# FREQUENCY OF OVERWEIGHT AMONG WOMEN OF OVARIAN ENLARGEMENT PRESENTED WITH PELVIC PAIN COMPLAINS


## ABSTRACT

**Objective:** To determine the frequency of overweight among females of ovarian enlargement and presented with pelvic pain complaints.

**Methodology:**This descriptive study was conducted at physiology department of Sindh University with collaboration of different health facilities of Tando Muhammad Khan and Hyderabad Sindh. All the females presented with history of ovarian enlargement with pelvis pain and either of age were included. Body mass index (BMI) was calculated as the ratio of an individual's weight in kilograms divided by the height in meters squared (BMI = $kg/m^2$). All the data was collected via study proforma. Data was analyzed by using SPSS version 20.

**Result:** A total of 239 women of ovarian enlargement were studied, their mean age was 32.79±9.31 years. Neoplastic ovarian lesions were seen amogn12.54% 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 were observed to be highly frequent among females of ovarian enlargement. Cystic enlargement is more common as compared to solid or mixed enlargement.



**Keywords:** Ovarian Enlargement, BMI, Sonography.


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## INTRODUCTION

The lower abdominal/pelvic pain is more common in women related to all age groups. Its diagnosis can be challenging because many symptoms and signs are insensitive and nonspecific.[1]Women are usually suffering from pelvic pain are mostly related to gynecological problems e.g ovarian enlargement, pelvic inflammatory diseases etc. This is very more common problem now a days because of hormonal changes or imbalances, stress, hypertension, obesity, diabetes and malignancies. However, a woman presenting with an abdominal or pelvic mass might complain of various symptoms but a significant majority will have no guiding/ obvious symptoms at presentation although the final diagnosis may be life-threatening.[2]Ovarian cysts, also known as ovarian masses or adnexal masses, are frequently found incidentally in asymptomatic women.[3]Ovarian cysts are sometimes found in the course of evaluating women for pelvic pain though the cysts may or may not be the cause of the pain.[3]Polycystic ovary syndrome is a heterogeneous condition characterized by oligo-ovulation or anovulation, hyperandrogenism, menstrual irregularities and subfertility.[4,5] Approximately 30–75% of women with PCOS are obese, with central obesity noted in 50–60% of women with PCOS, irrespective of BMI. Obesity encourages phenotypic expression of PCOS and causes deterioration of hormonal and metabolic parameters in those who are already symptomatic.[4,6] Obese women are more likely to have menstrual irregularity and anovulatory infertility than normal-weight women. In reproductive-

age women, the relative risk of anovulatory infertility increases at a BMI of 24 kg/m$^2$ and continues to rise with increasing BMI.Consistent with a pathophysiologic role for obesity, weight reduction can restore regular menstrual cycles in these women.[7] Obesity exacerbates hormonal and clinical features of PCOS and women with PCOS appear at higher risk of obesity, with multiple underlying mechanisms linking the conditions. Lifestyle intervention is first line in management of PCOS to both prevent weight gain and induce weight loss; however improved engagement and sustainability remain challenges with the need for more research.[8] Hence this study has been conducted to determine the frequency of overweight among females of ovarian enlargement and presented with pelvic pain complaints.

## MATERIAL AND METHOD

This descriptive study was conducted at physiology department of Sindh University with collaboration of different health facilities of Tando Muhammad Khan and Hyderabad Sindh. All the females presented with history of ovarian enlargement with pelvis pain and either of age were included. All the women with ovarian cancer and those who were not agree to participate in the study were excluded. After taking informed consent a complete medical history and clinical examination was done. BMI was calculated as the ratio of an individual's weight in kilograms divided by the height in meters squared (BMI = kg/m$^2$). Severity of BMI was categorized as underweight (BMI <18 kg/m$^2$), normal weight (BMI <18.9-24.8 kg/m$^2$), overweight (BMI 25.0–29.9 kg/m$^2$) and obese (BMI >30.0kg/m$^2$). All the data was collected via study proforma. Data was analyzed by using SPSS version 20.

## RESULTS

A total of 239 women of ovarian enlargement were studied, their mean age was 32.79±9.31 years. Out of all 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. 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

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

| **Variables** | | Statistics |
|---|---|---|
| **Age** | Mean±SD | 32.79±9.31 years |
| **Neoplastic enlargement** | Yes | 28(12.54%) |
| | No | 211(87.46%) |
| | Cystic | 105(43.80%) |
| | Mass | 10(5.01%) |
| | Mixed | 51(21.33%) |
| | Others | 73(30.54%) |
| **BMI** | Underweight(BMI <18 kg/m$^2$) | 33(13.8%) |
| | NormalBMI <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%) |

## DISCUSSION

Overweight and obesity are common among adolescent girls and adult women with PCOS. In response to nutrient excess, adipocytes can enlarge (hypertrophy) or form new adipocytes (hyperplasia).[9] AMH concentrations reflect ovarian reserve and are correlated with the number of growing follicles and AMH concentrations were found to be higher in girls with obesity with PCOS compared to girls with obesity without PCOS of comparable age and pubertal status.[9] In this study average age of the females was 32.79±9.31 years.Similarly,Rehman R et al[10] reported that the mean 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 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]found that approximately 6% of hens with ovarian tumors had polycystic ovarian condition, suggesting that polycystic ovarian condition may be a potential risk factor for the development of spontaneous ovarian cancer.

In this study 20.08% women were overweight and 08(03.34%) were obese.Some other studies stated that the women with PCOS have an increased prevalence of obesity and a consensus on the proportion of overweight and obese women with PCOS is not clear, with estimates of between 40% and 60%.[14,15]AlthoughYasin M et al[12] reported that the 13% women were obese among PCO females.However, obesity is also associated with low-grade inflammation. Thus, it is possible that long-standing unresolved low-grade inflammation may be associated with the development of PCOS. However, it is unknown whether low-grade inflammation is a cause or an effect of PCOS.[13] The majority of women with PCOS have insulin resistance and/or are obese and their elevated insulin levels increase GnRH pulse frequency and either contribute to or cause the abnormalities seen in the hypothalamic–pituitary–ovarian axis that lead to PCOS.[16]

### Conclusion

Overweight females were observed to be highly frequent among females of ovarian enlargement. Cystic enlargement is more common as compared to solid or mixed enlargement. Person with normal weight is more suffered from right side ovarian pathology than left side Pathology. According to the sonographic findings study shows cystic ovarian enlargement are common in all age group however very in common in 20-30 age groups.

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