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Review Article

Among The Largest Population Which Age Group is the Most Having Polycystic Ovarian Syndrome

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Abstract

Background: Polycystic Ovarian Syndrome (PCO), also called Hyper androgenic anovulation (HA), or Stein-Leventhal syndrome is a very common disorder of ovaries that only occurs in females mainly of reproductive age of 4% to 20% approximately. It is a condition in which multiple cysts, almost 9 to 10 are noted in the ovary, can be on one side or both sides and the volume of the ovary exceeds 10ml. The common representation of PCOS includes obesity, acne, hirsutism, and complications in pregnancy. ***Objective****:* To evaluate among the largest population which age group is the most having polycystic ovarian syndrome. ***Methodology****:* A literature search was performed with the use of search engines. The search engines that provided the articles for systemic review are Google Scholar, MDPI, PubMed, Medscape, and NCBI. For article searching following keywords were used: Polycystic ovaries, reproductive age changes, and age group. ***Conclusion***: It is concluded that there is a specific age that has Polycystic syndrome ranging from 12-25.

Keywords: Polycystic syndrome, reproductive age and **adolescents'** girls.

INTRODUCTION

Stein-Leventhal syndrome, Polycystic ovarian syndrome (PCOS) is the most common endocrine disorder in females. Hyper vascularized and enlarged ovaries are noted in PCOs. It is related to obesity, amenorrhea/ oligo menorrhea, hirsutism, and acne. PCOS produce symptoms in only 10% of females. Its principal features include irregular mensuration, infertility, an excessive amount of androgen hormones, acne, and excessive hair growth. It can cause serious diseases including Diabetes Mellitus 2 and high levels of cholesterol in the blood. The clinical approach can be laboratory tests of hormones and ultrasound. PCOS have complications including obesity (83.7%), oligo menorrhea (79.68%), infertility (71.87%), and hyper androgenic (62.49%) and it may vary depending upon the area of review [1-5]. According to the national institute of health criteria, women are noted with PCOS if they have a history of oligo menorrhea or hyper androgens while Rotterdam suggested one more third criteria including polycystic ovaries. The prevalence of the PCOS in the world was conducted that shows China 2.2%, Mexico 6%, and all these were the women of reproductive ages. The Omani prevalence has no effect on PCOS in reproductive women. The women of reproductive age have PCOS and some of the countries show no evidence [6, 7]. According to World Health Organization (WHO), PCOS are a lifelong condition and emergency public health issue. It can affect a woman physically and physiologically. Studies showed that worldwide 4 to 8% of teens and young women are getting affected by PCOS. If the PCOS remained untreated it can lead to serious reproductive complications. This disease is common in that it may affects 2 out of 10 women with increased alternation of sympathetic activity and exhibit decreased association with Para synthetic nervous activity. The clinical manifestations of the PCOS include metabolic, endocrine, lifestyle and environmental highlights [5, 8]. Weight also plays an important role in PCOS, Obesity is the major manifestations of PCOS and can increase androgenic growth in the body. A survey was conducted in 2018 in Rawalpindi suggesting that 50%

of young females having PCOS are overweight. Obesity can lead to other complications including an increased rate of estrogen, decreased sex hormones, high dietary lipid intake, and an increase in opioid activity [9, 10]. As the consequences that PCOS can have drastic health issues, a review was taken on the diet of the reproductive age women. Animal studies suggested that high fat and high sugar diet can lead to ovaries changes if they are taken pre-puberty in girls. Fast foods, that are also rich in cholesterol levels can also cause ovaries and hormones changes in girls. In 2018 international evidence-based management of PCOS suggested that PCOS involved phenotype A, including androgen and ovulatory dysfunction, phenotype B, including androgen and ovulatory dysfunction, phenotype C, androgen and PCOS morphology, and lastly phenotype D, including ovarian dysfunction and PCOS morphology [2, 11, 12]. PCOS can seriously affect women fertility having 5 to 10% females of reproductive age. Fertility is defined as being failure to conceive for women after 12 months of marriage with normal regular unprotected sexual intercourse. A woman with PCOS faces an imbalance in the luteinizing hormone LH, due to which the size of the ovary exceeds more than 10ml and the ovaries become cystic. As PCOS are strongly associated with obesity in the same way PCOS can lead to cardiovascular diseases in women. 30% to 50% of females suffer from this disease worldwide and more common in adolescents. The criteria of Rotterdam have suggested that PCOS decline with the increase in the age of the female [13]. PCOS affects women's life physically and physiologically. It can lead to sleep disturbances and it is considered one of the serious gynecological diseases [14]. The incidence of PCOS is not well known in the adolescence. There might be a chance that the symptoms of pubertal changes mixes with the PCOS symptoms that can lead to poor diagnosis of PCOS. The symptoms including hirsutism and oligo menorrhea can make the diagnosis possible while ultrasonography can also be performed to confirmed the diagnosis of PCOS [15, 16].

METHODS

A literature review was performed with the use of search engines. The search engines that were taken for the study were PubMed, Google scholar, and NCBI. The keywords that were used for the searching were PCOS, largest population, adolescent girls, reproductive age, and hirsutism. Only those articles were conducted in this study in which PCOS was diagnosed in females at different age groups with different symptoms. Extraction of data is completely done from journal articles.

RESULTS

As literature reviewed, 25 articles were studies, which concluded that females of different reproductive ages were taken diagnosed with PCOS, and the age that is most common for diagnosing PCOS is in adolescents' girls ranging at the age of 12-25. Acne, hirsutism, obesity, and amenorrhea were noted in these patients.

DISCUSSION

A review that was taken from June 2006 to December 2010 in which the author described that the reproductive age that is common for PCOS ranges from 12 to 45 years. The prevalence of PCOS varies from 2.2% to 26%. The target was to diagnose PCOS in different age groups of reproduction with their prevalence. His study included the largest population countries including China and Mexico. He concluded that 56% of women undergo PCOS at the age of 25-34. He took 255 cases of PCOS in which most common were at the age of 25-34 and 94 in less than 25years old females.

One more survey was conducted in October 2002, in which adolescents' girls were attended in the Gynecological department of Holy Family Hospital, Rawalpindi. 52 cases were conducted of age 14-20 years. One of the targets of the study was to correlate obesity with PCOS [17]. The incidence of PCOS is less common in Western Caucasian (20%-25%) women than Pakistani women (52%). There is an increase in PCOS of 82.44% in the world from 2007 to 2017 [18]. A study was concluded between two groups of different ages, 26% of 9-12years and 74% of 13-18years. Patients with <18years have only 6.4% of PCOS and patients with <13years have only 9.4% of PCOS. Girls with PCOS before age of 12 may develop pubertal changes earlier than normal girls. The chance of developing PCOS is more common in young girls who develop puberty early. One of the causes of increasing PCOS is unawareness of the young female girls. According to WHO, PCOS affects more than 3.4% population worldwide in 2012. While 10% of Indian females are affected by this disorder [19, 20]. PCOS can affect women's fertility as a study concluded that women are less likely to give childbirth with PCOS. But an early diagnosis of PCOS may give a chance to improve fertility [21]. The universal parameters to diagnose PCOS include ultrasonography, clinical histories, and hormonal profiles. A study was conducted in four different regions of Iran from the mean age group 34.4years resulting that in the community level the chance of developing PCOS is an increase over twofold [22]. During the last five years many articles were published that were related to PCOS and their target was to rule out the prevalence of the increasing percentage of PCOS and they were mostly correlated with insulin resistance (IR) and metabolic abnormalities in patients. It was concluded that in reproductive age PCOS is becoming more common [23]. In young girls with PCOS, there is a very strong relationship between PCOS and irregularity of mensuration. PCOS is more common in girls that have mensuration irregularity than that of girls with a normal mensuration cycle [24].

young girls get knowledge about PCOS from the teacher (33%), from doctors (11.5%), from friends (19%), from newspapers (3.5%), and the internet (5%). Accurate diagnosis in females may be a key for treatment. Appropriate knowledge should be provided to adolescent girls [25].

CONCLUSION

It was concluded that among the largest population, the most common reproductive age for having PCOS is reproductive age. The mean age group was 34.4years. It may include hirsutism, obesity, amenorrhea, and sleep disturbance. There is a large increase in diagnosing PCOS in China, Pakistan, India, and U.K.

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