
Religion		
Hindu	103	67.3
Christian	40	26.1
Islam	9	5.9
Jain	1	0.7
Current class of study		
Under graduation	86	56.2
Post-graduation	53	34.6
Ph.D.	14	9.2
Field of study		
Life sciences like pharmacy, medical, nursing and paramedical	135	88.2
Engineering	4	2.6
Commerce	2	1.3
Other	12	7.9

medical, nursing and paramedical, 9.2% from commerce and other background students and 2.6% were engineering students.

Responses about the impact of the menstrual cycle on the quality of life of the survey

Q1. Do you get menses on time?

Data in Figure 1 show that the majority of the girls, 70.60% (N=108), have menses on time, followed by 29.40% (N=45), who have irregular menstrual cycles (i.e., shows this is a major problem among the girls who do not get menses on time).

Q2. Will the monthly schedule time be delayed? If yes, how many days after do you get your menses?

Data in Figure 2 show that 68.60% (N=105) have a delay of 3 days, followed by 19% (N=29) who have a delay of 2 weeks–1 month, 6.5% (N=10) have irregularity menses of 2–3 months later and 5.9% (N=9) of the participating girls delayed menses of more than 3 months.

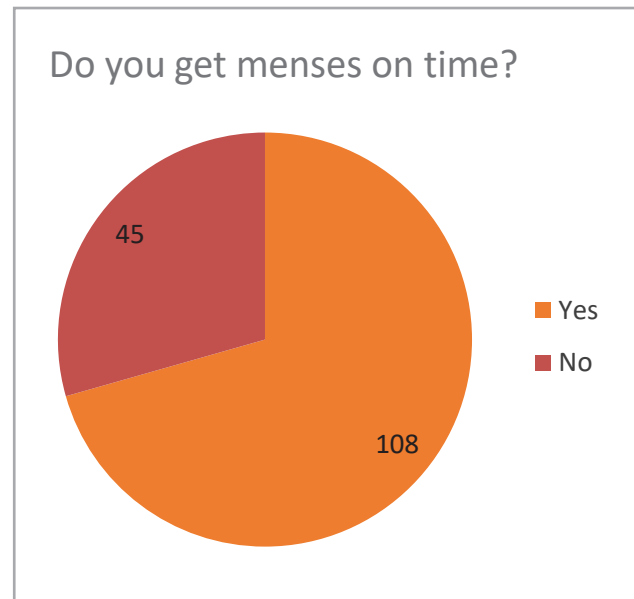


Figure 1: Do you get menses on time?

Q3. Is menses coming before the scheduled time? If yes, how many days before do you get your menses?

The data presented in Figure 3 show that the majority of the female participants, 57.50% (N=88), did not get their menses before the expected time, 28.80% (N=44) did not get their menses before 5 days of the scheduled time, 11.11% (N=17) did not get their menses a week before the scheduled time, and 2.6% (N=4) of the participants got their menses before 10 days of the scheduled time.

Q4. Are you anemic?

Data in Figure 4 show that 72.50% (N=111) were not anemic and 27.50% (N=42) were anemic.

Q5. Do you have any premenstrual symptoms (PMS) like abdominal pain, nausea, mood swings, food cravings and dizziness?

Data in Figure 5 show that most of the participants, 63.4% (N=97), had premenstrual symptoms like abdominal pain, nausea, mood swings, food cravings and dizziness and 36.6% (N=56) did not had any premenstrual symptoms.

Q6. Does abdominal pain occur during periods? If yes, what effect does pain have on you?

Data in Figure 6 show that 37.9% (N=58) of the participants had abdominal pain during menstruation with moderate effect, followed by 35.9% (N=55) with mild effect and 26.1% (N=40) had severe pain during their period.

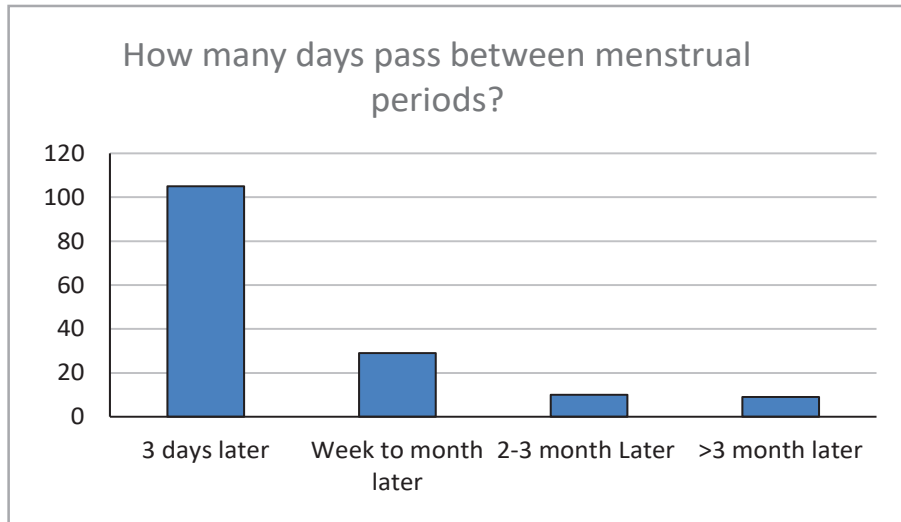


Figure 2: Will the monthly schedule time be delayed? If yes, how many days after do you get your menses?

Q7. What do you do to relax when it comes to things like abdominal cramps?

Data in Figure 7 show that the majority of the participants, 73.2% (N=112), had to fall asleep, followed by 32.7% (N=50) consumption of soft drinks, 19% (N=29) administration of analgesics to relieve abdominal cramps and 6.5% (N=10) doing yoga and meditation to relieve from abdominal cramps.

Q8. Is there any irritation or itching in your vaginal area during menstruation?

Data in Figure 8 show that 64.20% (N=98) felt the itching in the vaginal area and 55.8% (N=55) did not feel any itching and irritation in their vaginal area.

Q9. Is there any odor when the blood is discharged during menstruation?

Data in Figure 9 show that 61.40% (N=94) answered that there is no odor when the blood is discharged dur-

ing menstruation and 38.60% (N=59) answered that they feel an odor when the blood is discharged during menstruation

Q10. Is there any yellowish or green discharge from the vagina during menstruation?

Data in Figure 10 show that 90% (N=150) of the participating girls had no yellowish or green discharge from the vagina during menstruation and only 2% (N=3) had yellowish or green discharge from the vagina during menstruation.

Q11. How many days do you have blood discharge during menses?

Data in Figure 11 show that 58.80% (N=90) have <3-5 days blood discharge during menses, followed by 22.20% (N=34) with <5 days of blood discharge during menses, 12.4% (N=19) have >3-5 days of blood discharge

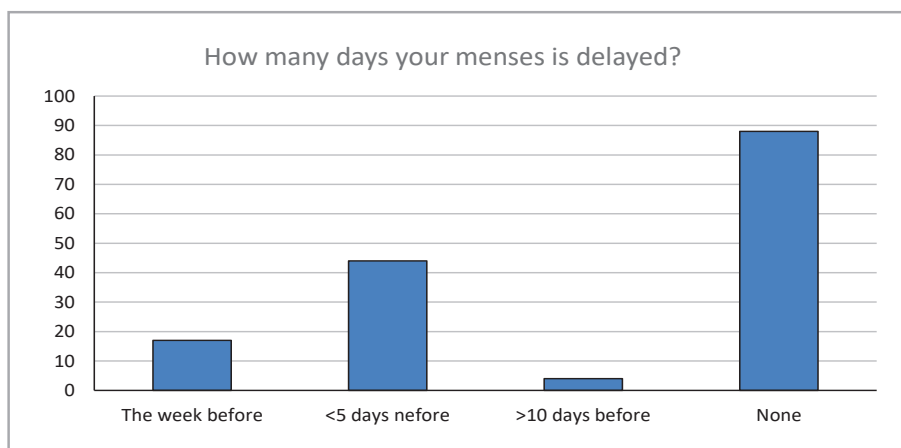


Figure 3: Is menses coming before the scheduled time? If yes, how many days before do you get your menses?

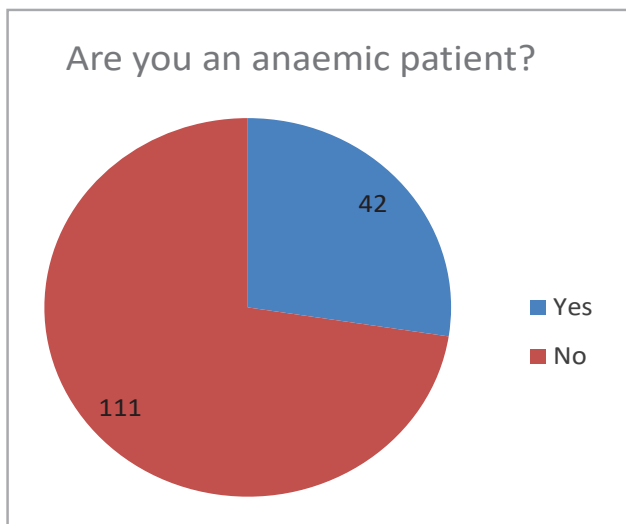


Figure 4: Are you anemic?

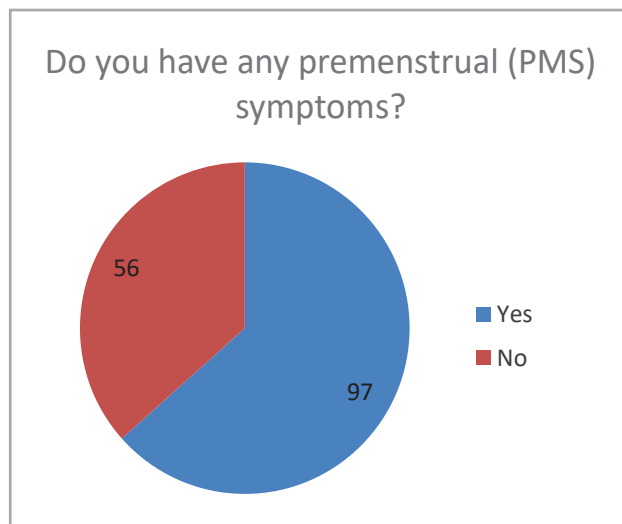


Figure 5: Do you have any premenstrual (PMS) symptoms?

during menses and 6.50% (N=10) have >5 days of blood discharge during their menses.

Q12. What is the extent of bleeding during menstruation?

Data in Figure 12 show that 71.90% (N=110) of the participants have average bleeding, followed by 20.9% (N=32) with heavy bleeding and 7.2% (N=11) with slight bleeding while menstruating.

Q13. How often do you change sanitary napkins?

Data in Figure 13 show that the majority of the participating girls, 59.50% (N=91), changed their sanitary napkins every 6 hours, followed by 20.30% (N=31) who changed their sanitary napkins every 2-3 hours, 14.40% (N=22) who changed their sanitary napkins every

>6 hours and 5.90% (N=9) of the girls changed their sanitary napkins after every >12 hours.

Data in Table 2 show that the majority of the participating girls, 57.50% (N=113), have experienced pimples and acne on the face during menstruation, followed by 42.50% (N=40) who have not experienced it. Some other questions related to the impact of the menstrual cycle on the quality of life are also included in the table.

Discussion

Menstrual problems and stress are the most common health problems in young college girls. This study identified that 29.40% of girls do not get menses on time and 58.20% have irregular menses, which may affect their mental health and social activities. Many girls faced the problem of delayed monthly menses scheduled time. It can be categorized based on how many days after the subject get their periods and reported that 68.60% of subjects had delayed periods than regular, 19% get their periods after a week to a month from regular time, 6.5% of subjects had abnormal menstruation after 2-3 months and 5.9% of subjects delay of more than 3 months. 28.80% of subjects got their periods before 5 days, 11.11% of subjects before a week and 26% of subjects got before 10 days than the scheduled time. 57.50% of the subjects reported that they did not have periods before time. Getting menstruation very early than the scheduled time it may lead to weakness, anemic and fatigue. 27.50% of subjects reported suffering from anemia and 72.50% were not anemic. Premenstrual syndrome (PMS) is common in menstruating girls. 63.40% of subjects have experienced PMS like

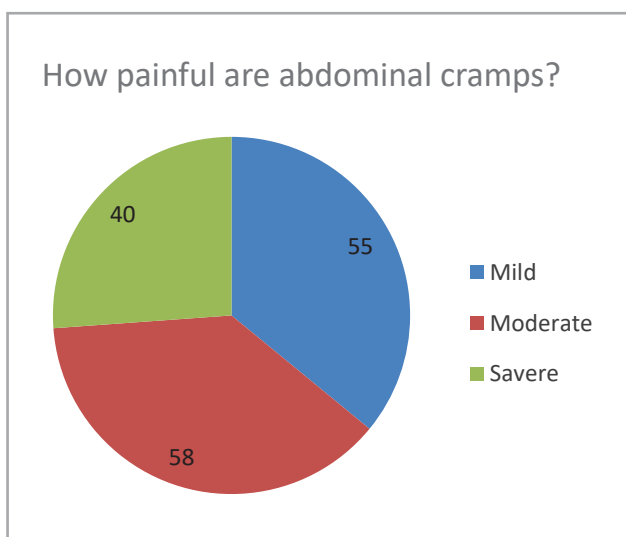


Figure 6: Does abdominal pain occur during periods? If yes, what effect does pain have on.

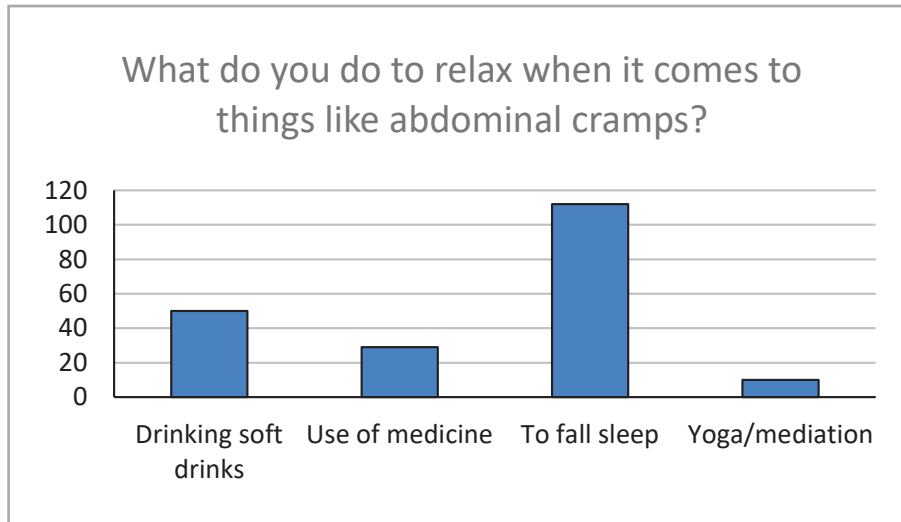


Figure 7: What do you do to relax when you get abdominal cramps?

abdominal pain, mood swings, food cravings, dizziness and nausea. 36.60% of the subjects were free from premenstrual syndrome symptoms.

Abdominal pain is also very common during menses, with 37.90% of subjects having moderate abdominal pain, 35.90% of subjects having mild pain and 26.10% of subjects having severe pain during their menstruation. The majority of subjects, 73.20%, have reported that they fall sleep to relax when it comes to things like abdominal cramps, 32.70% of subjects drink soft drinks, 19% of subjects take medicines and 6.5% of subjects do yoga and meditation to relax from abdominal cramps. Most of the subjects, 64.20%, reported itching and irritation in their vaginal area and 55% did not face any problems of itching and irritation in their vaginal area.

38.60% of subjects observed some odor during the discharge of blood and 61.40% of subjects did not observe the odor. Only 2% of subjects reported that they have observed yellowish or greenish discharge from the vagina during menstruation; it may be due to sexually transmitted diseases (STDs) or fungal or bacterial infections. 6.50% of participants have >5 days of blood discharge during their periods, 12.40% of participants have >3-5 days of discharge, 22.20% of participants have <5 days of discharge and 58.80% of participants have <3-5 days of discharge. 20.9% of subjects had profuse bleeding, 71.90% of subjects had medium bleeding and 7.20% of participants had light bleeding. 59.50% of subjects reported that they have to change their sanitary napkins every 6 hours, 20.30% of subjects should

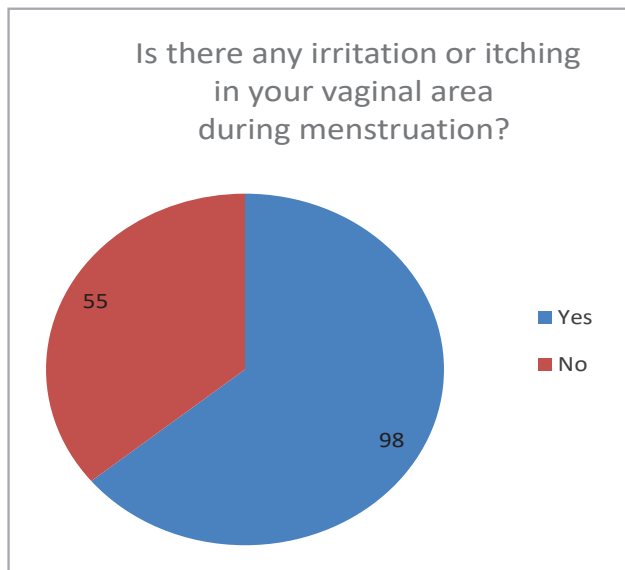


Figure 8: Is there any irritation or itching in your vaginal area during menstruation?

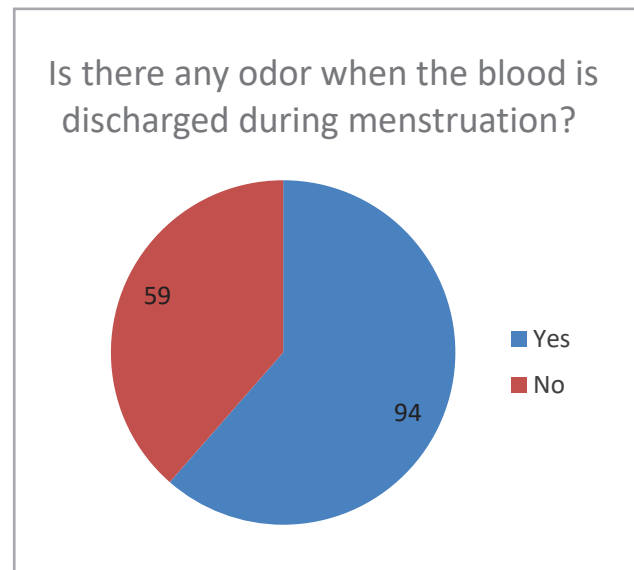


Figure 9: Is there any odor when the blood is discharged during menstruation?

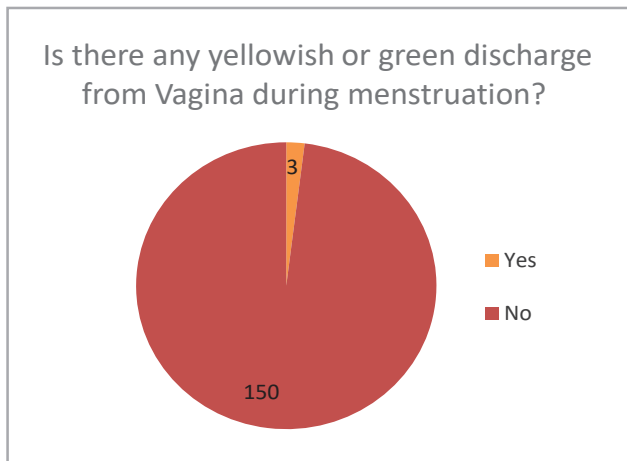


Figure 10: Is there any yellowish or green discharge from the vagina during menstruation?

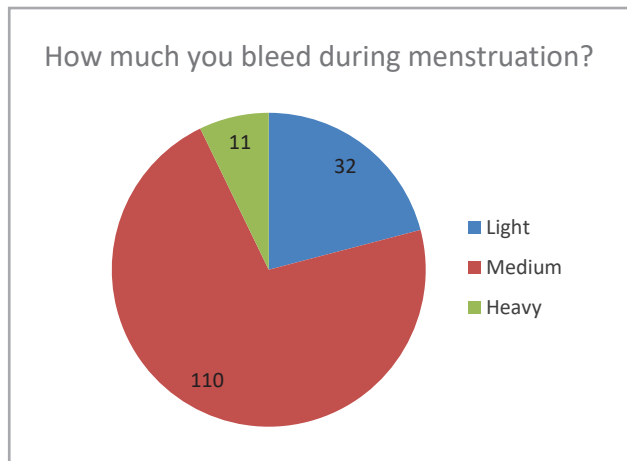


Figure 12: What is the extent of bleeding during menstruation?

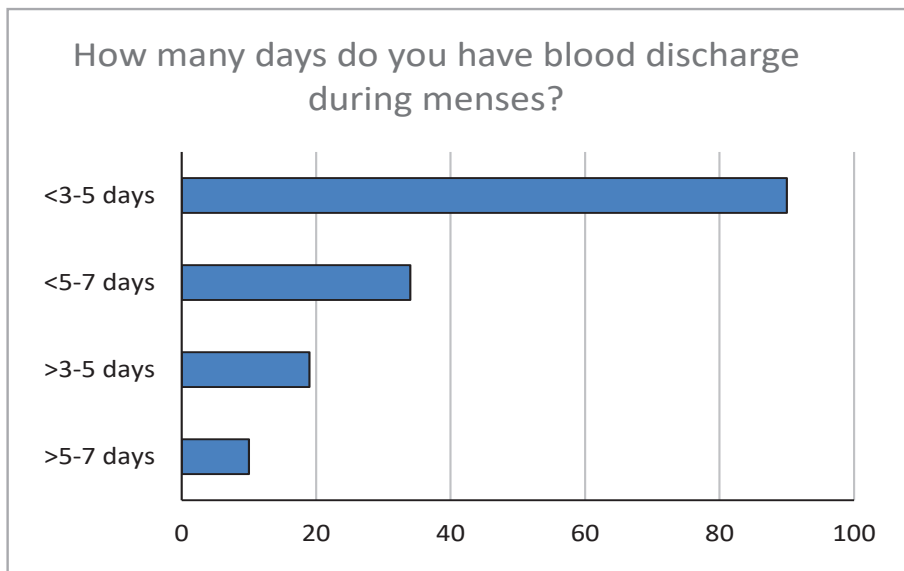


Figure 11: How many days do you have blood discharge during menses?

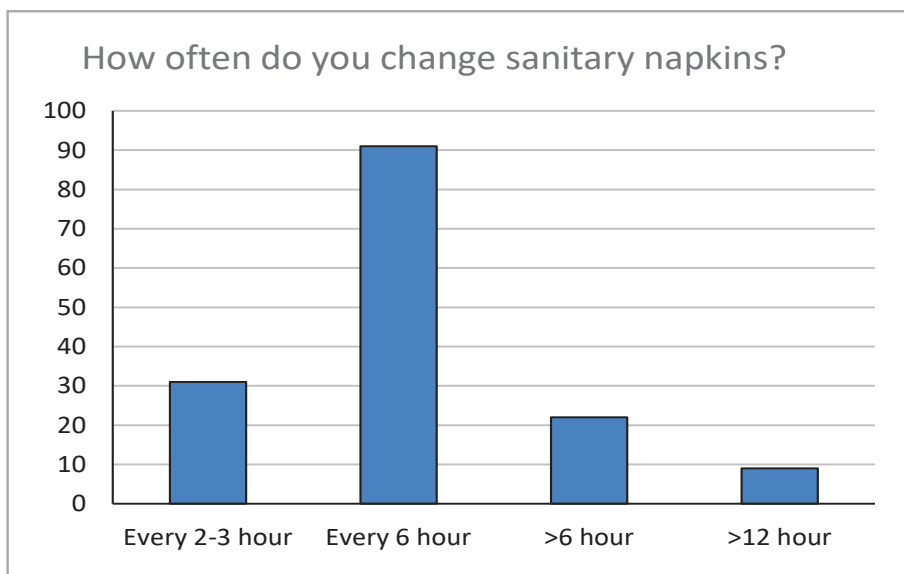


Figure 13: How often do you change sanitary napkins?

Table 2: Some other questions.

Question (N=153)	Yes	No
14. Need to go to the washroom more often?	65	88
15. Do you experience dizziness, breast tenderness, vomiting, headache and leg pain during menstruation?	92	61
16. Are you suffering from depression during menstruation?	29	124
17. Do you experience pimples and acne on the face during menstruation?	113	40
18. Do you take any medicine, food or fruits to speed up or delay menstruation? (food and fruits like eating papaya, pineapple and sesame seeds)	49	104
19. Does anything make you want to eat during menses? (like sweets or chocolates)	60	93

change their sanitary napkins every 2–3 hours, 14.40% of subjects after every >6 hours and 5.90% of subjects change their sanitary napkins after every >12 hours. 65 out of 153 subjects reported that need to go to the washroom more often during menstruation. 92 out of 153 subjects reported feeling dizziness, breast tenderness, vomiting, headache and lower limb pain during menstruation. 29 out of 153 subjects are feeling depressed during menstruation. 113 out of 153 subjects reported pimples and acne on the face before and during menstruation. 49 out of 153 reported that they have to take specific foods like papaya and sesame seeds and medicines to speed up or delay their menstruation. 60 out of 153 subjects reported increase hunger during menstruation. In a study conducted in Japan to establish the relationship between premenstrual symptoms, menstrual pain and irregular cycles with stress, it was seen that 79% of the study population had higher stress levels and thus experienced a high level of premenstrual symptoms as well as pain and 69% population experienced irregular cycles [12]. A study conducted in Nord Trondelag stated that excessive and low physical activity might cause menstrual abnormalities. Hence, physical activity should be done regularly and in moderation to avoid reproductive health problems. 48% of the students also experienced premenstrual symptoms more commonly than those involved in moderate physical activity [13, 14]. The premenstrual syndrome was found to be significantly higher in participants who had dysmenorrhea and moderate stress [15].

It is advised that good menstrual hygiene practices are essential during menstruation, the practices include:

- Regular change of clothing and underwear;
- Change of hygienic pads every 3 to 4 hours;
- Daily showering, especially in instances of dysmenorrhea;
- Adequate washing of genitalia after each voiding of urine and/or feces;

- Continuing normal daily activities and maintaining a balanced diet with plenty of fruits and vegetables rich in iron and calcium [16]. Students are often reluctant to discuss menstruation with their parents and usually hesitate to seek medical help regarding menstrual problems [17]. Menstruation also afflicts girl students through absenteeism and academic performance [18]. Risk factors include misconceptions about menstruation and insufficient and inadequate facilities at colleges [19, 20].

Conclusion

From this study can be concluded that it is necessary for college girls to understand the importance of menstrual cycle abnormalities and the factors affecting it at an early age to prevent adverse effects on reproductive health. It is necessary to conduct educational programs educating them about the impact of menstrual cycle. The study signifies the importance of adopting a proper health pattern that can result in better menstrual health and improved quality of life. Poor mental performance is generally more common during menstruation and for several days prior to onset. Maintaining hygienic conditions, eating a healthy diet and practicing yoga for better physiological and mental health.

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Conflict of interest

The authors declare no conflict of interest.

Authorship

ANJ & LB were involved in the conception of the title and design, analysis and interpretation of the data and wrote the first draft. MPK revised it critically for intellectual content and approved publishing the final version. All authors read and approved the final manuscript.

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