

## **Role of Counselling in Creating Awareness about PCOS among Female Medical Students**

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### **ABSTRACT**

Polycystic ovary syndrome (PCOS) is a condition that is challenging for young women and their health professionals and remains poorly understood, leading to delays in diagnosis, inconsistent treatment and lack of support. It is a hormonal life long condition that can impact a woman's physical and emotional health. The symptoms or common features may include menstrual irregularity, weight gain, acne and hirsutism. Over time, these symptoms may evolve into other health problems including infertility and metabolic complications such as diabetes. The prevalence has been increasing in the adolescent population. In more than 40% of cases, PCOS is associated with obesity, as well as impaired glucose tolerance, type 2 diabetes, and the metabolic syndrome yet remains largely undiagnosed, limiting opportunities for prevention and management. It is being under evaluated and possibly under diagnosed in the adolescent population so its awareness must be increased. Given the high prevalence of PCOS, its short- and long-term effects on physical and mental health, and its costs to the health care system, one might wonder why there is such a lack of awareness about PCOS. Its study was conducted to assess the knowledge about polycystic ovarian syndrome (PCOS) among female medical students of age 18-24 years; to find the source of information; to find the prevalence and to educate them about polycystic ovarian syndrome.

**Key Words :** Polycystic ovary syndrome, Knowledge, Health, Adolescents, Diabetes, Reproductive health, Menstrual irregularity, Obesity

### **INTRODUCTION**

Polycystic ovary syndrome (PCOS) is a prevalent, chronic and heterogeneous endocrine condition with reproductive, metabolic and psychological features. It is a condition in which woman has an imbalance of female sex hormones. The name polycystic ovary syndrome is misleading as the primary problem is not the ovaries, but the effect of increased levels of hormones (chemical messengers) on the ovaries that causes symptoms. More specifically, these include higher levels of the male-type hormones, androgens (including testosterone) and the hormone insulin. PCOS is more common than generally understood, affecting up to 1 in 5 women of reproductive age. Specifically, up to 25% of Indian reproductive-aged women are affected. Although there is no cure for PCOS,

the symptoms can be managed. This may lead to changes in the menstrual cycle, cyst in the ovary, failure to conceive and other health problems. It is a common health problem among teenagers and young women. PCOS affects about 10 million women in the world. It usually comes to attention after menarche in teenage girls or young women who present with oligomenorrhea, hirsutism, infertility, and sometimes obesity. Although there is no cure for PCOS, there are several ways to treat and manage the condition. If a girl is overweight, Weight loss can be very effective in lessening many of the health conditions associated with PCOS. Sometimes weight loss alone can restore hormone level to normal, causes many of the symptoms to disappear or become less severe. Healthy food habits and exercise helps to combat the weight gain. Research has suggested that PCOS may be related to

increased insulin production. PCOS seems to run in families, too, so if someone in the family has it, they might be more likely to develop it. India has witnessed about 30% rise in polycystic ovarian syndrome (PCOS) cases in the last couple of years. Lack of knowledge and lifestyle changes are considered to be the major factor leading to this phenomenon. There is a need to increase awareness among women so as to avoid major cases of fertility problems in the future.

The diverse manifestations of PCOS start at an early age when a girl is maturing into a young woman. It is important to make an early diagnosis in order to prevent early and late sequel of the syndrome. PCOS may occur at a younger age in girls who develop early pubarche and thelarche. Therefore, the diagnosis and workup should be considered in young girls with risk factors suggestive of PCOS. Increased awareness of PCOS in young females is needed.

The study was conducted to determine and interpret the prevalence of symptoms of PCOS in female students and to check the percentage of female students who are aware of these diseases. Survey of 200 girls was done to assess the knowledge on the polycystic ovarian syndrome among the medical students of different colleges studying in 1st, 2nd, and 3rd year.

Features associated with PCOS:

- Acne
- Excess body and facial hair (hirsutism)
- Emotional distress, anxiety and depression
- Challenges with body image and increased risk of eating disorders
- Scalp hair loss (alopecia) in the central part of the scalp
- Reduced fertility
- Oligomenorrhea (infrequent bleeding) or amenorrhea (no menstrual period)
- Oligoovulation (infrequent ovulation) or anovulation (absent ovulation)
- Higher risk of diabetes in pregnancy and adult onset prediabetes or type 2 diabetes
- Greater heart disease risk factors including higher cholesterol levels
- Acanthosis nigricans (dark patches of skin, tan to dark brown/black; located on the back of the neck or in skin creases; velvety to the touch).

It is important to emphasise that a diagnosis of PCOS does not necessarily mean these features will develop in all women with PCOS, due to the highly variable and the

individualised nature of this condition.

## METHODOLOGY

### Type of study :

The study was survey based study.

### Study area :

The study was conducted in a private medical college in Mumbai

### Study population :

The study was performed on 200 female medical students studying in 1st, 2nd, and 3rd year of aged 18 to 24.

### Inclusion criteria :

In this survey only female medical students were included.

### Exclusion criteria in this survey :

Males were excluded, Non-medical students were excluded and anyone unwilling to participate or unable to comply with protocol requirements were excluded.

### Study tool :

To facilitate the study of knowledge and awareness of Polycystic Ovary syndrome among female medical students, a structured questionnaire was established. Through this questionnaire, demographic information were collected along with some factors that may be associated to the knowledge and awareness of Polycystic Ovary syndrome among female medical students aged 18 to 24.

The investigator obtained permission from the students, prior to the data collection and assured confidentiality to the subject to get their cooperation and explained the purpose of the study. The results were analyzed.

### Data collected :

- Age
- Weight in kg and height in cm to calculate BMI
- Type of diet- Vegetarian or mixed diet
- Menstrual Irregularity
- Signs of hyperandrogenism -Hirsutism or acne
- Source of information-Teacher, doctor, friend, paper or internet
- Type of consultation-Dermatologist or

gynaecologist or any other

- No. of diagnosed cases

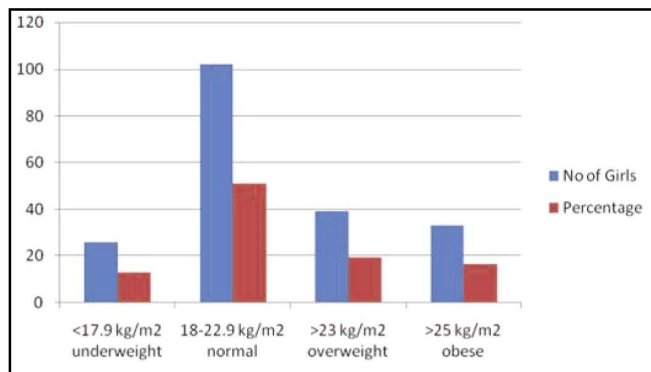
### RESULTS AND DISCUSSION

In present study, 62.5% girls were young women in the age group of 20-24 years while 37.5% girls were adolescent girls in the group of 18-19 years. Adolescent girls were from 1st or 2nd year. Young girls were from 2nd or 3rd year. A few were from 4th year (Table 1).

Age group	No. of girls	Percentage
18-19 yrs	75	37.5
20-24 yrs	125	62.5

In present study, 51% girls had normal BMI, 19.5% were overweight, 16.5% were obese while 13% were underweight. Overweight and obese girls are more prone for PCOS. Counselling was given and weight reduction was advised. Also, hormonal profile for thyroid, hyperandrogenism was suggested.

BMI	No. of girls	Percentage
<17.9 kg/m <sup>2</sup> underweight	26	13
18-22.9 kg/m <sup>2</sup> normal	102	51
>23 kg/m <sup>2</sup> overweight	39	19.5
>25 kg/m <sup>2</sup> obese	33	16.5



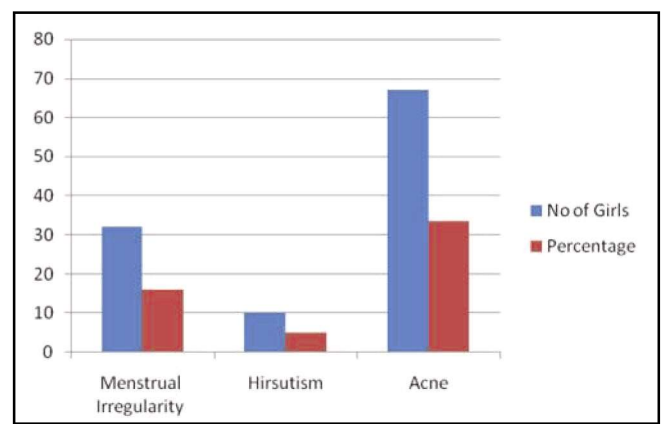
**Fig. 1 : BMI (Body Mass Index)**

In present study, 51% girls were consuming pure vegetarian diet while 49% girls were consuming mixed (vegetarian and non-vegetarian) food. Advice regarding healthy food was given.

Type of diet	No. of girls	Percentage
Mixed (veg and non-veg)	98	49
Vegetarian	102	51

In present study, 33.5% girls had acne, 16% had menstrual irregularity, 5% had hirsutism. Hormonal profile for hyperandrogenism was suggested. eg. Serum Testosterone, Serum DHEAS. If these levels were high, the girls were referred to endocrinologist for further management.

Problems	No. of girls	Percentage
Menstrual irregularity	32	16
Hirsutism	10	5
Acne	67	33.5



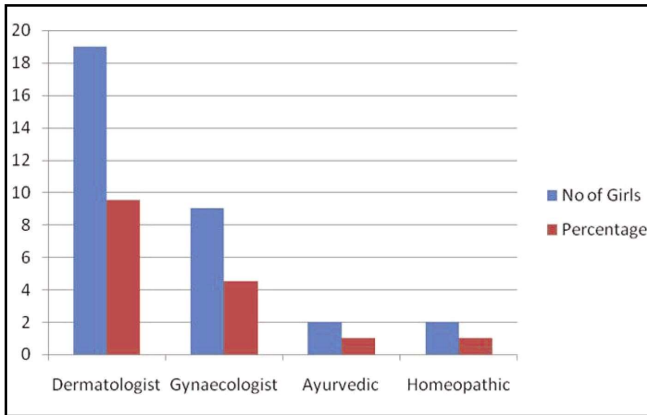
**Fig. 2 : Problems in adolescent and young women**

In present study, 33% adolescent and young girls had information about PCOS from teacher, 19% got information from friend, 11.5% got information from a doctor, 3.5% got information from newspaper while 5% got information from internet. 28% adolescent and young girls were unaware of PCOS.

Being medical students, main source of information was teacher. Still 28% of girls were unaware about PCOS when they are in first or second year. So, 72% girls were aware of PCOS while 28% were unaware of PCOS.

In this study, 9.5% girls consulted dermatologist for either hirsutism or acne, 4.5% consulted gynaecologist

Source of information about PCOS	No. of girls	Percentage
Teacher	66	13
Friend	38	19
Doctor	23	11.5
Paper	7	3.5
Internet	10	5
No Information	56	28



**Fig. 3 : Type of doctor attend**

for menstrual irregularity, 1% girls sought ayurvedic treatment while 1% opted for homeopathy.

Amongst 16% girls who consulted a doctor, 9% girls did ultrasonography and blood investigations. Amongst them, 6% girls were diagnosed as having PCOS. So, prevalence of PCOS in present study is 6%.

Prevalence	No. of girls	Percentage
Consultation with doctor	32	16
Investigation done	18	9
Proved PCOS	12	6

**Age distribution :**

The present study was conducted on 200 medical students by using simple random sampling technique. In current study, 62.5% girls were young girls in the age group of 20-24 years while 37.5% girls were adolescent girls in the group of 15-19 years. Sunanda and Nayak (106) revealed that 85% of the samples were in the age group of 21-25 years, 75% of the samples were Christians, 82% of the samples were consuming mixed diet, and 92% samples had regular menstrual cycle. Sills *et al.* (2001) found that from 657 participants, the majority (63%) were between 26-34 years. Moghul (2015) found that the increasing trend of PCOS is predominantly seen in the age group 15 to 30 years.

**BMI (Body mass index) :**

In the present study, 51% girls had normal BMI, 19.5% were overweight, 16.5% were obese while 13% were underweight. Sanchez (2014) found that 32% were obese.

**Type of diet :**

In the present study, 51% girls were consuming pure vegetarian diet while 49% girls were consuming mixed (vegetarian and non-vegetarian) food.

**Problems in girls :**

In the present study, 33.5% females had acne, 16% had irregularity of menstrual irregularity, 5% had hirsutism. Sanchez (2014) found that 32% were obese, 21% had acne, and 7% were hirsute (all associated with elevated testosterone levels and PCO appearance on ultrasound). Joshi (2014) found that history of oligomenorrhea had a positive predictive value of 93.3% and negative predictive value of 86.7% to detect a possible case of PCOS.

**Source of information :**

In the present study, 33% adolescent and young girls had information about PCOS from teacher, 19% got information from friend, 11.5% got information from a doctor, 3.5% got information from newspaper while 5% got information from internet. 28% adolescent and young girls were unaware of PCOS. 72% girls were aware of PCOS while 28% were unaware of PCOS. Sunanda and Nayak (2016) found that 76% of the samples were with average knowledge and 10.7% with good knowledge regarding polycystic ovarian syndrome.

Sills (2001) found that those subjects between age 26-34 were significantly more aware of PCOS than any other age group. Gul *et al.* (2014) found that only 20 out of 177 women had any knowledge about this syndrome. Out of these 20 women 11 were those who had degrees in Medical Sciences. Gul *et al.* (2014) found that 10% of women knew about this disorder.

**Consultation for complaints :**

In this study, 9.5% girls consulted dermatologist for either hirsutism or acne, 4.5% consulted gynaecologist for menstrual irregularity, 1% girls sought ayurvedic treatment while 1% opted for homeopathy. Sills *et al.* (2001) found that Physicians were the most common provider of PCOS information for all study participants, irrespective of age.

**Prevalence of PCOS :**

In the current study amongst 16% girls who consulted a doctor, 9% girls did ultrasonography and blood investigations. Amongst them, 6% girls were diagnosed as having PCOS. So, prevalence of PCOS in present

study is 6%. Sanchez (2014) found that the prevalence of PCOS in adult women aged 18-45 years in the US is estimated to be 6.6%.

### Conclusion :

From this study, it is concluded that 72% of girls were aware of PCOS while 28% of girls were unaware of PCOS. Prevalence of PCOS in present study is 6%. Most common source of information about PCOS was teacher as the girls were medical students. Girls who were having BMI more than 23 should be educated about its hazards and should be advised weight loss. Girls who had menstrual irregularity and signs of hyperandrogenism should be investigated and must be managed accordingly. Early diagnosis of PCOS and its prompt treatment will help the girls to improve quality of life and prevent further health hazards. Although the percentage of girls who were aware of PCOS is more than those who were unaware but still the level of knowledge about the causes, sign and symptoms of PCOS is insufficient; we consider it is necessary to improve knowledge about PCOS. From this study we see that, the level of knowledge about PCOS in unsatisfactory. Students knowledge of PCOS is insufficient in most aspects eg, diagnosis, treatment. PCOS awareness programs should incorporate these aspects with additional focus on education of PCOS. Thus, an effective information transfer mechanism is needed to overcome this problem. The suggestion to upgrade the system to promote awareness about PCOS should be conducted via the most effective medium. For example the selected media are television, newspaper and social network. More educational programs, conferences should be designed to provide comprehensive information and awareness on Polycystic Ovarian Syndrome.

### General tips for a healthy lifestyle :

1. Consume a well balanced and nutritious diet.
2. Avoid Junk Food.
3. Eat more fruits and vegetables.
4. Reduce portion size-use smaller bowls and plates.
5. Early detection and prevention are vital to reducing the risk of long-term health issues associated with PCOS.
6. Counselling for adolescents should be included in the curriculum which will provide an awareness towards the disorder and lifestyle modification.
7. Taking control of treatment by forming effective

partnerships with health professionals contributes to improved health outcomes.

8. Prevention of weight gain is vital for all women with PCOS and, if overweight, a small weight reduction (5-10% of current body weight) may significantly reduce PCOS symptoms and long-term complications.

9. Exercising regularly or a minimum of 150 minutes per week of physical activity may enhance health.

10. Monitor emotional wellbeing and be proactive in seeking help and support and consult only reliable well-researched sources of information.

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