



Knowledge of Iraqi girls towards polycystic ovary syndrome

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Abstract

Background: Polycystic ovary syndrome (PCOS) affects about 10% of adolescent girls worldwide. However, a study found that almost half of the women had poor knowledge about PCOS.

Objectives: This study aimed to assess the knowledge of Iraqi adolescent girls about PCOS.

Methods: A cross-sectional study was conducted in October 2022 on a convenient sample of 60 adolescent girl students at the Economic and Administration College of the University of Kerbala, Iraq. Data were collected using a specific questionnaire and analyzed using inferential and descriptive statistics.

Results: The mean score of participants knowledge about PCOS was 2.05 ± 1.4 (range:0-7), and all of them had poor knowledge about PCOS. Most participants had no information about PCOS and the remaining received information about PCOS from media (21.3%), educational courses (3.3%), and health institutions (8.2%).

Conclusion: Iraqi adolescent girls had low knowledge about PCOS. Counseling and education programs can be established for all women of childbearing age, and especially adolescent girls and university students, to increase knowledge about polycystic ovarian syndrome.

Keywords: Knowledge, Polycystic ovary syndrome, Adolescent, Girls.

Introduction

Polycystic ovary syndrome (PCOS) usually first manifests in adolescence but is typically not recognized until maturity.^[1] Adolescent girls with PCOS have increased levels of male hormones and suffer from menstrual cycle disorder.^[2] About 75% of women with PCOS experience anovulatory symptoms, such as oligomenorrhea, abnormal uterine bleeding, and/or infertility, about 60% have hirsutism, and 20% have acne. Many of the patients with PCOS also suffer from obesity and cardiovascular disease.^[3] However, 70% of women with PCOS go undetected.^[4]

Adolescent girls must be aware of PCOS signs and complications to receive early treatment and avoid major issues. A recent study of university students in Jordan reported that students had a satisfactory level of knowledge about PCOS.^[5] However, only 21.7% of females over the age of 18 years in the United Arab Emirate (UAE) had sufficient awareness of the syndrome.^[6] A study in Malaysia also found that almost half of the women studied

had poor knowledge about PCOS.^[7]

Given the controversies in this area and the lack of research on the field in Iraq, the question was raised that how much Iraqi adolescent girls know about PCOS.

Objectives

This study aimed to assess the knowledge of Iraqi adolescent girls about PCOS.

Methods

Study design and participants

A cross-sectional study was conducted on a convenient sample of adolescent girl students at the Economic and Administration College of the University of Kerbala. The study was conducted in October 2022. Because of the small number of eligible students available, all the adolescent girls' students (n=60) in the accounting department were enrolled in the study.

The inclusion criteria were adolescent students 18 years of age or older, present during data collection, and willing

to participate in this study. Students who did not completely answer the questions were excluded.

Data collection instruments

The first section of the instrument consisted of questions on the students' personal characteristics, including age, marital status, place of residence, and sources of information about PCOS. The second part of the instrument was a questionnaire developed by the researchers through a review of relevant literature. This questionnaire includes 33 multiple-choice questions on the anatomy of the ovaries, and the nature, signs and symptoms, causes, and complications of PCOS, and the methods used for diagnosis, prevention, and treatment.

Each question has one correct answer. Correct and incorrect answers receive a score of 1 or 0. The total score can vary between 0 and 33. Scores 0-11, 12-22, and 23-33 reflect poor, moderate, and good knowledge, respectively. The content validity of the PCOS knowledge questionnaire was confirmed by 14 experts from the University of Kerbala. The reliability of the PCOS knowledge questionnaire was also examined through a pilot study with 12 students who were not included in the original sample, then the Cronbach's alpha was calculated as 0.81.

All students completed the questionnaire in a private setting at the college and returned it to the researcher on the same day, and no one was excluded from the study.

Data analysis

Frequency, percentage, mean, and standard deviation were used to describe the demographic data. The

Kolmogorov–Smirnov test showed that the knowledge scores were not normally distributed. Then, the Mann-Whitney U and Kruskal–Wallis tests were used to compare knowledge scores between subgroups of participants. The level of significance was set at <0.05 . The data were analyzed using SPSS version 16.

Ethical considerations

This study received the approval of the Ethics Committee of the College of Nursing, University of Kerbala, on October 6, 2022, with approval number 296. All students were informed of the purpose of the study, data confidentiality, and their freedom to participate in or withdraw from the study, and their written informed consent was obtained.

Results

The mean age of the participants was 18.35 ± 0.68 (range: 18-20) years. Among the participants, 53.3% were aged 18 years old, 81.7% were single, and 61.7% resided in urban areas.

Most participants had no information about PCOS and the remaining received information about PCOS from media (21.3%), educational courses (3.3%), and health institutions (8.2%). The participants' mean PCOS knowledge score was 2.05 ± 1.4 (range: 0-7), and all of them had poor knowledge about PCOS. No significant differences were found between students' mean PCOS scores by age, marital status, place of residence, and type of information source [Table 1].

Table 1. The adolescent girls' mean knowledge scores according to individual characteristics

Variables	Knowledge, Mean \pm SD	P-value
Age		0.89 ^a
18 years old	2.09 \pm 1.35	
19 years old	2.01 \pm 1.26	
20 years old	2.03 \pm 2.23	
Marital Status		0.18 ^b
Single	1.99 \pm 0.82	
Married	1.89 \pm 1.27	
Residents		0.86 ^b
Urban	2.05 \pm 1.54	
Rural	2.04 \pm 1.22	
Sources of Information		0.11 ^a
Media	3.25 \pm 2.62	
Educational Subjects	2.01 \pm 1.41	
Health institutions	2.15 \pm 1.14	
No information	1.90 \pm 0.73	

^aKruskal–Wallis test, ^bMann-Whitney U test

Discussion

The participants' knowledge of PCOS was at a poor level. Our findings are consistent with studies in the UAE^[6] and Malaysia,^[7] where three-quarters and half of females over the age of 18 years had poor knowledge about PCOS, respectively. Nevertheless, a study of university students in Jordan reported that students had satisfactory knowledge of PCOS.^[5] Differences between the studies can be attributable to factors such as the nature of the population studied, the instruments used to assess knowledge, and the quality of education systems in different countries. Although the knowledge of our participants was significantly lower than in other studies, overall the women's knowledge of PCOS seems to be globally low. PCOS is one of the females' widespread endocrinopathies, affecting 5% to 10% of females of reproductive age and can significantly affect body image, mental health, and quality of life.^[8] Early diagnosis is essential to prevent problems like cardiovascular disease, obesity, diabetes, and various malignancies associated with PCOS.^[9]

It is therefore the responsibility of educational and health authorities to develop appropriate programs to teach all adolescent girls and women of childbearing age not only about the symptoms and complications of PCOS but also about the importance of early diagnosis and treatment.^[8,10]

In the present study, none of the individual characteristics of the participants was associated with PCOS. These findings contradict the results of Goh *et al.* where education level and PCOS history were significantly associated with knowledge of PCOS.^[7] The insignificant effects of individual characteristics in this study may not only be attributable to the participants' very low knowledge of PCOS, but also to the small sample size of the study.

In this study, we also used a non-random sampling and a self-report instrument. All of these can affect the generalizability of the findings. Further studies with larger sample sizes and random sampling are suggested.

Conclusions

Iraqi adolescent girls have low knowledge about PCOS. This may be alarming and highlights the importance of raising awareness regarding PCOS. Counseling and education programs can be established for all women of childbearing age, and especially adolescent girls and university students, to increase knowledge about PCOS.

Acknowledgment

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study. The present study was authorized by the University of Kerbala, College of Nursing, ethics committee, administrative agreements (296).

Competing interests

None.

Abbreviations

polycystic ovarian syndrome: PCOS.

Statistical package of social sciences: SPSS

United Arab Emirate: UAE

Authors' contributions

All authors equally substantially contributed to the work design, acquisition, analysis, and interpretation of the data; Drafting or revising it critically for important intellectual content; Final approval of the version to be published; Agreement to be accountable for all aspects of the work.

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Availability of data and materials

The data used in this study are available from the corresponding author on request.

Ethics approval and consent to participate

This study received the approval of the Ethics Committee of the College of Nursing, University of Kerbala, on October 6, 2022, with approval number 296. All students were informed of the purpose of the study, data confidentiality, and their freedom to participate in or withdraw from the study, and their written informed consent was obtained. Informed consent was obtained from all subjects involved in the study.

Consent for publication

We hereby provide consent for the publication of the manuscript detailed above, including any accompanying images or data contained within the manuscript.

References

1. Conlon JL, Malcolm S, Monaghan M. Diagnosis and treatment of polycystic ovary syndrome in adolescents. *J Am Acad Pas* 2021;34: 15-22. doi:10.1097/01.JAA.0000791468.37054.5d PMID:34524161
2. Sreejith S, Nehemiah HK, Kannan A. A clinical decision support system for polycystic ovarian syndrome using red deer algorithm and random forest classifier. *Healthcare Analytics* 2022; 2:100102. doi: 10.1016/j.health.2022.100102.
3. Kanbour SA, Dobs AS. Hyperandrogenism in Women with Polycystic Ovarian Syndrome: Pathophysiology and Controversies. *Androgens: Clinical Research and Therapeutics*

- 2022;3:22-30. doi:10.1089/andro.2021.0020
4. World health Organization. Polycystic ovary syndrome. 2023. Available from: <https://www.who.int/news-room/fact-sheets/detail/polycystic-ovary-syndrome> [Last access date: June, 3 2023]
 5. Alshdaifat E, Sindiani A, Amarin Z, Absy N, AlOsta N, Abuhayyeh HA *et al.* Awareness of polycystic ovary syndrome: A university students' perspective. *Ann Med Surg* 2021;72:103123. doi: 10.1016/j.amsu.2021.103123 PMID:34934483 PMCID:PMC8654774
 6. Zaitoun B, Al Kubaisi A, AlQattan N, Alassouli Y, Mohammad A, Alameeri H, *et al.* Polycystic ovarian syndrome awareness among females in the UAE: a cross-sectional study. *BMC Womens Health* 2023;23: 181. doi: 10.1186/s12905-023-02318-y. PMID:37069554 PMCID:PMC10108484
 7. Goh JE, Farrukh MJ, Keshavarzi F, Yap CS, Saleem Z, Salman M *et al.* Assessment of prevalence, knowledge of polycystic ovary syndrome and health-related practices among women in Klang valley: A cross-sectional survey. *Front Endocrinol* 2022;13:985588. doi: 10.3389/fendo.2022.985588 PMID:36105409 PMCID:PMC9465311
 8. Adone A, Fulmali DG. Polycystic Ovarian Syndrome in Adolescents. *Cureus* 2023;15:e34183. doi: 10.7759/cureus.34183. PMID:36843701 PMCID:PMC9951123
 9. AL Kurdi ZR, Fahmy NM, Mohasb SH, Alhamid ND. Educational Program: Its Effect on Knowledge and Lifestyles among Paramedical Students with Polycystic Ovarian Syndrome (PCOS). *Medico-legal Update* 2021;21:58-69. doi: 10.37506/mlu.v37521i37503.32965.
 10. Witchel SF, Oberfield SE, Peña AS. Polycystic ovary syndrome: pathophysiology, presentation, and treatment with emphasis on adolescent girls. *J Endocrine Soc* 2019;3:1545-1573. doi:10.1210/js.2019-00078 PMID:31384717 PMCID:PMC6676075

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