



ASSESSMENT OF KNOWLEDGE, AWARENESS AND PERCEPTION AMONG PATIENTS OF POLYCYSTIC OVARY SYNDROME

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Abstract: The current research indicates that the pattern of PCOS clustering in families mimics an autosomal dominant pattern. Study includes 120 women in local area of Dehradun and family clinic in Kanpur area. Among 120 patients age wise distribution of women showed that the most of the women were in the age group 21-30 years (50%) followed by 40-50 years (12.5%), 30-40 years (10%), 50-60 years (6.66%) and 16-20 years (3.57%). Out of 120 women, 33.34% had knowledge about PCOS and 66.66% didn't know the term of PCOS. Only 29.17% had knowledge about the cause of PCOS and 70.83% didn't know about the cause of PCOS. 33.34% know about the complications of PCOS and 66.66% don't know about it. 26.67% had knowledge about the management and method of treatment of PCOS and 73.33% didn't know about it. 33.34% were experienced symptoms and complications of PCOS and 66.66% were not experienced any symptoms and complications. 20.83% of women were aware of measures to decrease the symptoms and disease information of PCOS and 79.17% were not aware of it. Most of the women (80.83%) were aware about treatment methodologies for PCOS and few of them (19.17%) were aware about treatment methodologies for PCOS. most of the women 41.67% were do not agree or disagree about the PCOS is a permanent condition and cannot be cured in which 30.84% were agree and 27.5% were disagree to the statement. 73.33% women were strongly agree to PCOS can be managed by dietary and lifestyle modifications, no one was disagree and 26.66% were do not agree or disagree to this statement. 33.33% women were agree about the PCOS have no control over the disease, 40% of women disagree and 26, 66 women did not agree or disagree about the statement. 66.66% were agree to PCOS patient requires social support and weight reduction is a mode of effective treatment for PCOS, 33.33% women were disagree about this statement. To identify woman at risk for PCOS, it's crucial to pay attention to the history, physical exam, and laboratory results. While delaying diagnostic labelling may be appropriate, treating clinical characteristics and comorbidities is essential for these patients' wellbeing and self-esteem.

Keywords: PCOS, Dehradun, Kanpur, Oigogenic disorder, Lifestyle, Awareness

Introduction:

PCOS is an oligogenic disorder in which a range of genetic and environmental factors interact to produce a phenotypic, clinical, and biochemical phenotype. Although the genetic cause of PCOS is unknown, having a family history of the disorder is rather common; nevertheless, the relationship between PCOS and families is uncertain [37][38]. The absence of phenotypic data makes it hard to conduct a formal segregation research [41]. Despite this, recent studies show that the pattern of PCOS clustering in families resembles an autosomal dominant pattern [1][36]. The three most common factors related with PCOS are cystic ovaries, increased androgen levels, and irregular ovulation, albeit the symptoms and indicators vary. Ovulation problems and elevated androgen levels are common in PCOS patients' bodies. Additionally, high levels of androgen are connected to hirsutism, acne, and alopecia, and 70% of PCOS patients had polycystic ovaries on pelvic ultrasounds [2][21][25][35].

In addition, elevated levels of androgen have been associated to hirsutism, acne, and alopecia. Polycystic ovaries were also discovered in 70% of PCOS patients' pelvic ultrasounds [3][33][34]. Type 2 diabetes, high blood pressure, and issues with the heart and blood arteries are a few of them. One of the physical symptoms of PCOS that some women encounter is weight gain. Other symptoms include hair growth and acne. PCOS patients frequently experience difficulties getting pregnant [4][36]. Some

women started to believe that they were healthier than other PCOS sufferers, which comforted them^{[22] [23]}. The ladies learned that networking with other women enabled them to validate their experiences and gave them access to practical information from other PCOS women that was pertinent to their current interests^{[5] [6]}. A novel technique for a diagnostic tool for the automatic counting and classification of follicles has been created after taking into account these shortcomings of the present method^[7]. Essentially, the task force considered that PCOS was defined by all those component phenotypes that potentially signalled an increased risk for insulin resistance and the resulting metabolic abnormalities^{[8] [26] [27]}.

Instead of just utilizing oral contraceptives to control the cycles, this may be considered treating the "root cause" of the issue^{[28] [30]}. In 40% to 90% of individuals who were investigated, metformin medication has been observed to encourage the return of regular, ovulatory menstrual periods^{[9] [37]}.

Both metformin and lifestyle changes/weight reduction reduce testosterone by increasing insulin sensitivity (and hence lowering insulin levels), albeit to a lesser extent. Oral contraceptives of the second or third generation reduce overall hirsutism scores by about 33%^{[10] [29] [38]}.

MATERIALS AND METHODS

The study was carried out on the patients by using the self-modified questionnaire (Appendix I). All the demographic details of the patient was collected. The assessment of knowledge, awareness and perception regarding causes, complications and management among PCOS patients and alongside of that significant improvement in knowledge, enhancement in awareness and changes in perception among some patients was the prime and important outcome of the study^{[11] [31]}. The target of the questionnaire was collecting the information of patients reporting PCOS with their consent (Appendix II). No community-based prevalence data is available for this syndrome in India. Women with PCOS should be engaged and included in the creation as well as the quality assessment of information regarding their condition, so that it is relevant to their lifestyle^{[39] [40]}. Promoting a healthy lifestyle as early as possible is the most significant treatment for PCOS^[12]. Women with PCOS require information and direction on how to do so that they can take charge of their own health^{[13] [33]}. Therefore, present study will be focused to assess the knowledge, awareness and perception regarding causes, complications and management among PCOS patients^{[14] [32]}.

RESULTS AND DISCUSSION

Demographic Analysis:

The present study was a questionnaire-based study that includes 120 women in local area of Dehradun and family clinic in Kanpur area. Among 120 patients Table 1 and figure 4 showed age wise distribution of women showed that the most of the women were in the age group 21-30 years (50%) followed by 40-50 years (12.5%), 30-40 years (10%), 50-60 years (6.66%) and 16-20 years (3.57%).

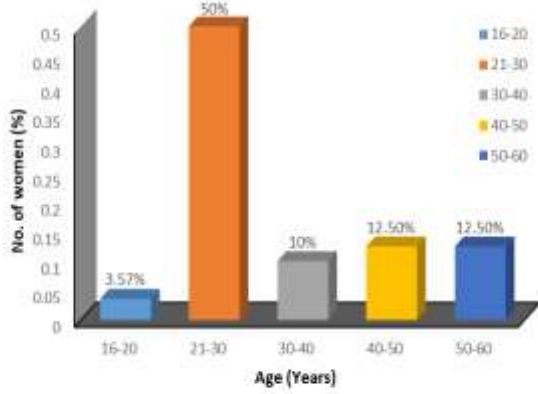


Figure 1 age wise distribution of women

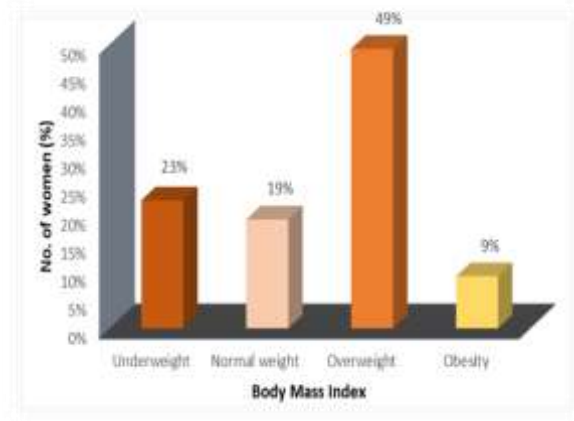


Figure 2 body mass index wise distribution of women

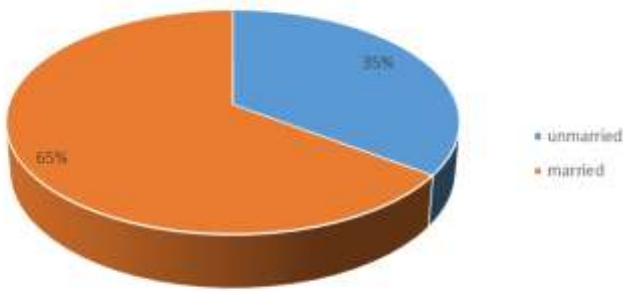


Figure 3 marital status wise distribution in females

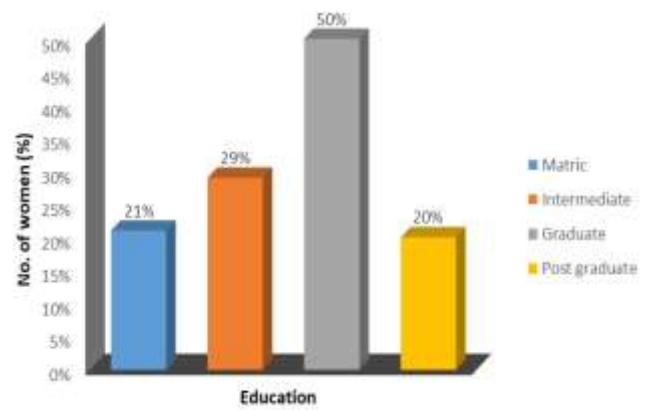


Figure 4 education wise distribution in women

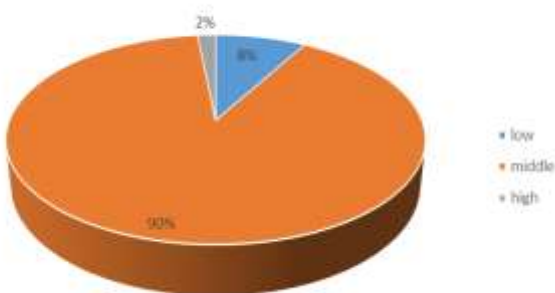


Figure 5 socioeconomic class wise distribution in women

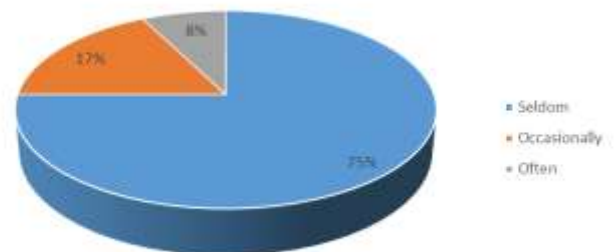


Figure 6 physical activity wise distribution in women

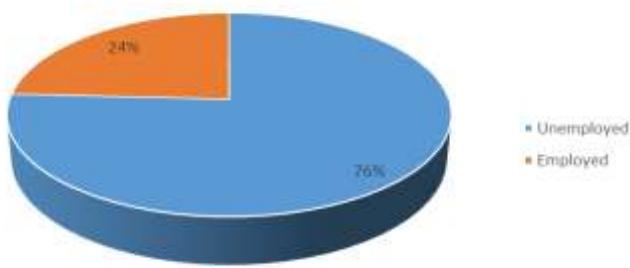


Figure 7 employment status wise distribution in women

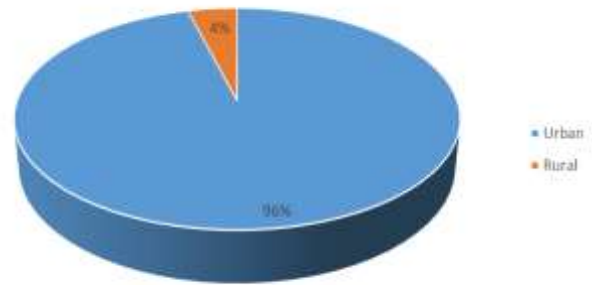


Figure 8 area of residence wise distribution in women

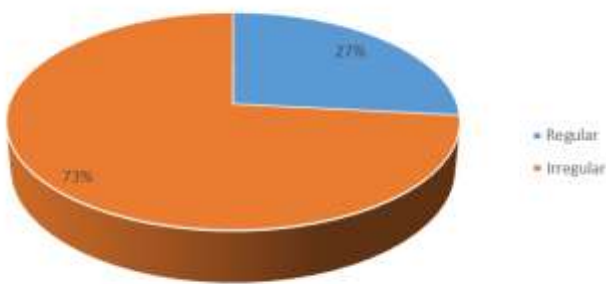


Figure 9 menstrual cycle wise distribution in women

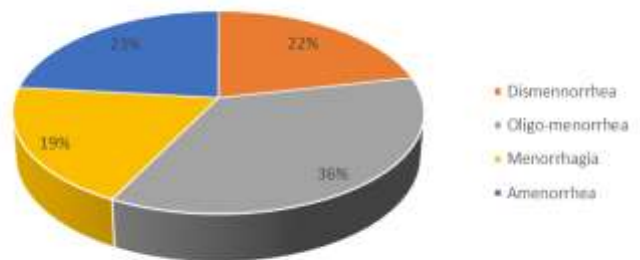


Figure 10 menstrual cycle pattern wise distribution in women

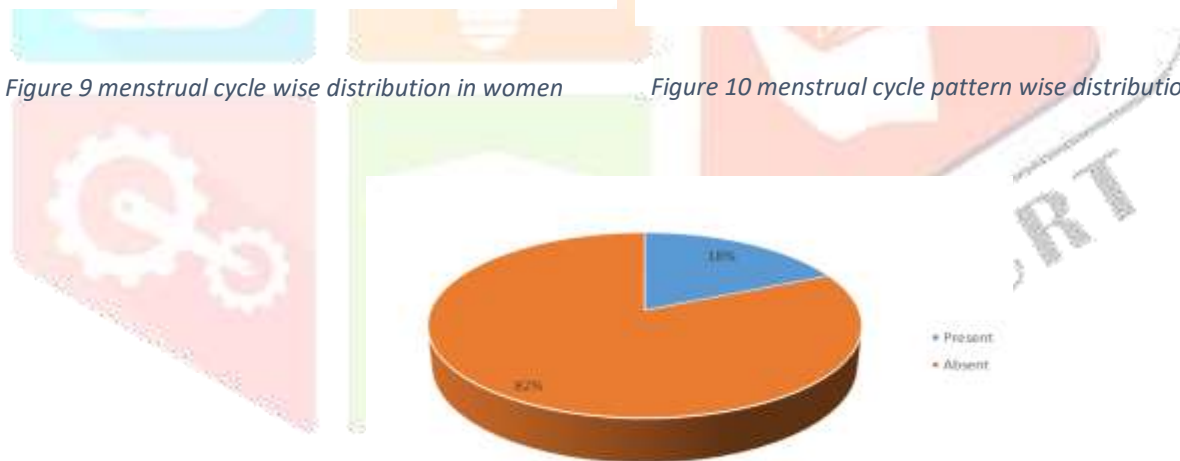


Figure 11 hirsutism problem wise distribution in women

Assessment of knowledge regarding polycystic ovary syndrome (PCOS):

Assessment of knowledge regarding PCOS was analysed using five different questions as shown as in table 12, respective assessment was shown in figure 12 to figure 15. Out of 120 women, 33.34% had knowledge about PCOS and 66.66% didn't know the term of PCOS. Only 29.17% had knowledge about the cause of PCOS and 70.83% didn't know about the cause of PCOS. 33.34% know about the complications of PCOS and 66.66% don't know about it. 26.67% had knowledge about the management and method of treatment of PCOS and 73.33% didn't know about it.

Table 1 knowledge related questions regarding PCOS

Q.No.	Questions	Yes (%)	No (%)
1	Do you know about Polycystic Ovary Syndrome (PCOS)?	40 (33.34)	80 (66.66)
2	Do you know about the causes of PCOS?	35 (29.17)	85 (70.83)
3	Do you know about the complications of PCOS?	40 (33.34)	80 (66.66)
4	Do you know about the management of PCOS?	32 (26.67)	88 (73.33)
5	Do you know about the method of treatment of PCOS?	32 (26.67)	88 (73.33)

Assessment of Awareness on PCOS:

Assessment of awareness on PCOS was analyzed using 5 different questions as shown in Table 13 and the respective assessment was shown in figure 16 to 18. Out of 120 women, 33.34 % were experienced symptoms and complications of PCOS and 66.66 % were not experienced any symptoms and complications. 20.83% of women were aware of measures to decrease the symptoms and disease information of PCOS and 79.17% were not aware of it. Most of the women (80.83%) were aware about treatment methodologies for PCOS and few of them (19.17) were aware about treatment methodologies for PCOS.

Table 2 Awareness of patients on PCOS

Q. No.	Questions	Yes (%)	No (%)
1	Have you ever experienced symptoms of PCOS?	40 (33.34)	80 (66.66)
2	Have you ever experienced any complications of PCOS?	40 (33.34)	80 (66.66)
3	Do you aware of measures to decrease the symptoms of PCOS?	25 (20.83)	95 (79.17)
4	Are you aware of disease information of PCOS?	25 (20.83)	95 (79.17)
5	Are you aware of treatment methodologies for PCOS?	23 (19.17)	97 (80.83)

Assessment of perception regarding PCOS:

Assessment of perception regarding PCOS was analyzed using 5 different questions as shown in table 14 and the respective assessment was shown in figure 19 to 22. Among 120 women most of the women 41.67% were do not agree or disagree about the PCOS is a permanent condition and cannot be cured in which 30.84% were agree and 27.5% were disagree to the statement. 73.33% women were strongly agree to PCOS can be managed by dietary and lifestyle modifications, no one was disagree and 26.66% were do not agree or disagree to this statement. 33.33% women were agree about the PCOS have no control over the disease, 40% of women disagree and 26, 66 women did not agree or disagree about the statement. 66.66% were agree to PCOS patient requires social support and weight reduction is a mode of effective treatment for PCOS, 33.33% women were disagree about this statement.

Table 3 perception regarding PCOS

Q. No.	Questions	Agree (%)	Disagree (%)	Do not agree or disagree (%)
1	PCOS is a permanent condition and cannot be cured	37(30.84)	33 (27.5)	50(41.67)
2	PCOS cannot be managed by dietary and lifestyle modification	88(73.33)	00 (0.00)	32(26.66)
3	PCOS patients have no control over the disease	40(33.33)	48(40.00)	32(26.66)
4	Weight reduction is a mode of effective treatment for PCOS	80(66.66)	40(33.33)	00 (0.00)
5	PCOS patients require social support	80(66.66)	40(33.33)	00 (0.00)

According to previous studies the PCOS group's mean BMI measures were greater than those of the control group. Women with PCOS had an average BMI of 25.5, the hypothesis was supported as in my study Body mass index (BMI) was considerably higher in the PCOS group compared to the normal group [6][15]. Within the study cohort of urban Indian women, however, obsessions with being overweight were most noticeably connected with greater BMI, regardless of PCOS and control group participation [16]. The ladies in my study were more likely to report being more preoccupied with being overweight the higher their BMI. Women from both groups reported a fair assessment of their weight class according to their BMI, regardless of their BMI categorization or level of weight obsession [17]. The need of treating PCOS's metabolic and nutritional correlations with a comprehensive therapy approach that includes specialized medicine, a balanced diet, and good behaviours is examined. It is possible to improve insulin resistance, sustained weight loss, ovulation rates, and other objectives for the management of this disease by using an integrated approach and treatment that includes not only medications for PCOS symptoms, supplementation of minerals and vitamins to control PCOS complications, and an anti-inflammatory diet, nutritional education, individual exercise programmes, and lifestyle changes [18][19]. According to the data collected, PCOS is still a serious disorder that affects a significant portion of the study population. Raising awareness will help the condition be managed effectively and reduce co-morbidities [20].

Appendix

STUDY QUESTIONNAIRE		<i>Appendix-1</i>		
Patient Demographics		3. Do you know about the complications of PCOS?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Name _____	Age _____ Gender _____	4. Do you know about the management of PCOS?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Weight (in kg) _____	Height (in cm) _____	5. Do you know about the methods of treatment PCOS?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Marital status: Unmarried <input type="checkbox"/> Married <input type="checkbox"/>		Awareness Related Questions		
Education: Matric <input type="checkbox"/> Intermediate <input type="checkbox"/> Graduate <input type="checkbox"/> Post-graduate <input type="checkbox"/>		1. Have you ever experienced symptoms of PCOS?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Socioeconomic class: Middle <input type="checkbox"/> Low <input type="checkbox"/> High <input type="checkbox"/> Social		If yes, tick (✓) the below mentioned symptoms:		
Habit: Alcoholic <input type="checkbox"/> Smoker <input type="checkbox"/>		• Irregular menstrual	<input type="checkbox"/>	
Physical activity: Seldom <input type="checkbox"/> Occasionally <input type="checkbox"/> Often <input type="checkbox"/>		• Facial acne	<input type="checkbox"/>	
Employment status: Unemployed <input type="checkbox"/> Employed <input type="checkbox"/>		• Hirsutism	<input type="checkbox"/>	
Area of residence: Urban <input type="checkbox"/> Rural <input type="checkbox"/>		• Reduce fertility	<input type="checkbox"/>	
Menstrual cycle: Irregular <input type="checkbox"/> Regular <input type="checkbox"/>		• Weight gain	<input type="checkbox"/>	
Menstrual cycle patterns: Regular <input type="checkbox"/> Amenorrhea <input type="checkbox"/>		• Frontal hair loss	<input type="checkbox"/>	
Oligomenorrhoea <input type="checkbox"/> Menorrhagia <input type="checkbox"/>		• Pelvic pain	<input type="checkbox"/>	
Dysmenorrhea: Present <input type="checkbox"/> Absent <input type="checkbox"/>		• Abortion	<input type="checkbox"/>	
Hirsutism: Present <input type="checkbox"/> Absent <input type="checkbox"/>		• Early puberty	<input type="checkbox"/>	
Medical history (if any) _____		• Diabetes	<input type="checkbox"/>	
		• Hypertension	<input type="checkbox"/>	
		• Psychological disturbance	<input type="checkbox"/>	
		2. Have you ever experienced any complications of PCOS?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
		If yes, tick (✓) the below mentioned complications:		
		• Diabetes	<input type="checkbox"/>	
		• CVS disease	<input type="checkbox"/>	
		• Breast and uterus cancer	<input type="checkbox"/>	
		• Androgen increase	<input type="checkbox"/>	
		• Anxiety	<input type="checkbox"/>	
		• Psychological disturbance	<input type="checkbox"/>	
Knowledge Related Questions				
1. Do you know about Polycystic Ovary Syndrome (PCOS)?	<input type="checkbox"/> Yes <input type="checkbox"/> No			
2. Do you know about the causes of PCOS?	<input type="checkbox"/> Yes <input type="checkbox"/> No			

3. Do you aware of measures to decrease the symptoms of PCOS? Yes No

If yes, tick (✓) the below mentioned measures:

- Doing exercise
- Losing weight
- Using contraceptives
- Eating vegetables and fruits
- Eating protein rich food
- Eating fat rich food

4. Are you aware of disease information of PCOS? Yes No

If yes, tick (✓) the below mentioned information:

- Inherited
- Regulation of menstrual cycle helps in regulation of Ovulation
- Treating PCOS reduce chance of getting cancer
- Ovaries shape change
- Ovulation effect

5. Are you aware of treatment methodologies for PCOS? Yes No

If yes, tick (✓) the below mentioned options:

- Anti-diabetic medication (Metformin)
- Weight reduction
- Symptomatic treatment
- Surgery

Perception Related Questions

1. PCOS is a permanent condition and cannot be cured:

- a) Agree
- b) Disagree
- c) Do not agree or disagree

2. PCOS cannot be managed by dietary and lifestyle modifications:

- a) Agree
- b) Disagree
- c) Do not agree or disagree

3. PCOS patients have no control over the disease:

- a) Agree
- b) Disagree
- c) Do not agree or disagree

4. Weight reduction is a mode of effective treatment for PCOS:

- a) Agree
- b) Disagree
- c) Do not agree or disagree

5. PCOS patients require social support:

- a) Agree
- b) Disagree
- c) Do not agree or disagree

INFORMED CONSENT

I, **Kirti Kumari**, student of Masters of Pharmacy (Pharmacy Practice), Department of Pharmacy Practice, School of Pharmaceutical Sciences, Shri Guru Ram Rai University, Patel Nagar, Dehradun, Uttarakhand.

I am working on a study entitled **“Assessment of knowledge, awareness and perception among patients of polycystic ovary syndrome”** for partial fulfilment of the course. As part of the study, we would like you to provide us the data related to your basic demography and some questions related to your knowledge, awareness and perception. While there is no direct benefit for you individually, but it is possible that the findings of the study will enhance scientific knowledge and enable us to develop health policies.

The information given by you will not disclosed to anyone under any circumstances anywhere in the public at any time and kept confidential and will be used for research purpose only. Participation in this study is purely of voluntary nature. If at any time you want to stop answering questions or prefers not answer some of the questions you are to do so.

Consent Statement

I understand the purpose of the study and I am willing to participate in the study. Signature
of Participant

Name:

Date:

Phone:

Place:

Conclusion

According to the results of the current study, PCOS knowledge among people in the North West was still low, although being far better than it was in previous decades. Patients was still in the area where substantial awareness campaigns could change their knowledge and attitudes about PCOS. The current study highlighted the need for health education and awareness programmes to be added to educational system improvements to combat the under informed rural population, especially by utilizing different sources, targeted approach to provide clear, appropriate, and concrete information, as well as preventive measures. Due to varied health education programmes and cultural attitudes regarding practices, it was clear from the current study that education profile also plays a significant role in gaining awareness and knowledge of PCOS.

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