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Prevalence of Menstrual Disturbances in Post COVID Patients (Age Group-15 to 25 Years)

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Abstract: ***Background: Menstruation, the physiological hallmark of reproductive capacity, is experienced on an average of 2-7 days/month. Main feature of women's health and well-being is regular menstrual cycle. In December 2019, an outburst of the novel coronavirus disease 2019 (COVID-19) occurred and have been turn up to have multisystem complications with respiratory symptoms and other systems. Method: Cross-sectional survey was conducted at Krishna College of Physiotherapy, Karad.100 participants with age group 15 to 25 years females who are post COVID according to inclusion criteria. Results: Data was analysed using SPSS version 20. Almost 72% post COVID females had menstrual disturbances. Conclusion: Thus, from the above conducted study it is concluded that menstrual disturbances are seen in post COVID patients.***

Keywords: COVID-19 infection, menstrual disturbances, post COVID patients.

1. Introduction

In December 2019, an outbreak of the coronavirus disease 2019 (COVID-19) occurred in Wuhan, China and after that it has rapidly spread throughout the world and became a major disaster affecting public health. COVID-19 patients have been turn up to have multisystem complications with respiratory symptoms, like complications of the cardiovascular and digestive systems. [1]It is caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). COVID-19 is spread from person to person directly by contact with released viral particles from the respiratory tract of an infected individual or indirectly through virus-contaminated surfaces. Clinically, COVID-19 presents with a different type of symptoms extending from asymptomatic, to fever, dry cough, and tiredness to more serious or lethal diseases with shortness of breath as well as severe acute respiratory syndrome.[2]Due to COVID-19, hospitalizations and death counts increased worldwide, which affects the health of women. Unhealthy weight gain for women is associated with many health issues.[3]

Menstruation, the physiological hallmark of reproductive capacity, is experienced on an average of 2-7 days/month.[4] Main feature of women's health and well-being is regular menstrual cycle, which is an indicator of the normal functioning of hypothalamic-pituitary-gonadal (HPG) axis. The ovary secretes the female sex hormones estrogen and progesterone regularly which stimulates the uterus to cause regular menstruation. Irregular menstrual cycle includes changes in menstrual flow, frequency, regularity, duration, pain intensity or discomfort. Women with irregular menstrual cycle leads to increased risk of cardiovascular disease, diabetes mellitus, chronic renal failure as well as infertility, early menopause, breast and ovarian cancer later in life.[5,6] Changes in ovarian steroid production depends upon length and regularity of menstrual cycle. Normal variation are seen in women over the lifespan on basis of characteristics such as history of infertility, parity, body mass index (BMI) and exercise.[7]Menstruation-related disturbances may lead to significant physical and psychological effects.[8] Therefore, menstrual abnormalities may have lead to serious challenge for the healthcare system, particularly when it comes for its effect on women's daily living activities.[9]

2. Literature Survey

The study was carried out using a self-made questionnaire which was approved by the staff of Krishna College of Physiotherapy, KIMSDU, Karad. A cross-sectional survey was conducted. A sample of 100 girls from age group 15 to 25 years were taken by random sampling and informed consent was taken. The inclusion criteria was girls of age group 15 to 25 years and who had been post COVID. Exclusion criteria were non COVID patients and girls below age of 15 years and above 25 years.

3. Materials and Methods

The study was carried out using a self-made questionnaire. The questionnaire consisted of 15 questions with multiple choice and YES and NO type responses.

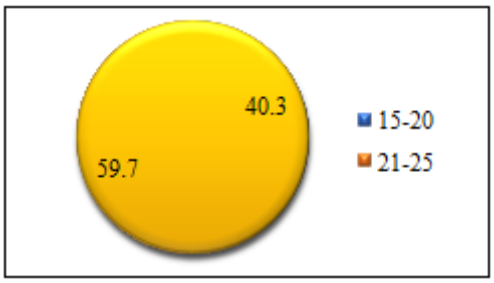
The questionnaire assessed (i) History of COVID infection-date of detection, symptoms, vaccination. (ii) Menstrual history-disturbed menstrual cycle after COVID infection, duration of menstrual cycle after COVID infection, increased discomfort, interference of pain in daily living activities, symptoms increased and pain rate after COVID infection.

4. Results

1) Age Wise Distribution in the Study

Table 1: Age wise distribution

Age Group	Presence of Menstrual Disturbances	Percentage
15-20	29	40.3%
21-25	43	59.7%
TOTAL	72	100%



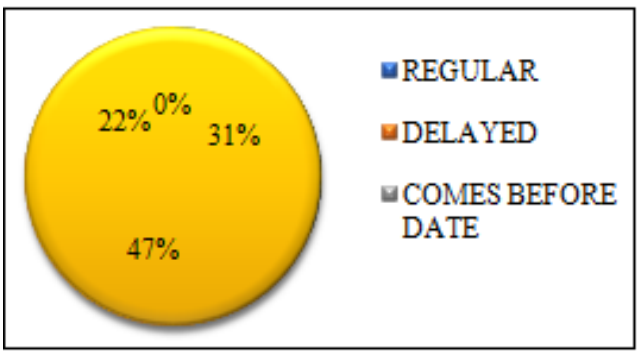
Graph 1: Age wise distribution

From graph one it is clear that out of 72 teenagers with menstrual disturbances due to COVID-19 infection, maximum 43 (59.7%) were in the age group of 21-25 years and minimum 29 (40.3%) were in the age group of 15-20 years.

2) Distribution according Menstrual Cycle after COVID-19 infection in the study:

Table 2: Menstrual Cycle wise distribution

Menstrual Cycle	Presence of Menstrual Disturbance	Percentage
Regular	22	30.6%
Delayed	34	47.2%
Comes Before Date	16	22.2%
Total	72	100%



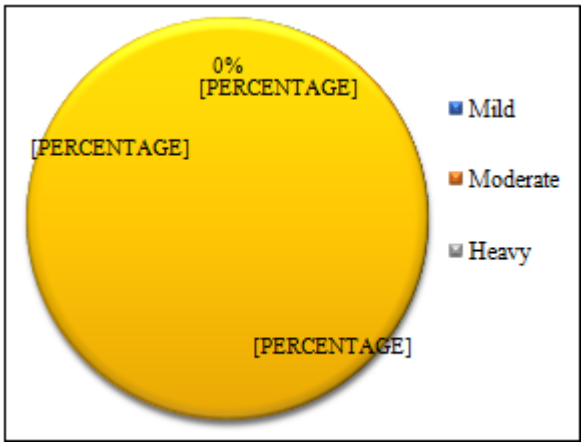
Graph 2: Menstrual Cycle wise distribution

From graph two it is clear that out of 72 teenagers with menstrual disturbances due to COVID-19 infection, maximum 34 (47.2%) have delayed menstrual cycle, 22 (30.5%)have regular menstrual cycle, 16 (22.1%) get menstrual cycle before date.

3) Distribution according to Menstrual Flow after COVID-19 Infection

Table 3: Menstrual Flow wise distribution

Menstrual Flow	Presence of Menstrual Disturbance	Percentage	Total
Mild	05	7%	16
Moderate	45	62.5%	57
Heavy	22	30.5%	27
Total	72	100%	100



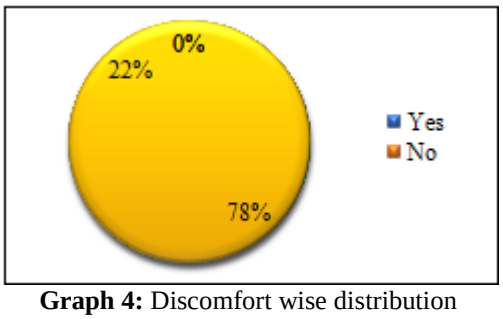
Graph 3: Menstrual flow wise distribution

From graph four it is revealed that out of 72 Post COVID patients with menstrual disturbances, 22 (30.5%) have heavy, 45 (62.5%) have moderate and 05 (7%) have mild menstrual flow.

4) Distribution according to Discomfort Increased due to Presence of Menstrual Disturbance after COVID-19 Infection

Table 4: Discomfort wise distribution

Discomfort Increased	Presence of Menstrual Disturbance	Percentage
Yes	56	77.8 %
No	16	22.2%
Total	72	100%



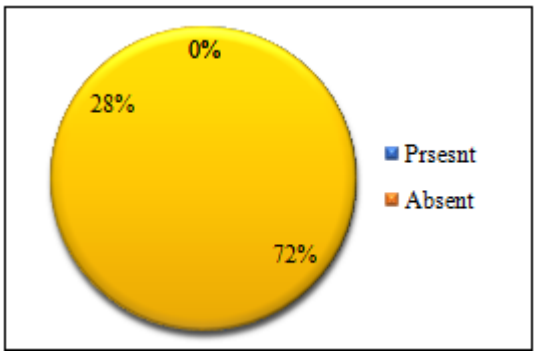
Graph 4: Discomfort wise distribution

From graph four it is suggested that out of 100 Post COVID patients, discomfort due to menstrual disturbance was found in 56 patients. Hence the prevalence that was found was 77.8%.

5) Prevalence of Menstrual Disturbance after COVID-19 Infection

Table 5: Prevalence of Menstrual Disturbances after COVID-19 Infection

	Presence of Menstrual Disturbance	Percentage
Present	72	72%
Absent	28	28%
Total	100	100%



Graph 5: Prevalence of Menstrual Disturbances after COVID-19 Infection

From graph five it is suggested that out of 100 Post COVID patients, menstrual disturbances was found in 72 patients. Hence the prevalence that was found was 72%.

5. Discussion

The purpose of present study was to find out the prevalence of menstrual disturbance (age group-15 to 25 years) in post-COVID patients. There are many viruses which affect the female reproductive system. Menstrual disturbances is most common problem in girls, which can affect their health and can cause many health issues.[1]

The COVID-19 pandemic has caused nearly 1.7 million deaths and changed financial conditions and also disturbed many health conditions including female health.[2]

100 girls between age group 15 to 25 years were assessed using questionnaire.

Menstrual disturbances were found to be more in age group of 21 to 25 years. [Table / Graph no. 1]

A study reviewed after COVID-19 infection 30.6% patients were having regular, 47.2% having delayed and in 22.7% patient's menstrual cycle is coming before date. [Table / Graph no. 2]

After COVID-19 infection, changes were seen also in menstrual flow. Out of 72 girls, 7% were having mild flow, 62.5% were having moderate and 30.5% were having heavy flow. [Table / Graph no. 3]

The discomfort in daily activities after COVID-19 infections was also found in 77.8% girls of age group 15 to 25 years. [Table / Graph no. 4]

In this study, among the 100 selected girls from age group 15 to 25 years, prevalence of menstrual disturbances in post COVID patients was present in 72 girls was found to be 72% [Table / Graph no. 5].

By observing the menstrual changes in post COVID patients (age group 15 to 25 years), it was found that they had various changes in menstrual cycles like prolonged or shortened menstrual cycle, increased or decreased volume also increase or decrease in discomfort and pain in daily activities.

6. Conclusion

On the basis of the results of the study, it was concluded that menstrual disturbances in post-COVID patients (age group-15 to 25 years) was found to be 72%.

7. Future Scope

1) This study can be further taken up for studies, so that we can properly assess the subjects and find out the menstrual disturbances in post- COVID patients.
2) This study can be done on larger population. .
3) This study can be done on other population than other geographical area.
4) Adequate time should be given to actually screen the target population.

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