



Frequency of Overweight Women and Ovarian Enlargement among Females Presented with Pelvic Pain Complains

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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ABSTRACT

Objective: To determine the frequency of overweight females and ovarian enlargement among women presenting with pelvic pain complaints at rural Health facilities of district Tando Muhammad Khan.

Methodology: This descriptive study was conducted at physiology department of Sindh University with the collaboration of different rural health facilities of Tando Muhammad Khan, Sindh. All the females presented with pelvic pain and age more than 18 and up to 45 years were included. Body mass index (BMI) was assessed by the ratio of the individual's weight in kilograms divided by the height in meters squared ($BMI = \text{kg/m}^2$). All the patients underwent ultrasound examination. Data collection was done by structured study proforma. Analysis of the data was done by the SPSS version 20.

Results: A total of 239 women with pelvic pain complaints were studied, their mean age was

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32.79±4.31 years. Neoplastic ovarian lesions were seen among 12.54% of the cases. Cystic ovarian lesions were among 30.54% of the females, 5.01% had ovarian mass and 21.33% females had mixed pathologies. BMI was normal among 62.76% cases, while 20.08% women were overweight, 03.34% were obese and 13.8% females were underweight.

Conclusion: Overweight females and ovarian enlargement were observed to be highly frequent among females presented with pelvic pain complaints. Cystic enlargement was observed to be the commonest cause of ovarian enlargement.

Keywords: Ovarian enlargement; BMI; ultrasonography.

1. INTRODUCTION

Women of all ages are much more likely to experience lower abdominal or the pelvic pain. Because several symptoms and indicators are insensitive and generic, diagnosing it can be difficult [1]. Pelvic pain among women is mainly caused by gynecological issues such as enlargement of the ovaries, pelvic inflammatory illnesses, and so on. Because of hormonal changes or abnormalities, anxiety, obesity, hypertension, diabetes and malignancy, this is a prevalent disease these days. Although, a female with an abdominal or pelvic mass may experience various symptoms, the most seem to have no guiding/apparent symptoms just at the time of presentation, despite the fact that the adverse diagnosis [2]. Apparently healthy women are frequently identified with ovarian cysts, also termed as ovarian or adnexal masses [3]. Ovarian cysts are occasionally discovered while screening females for pelvic pain, while they might not have been the source of the symptoms [3]. Polycystic ovarian syndrome is a multifaceted illness marked by oligo- or anovulation, abnormalities of the menses, hyperandrogenism and infertility [4,5]. Obesity affects 30–75 percent of females with PCOS, with central obesity affecting 50–60 percent of women with PCOS, regardless of BMI. Obesity promotes the phenotypic expression of PCOS and worsens hormonal and metabolic markers among those who are symptomatic already [4,6]. Obese women are much more likely than normal-weight women to experience menstrual irregularities and anovulatory infertility. At a BMI of 24 kg/m², the relative risk of anovulatory infertility increases in reproductive-age women, and it keeps rising with rising BMI. Weight loss can restore regular menstrual irregularities in these females, which is associated with overweight having a pathophysiological significance [7]. Obesity worsens the hormonal and clinical manifestations of PCOS, and females with PCOS seem to be at a higher risk of obesity, with several underlying processes linking the two problems. The first line

of defense in the management of PCOS is lifestyle intervention, which can both prevent and cause weight reduction; although enhanced engagement and sustainability preserve challenges with the requirements of further research [8]. Hence, the current study has been done to determine the incidence of overweight females and ovarian enlargement among women presented with pelvic pain complaints.

2. MATERIALS AND METHODS

This descriptive study was conducted at physiology department of Sindh University with collaboration of different rural health facilities of district Tando Muhammad Khan, Sindh. All the females presented with pelvic pain and age more than 18 and up to 45 years were included. All the women with ovarian cancer and those who were not agreeing for the participation in the study were excluded. Complete medical history, clinical examination and required laboratory including imaging investigations were done after taking informed consent. ultrasound examination was done by using Ultrasonic machine (Honda Digital electronic model no HS 2200 and Honda Das 60 Machine). Body mass index (BMI) was projected by taking height in meters squared dividing by weight in kilograms ($BMI = \text{kg/m}^2$) of an individual. Further body mass index was classified as BMI <18 kg/m² measured as underweight, BMI 18.9-24.8 kg/m² was considered as normal weight, BMI 25.0–29.9 kg/m² was considered as overweight and BMI >30.0kg/m² was considered obese. Data collection was done by structured study proforma. Analysis of the data was done by the SPSS version 20.

3. RESULTS

A total of 239 women with pelvic pain complaints were studied, their mean age was 32.79±4.31 years. Out of all neoplastic ovarian lesions were found in 28(12.54%) of the cases. Cystic ovarian

Table 1. Descriptive statistics of the age, ovarian lesions and BMI n=239

Variables		Statistics
Age	Mean±SD	32.79±4.31 years
Neoplastic enlargement	Yes	28(12.54%)
	No	211(87.46%)
Other causes of ovarian enlargement	Normal	28(12.54%)
	Cystic	73(30.54%)
	Mass	10(5.01%)
	Mixed	51(21.33%)
	Others	73(30.54%)
	Underweight "BMI <18 kg/m ² "	33(13.8%)
BMI	Normal BMI "<18.9-24.9 kg/m ² "	150(62.76%)
	Overweight "BMI 25.0–29.9 kg/m ² "	48(20.08%)
	Obese "BMI >30.0kg/m ² "	08(03.34%)

lesions were among 73(30.54%) of the females, 10(5.01%) had ovarian mass and 51(21.33%) females had mixed pathologies. Majority of the females 150(62.76%) had normal BMI, while 48(20.08%) women were overweight, 08(03.34%) were obese and 33(13.8%) females were underweight as showed in Table.1

4. DISCUSSION

Adult women adolescent girls having PCOS are prone to being overweight or obese. Adipocytes can grow (hypertrophy) or generate new adipocytes in response to the nutrient excesses (hyperplasia) [9]. Anti-Mullerian Hormone (AMH) levels represent ovarian reserve and are connected with the developing follicles numbers and concentrations of AMH were observed to be more in females with overweight and PCOS of comparable age and adolescence status contrasted to girls with obese females without PCOS [9]. In this study average age of the females was 32.79±4.31 years. Similarly, Rehman R et al [10] demonstrated that the average age of obese PCO women was 32.02±4.81 years. Although, Ramanand SJ et al [11] reported that the mean age of the females was 22.05±4.649 years, this average was lower as compared to our findings and this may be because of they studied only young PCOS patients. However, Yasin M et al [12] reported that the mean age of the PCO women was 24.93±5.67 years.

In this study neoplastic ovarian lesions were found in 28(12.54%) of the cases, cystic ovarian lesions were among 73(30.54%) of the females, 10(5.01%) had ovarian mass and 51(21.33%) females had mixed pathologies. Lee HJ et al [13] reported that polycystic ovarian disease was found in around 6% of ovarian tumors and

polycystic illness, demonstrating that polycystic ovarian disease could be a risk factor in the development of spontaneous malignancy of the ovaries.

In this study 20.08% women were overweight and 08(03.34%) were obese. Some other studies stated that the obesity is more common in PCOS females and there is still not clear consensus on the exact incidence of obese and overweight females with PCOS, with estimates ranging from 40% to 60% [14,15]. Although Yasin M et al [12] reported that the 13% women were obese among PCO females. Obesity, on the other hand, is linked to low-grade inflammation. As a result, it's probable that long-term, unresolved low-grade inflammation is linked to the PCOS development. Although, whether low-grade inflammation is the risk factor or an effect of PCOS is unknown [13]. The most of the females having PCOS have resistance of insulin and/or obesity, and the raised insulin concentration of them raise the frequency of GnRH pulse and either contributes to or causes the abnormalities identified in the axis of hypothalamic–pituitary and ovaries that lead to PCOS [16].

5. CONCLUSION

Overweight females and ovarian enlargement were observed to be highly frequent among females presented with pelvic pain complaints. Cystic enlargement was observed to be the commonest cause of ovarian enlargement. Normal weight individuals more was affected by right side ovarian disease than the left side Pathology. As per findings of ultrasonography, the cystic ovarian enlargement is common in all age groups. Further large-scale studies are recommended on this subject.

CONSENT

As per international standard or university standard, patients' written consent has been collected and preserved by the author(s).

ETHICAL APPROVAL

As per international standard or university standard written ethical approval has been collected and preserved by the author(s).

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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