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Raised BMI and Disturbed Menstrual Cycle

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ABSTRACT

Objective: To determine the frequency of raised BMI in females with disturbed menstrual cycle. **Study Design:** Cross-sectional study. **Setting:** Department of Obstetrics & Gynecology, Govt General Hospital Samanabad Faisalabad. **Duration:** 1-11-17 to 31-05-18. **Methodology:** This was a cross sectional study carried out at Department of Obstetrics & Gynecology, Govt General Hospital Samanabad Faisalabad. In this study the cases of fertile age group i.e. more than 12 years of age having any menstrual disturbance present for at least last 3 menstrual cycle were selected. The cases with bleeding disorder, hormonal issues and those with uterine anomalies were excluded. The BMI was calculated and the BMI ≥25kg/m^2 was labelled as raised. **Results:** There were total 100 cases in this study with mean age of 20.21±4.57 years. The mean duration of abnormality in menstruation was 7.21±2.34 months. There were 64 (64%) of cases that were taking treatment for this. Raised BMI was seen in 32 (32%) of the cases. Raised BMI was significantly higher in number in cases that had age of menarche later than 14 years of age where it was seen in 16 (47.06%) cases with p= 0.01. It was also significantly high in cases that had history of prior treatment where it affected 23 (40.35%) cases with p value of 0.03. **Conclusion:** Raised BMI is common in females with menstrual irregularities and it is significantly high in cases that had age of menarche more than 14 years and are also took some treatment for it.

Keywords: BMI, menstrual cycle, menarche

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INTRODUCTION

Menstrual problems are well-reported health concern and are more common in the younger age group. They are common across the globe; thought the data is scarce yet it's shown that it is common in the the developing countries.[1] They pose a great degree of minor or major stress on one's social, emotional and psychological life along with gynecological issues.[2-3]

There are wide range of etiologies that can lead to this. This ranges from minor stress disorder to severe underlying disease that can be sorted out on detailed workup and include hormonal problems and structural abnormalities of the uterus, ovaries and fallopian tube etc.[4] Few of these disorders can impact at both the adolescent as well as later part of the life. The major clinical fear regarding these irregularities is its effect on reproductive cycles. The developed world has the highest issues and even the developing counties are also suffering from this; courtesy westernization of life style, change in eating habits and rise is obesity prevalence, which can all impact synergistically on menstrual irregularities.[5-8]

Obesity is one of the major risk factors that have been stratified and thought to impact this irregularity. It can not only directly affect it but on the other hand it may reveal an underlying disorder like polycystic ovarian syndrome or hormonal disturbances.[9-12]

OBJECTIVE

To determine the frequency of raised BMI in females with disturbed menstrual cycle

METHODOLOGY

Study Design: Cross-sectional study.

Study Setting: Department of Obstetrics & Gynecology, Govt General Hospital Samanabad Faisalabad.

Sampling Technique: Non-probability consecutive sampling

Duration of study: 1-11-17 to 31-05-18

Methods:

In this study the cases of fertile age group i.e. more than 12 years of age having any menstrual disturbance present for at least last 3 menstrual cycle were selected. The cases with bleeding disorder, hormonal issues and those with uterine anomalies were excluded. The BMI was calculated and the BMI ≥25kg/m^2 was labelled as raised.

Statistical analysis:

The data was entered and analyzed by using SPSS-23. Post stratification chi-square test was applied and p ≤0.05 was taken as significant.

RESULTS

There were total 100 cases in this study with mean age of 20.21±4.57 years (table 1). The mean duration of abnormality in menstruation was 7.21±2.34 months (Table 1). There were 64 (64%) of cases that were taking treatment for this. Raised BMI was seen in 32 (32%) of the cases. Raised BMI was significantly higher in number in cases that had age of menarche later than 14 years of age where it was seen in 16 (47.06%) cases with p= 0.01 (table 02). It was also significantly high in

cases that had history of prior treatment where it affected 23 (40.35%) cases with p value of 0.03 as shown in table 03.

Table 1: Demographics

	Mean	Range
Age (years)	20.21±4.57	14-32
BMI (kg/m²)	24.23±3.39	16-34
Duration of abnormal menstruation (months)	7.21±2.34	1-10

Table 2: Raised BMI and age of menarche (n= 100)

Age of menarche (years)	Raised BMI		Total
	Yes	No	
>14	16 (47.06%)	18 (52.94%)	34 (100%)
14 or less	16 (24.24%)	50 (75.76%)	66 (100%)
Total	**32 (32%)**	**68 (68%)**	**100 (100%)**

p= 0.01

Table 3: Raised BMI and h/o prior treatment (n= 100)

H/o Prior treatment	Raised BMI		Total
	Yes	No	
Yes	23 (40.35%)	34 (59.65%)	57 (100%)
No	09 (20.93%)	34 (79.07%)	43 (100%)
Total	**32 (32%)**	**68 (68%)**	**100 (100%)**

p= 0.03

DISCUSSION

Adolescence is a dynamic part of the life and has a great impact on body in terms of emotional, sexual and physical changes. It starts at the age of 13 years and up to 19 years. It is the time period where usually the menstrual cycle begins; and there are multiple irregularities associated with this.[13-14]

Raised BMI was seen in 32 (32%) of the cases in this study. These results were close to the results of the previous studies. According to a survey by ACOG they found that the chances of raised BMI i.e. in the obesity range were seen 30% to 47% of the cases.[15-16]

Raised BMI was significantly higher in number in cases that had age of menarche later than 14 years of age where it was seen in 16 (47.06%) cases with p= 0.01. It was also significantly high in cases that had history of prior treatment where it affected 23 (40.35%) cases with p value of 0.03. These results were similar to the study conducted by by Dars S et al where they did not used the same cut off value but they revealed that the cases where the mean age of menarche was higher had more chances of menstrual irregularities. In their study the cases with irregularities had mean age of menarche as 12.92 ± 1.41 years.[17] Similar trends were observed by the other studies where it was shown that the cases that are on treatment for menstrual irregularities had more BMI which can be explained by the presence of other underlying co morbid conditions or disease that led to seek treatment.[18-20]

CONCLUSION

Raised BMI is common in females with menstrual irregularities and it is significantly high in cases that had age of menarche more than 14 years and are also took some treatment for it.

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AUTHORSHIP AND CONTRIBUTION DECLARATION

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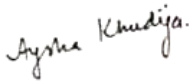
Dr. Aysha Khudija Consultant Gynecologist Govt. General Hospital, Samnabad, Faisalabad	Manuscript writing, Data Collection, Results and Final Layout	
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