

**Conducting Earlier Diagnosis of Polycystic Ovarian Syndrome (PCOS) in Adolescent  
Females**

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## **Introduction**

Hormones are an important aspect of the human body because hormonal imbalances can affect many parts of the body. In females, one way hormonal imbalances can affect the body is through a condition called polycystic ovarian syndrome, or PCOS (Roe et al., 2011). Although the reason that PCOS develops is unknown, the condition presents itself through different aspects in the body (Center for Disease Control and Prevention, 2022). Eventually, the manifestations of the disorder can become harmful if not treated fast enough (CDC, 2022). This does not only affect adult females, but can start in adolescence too. It is important to get an early diagnosis in adolescents with PCOS in order to treat the harmful symptoms of this condition. However, it can be difficult to get an early diagnosis because of complications between the adolescents and their medical team.

## **Review of Literature**

### **PCOS Characteristics**

PCOS affects several aspects of the body. Overall, it affects 6-12% of women within the United States (CDC, 2022). The main effects of the hormonal imbalance can cause insulin resistance, irregular menstrual cycles, excessive growth of hair on the face or body, and excessive weight (CDC, 2022). Furthermore, untreated symptoms can increase the risk for Type 2 Diabetes, causing increased risk for health issues like heart disease, high blood pressure, sleep apnea, and stroke (CDC, 2022). Not only is the body physically affected, but it can also be affected mentally. Research shows higher anxiety levels, depression, and mental stress among women with PCOS (Islam et al., 2021).

There are several medical specialists that can help diagnose and treat the symptoms of PCOS. Doctors can diagnose PCOS when someone presents two out of three main symptoms:

irregular or no periods, higher androgen levels, or multiple small cysts on the ovaries (CDC, 2022). This is known as the Rotterdam criteria (Jain et al., 2021). These are also found through a number of methods such as blood samples, physical tests, or pelvic ultrasounds (Islam et al., 2021). There is no way to fully cure PCOS, so the symptoms must be managed instead. One of the most recommended ways by physicians is lifestyle changes, which can include managing conditions and living healthier in order to delay the health problems that are caused by symptoms (CDC, 2022). Conditions can be managed through medication as well. Oral contraceptive pills are a hormonal therapy based option, but non-hormonal based options typically are Metformin, Spironolactone, and others (Reiser et al., 2022). Medications may even be combined to tackle different symptoms at the same time (Reiser et al., 2022). Although these methods may not fully cure the disorder, it helps tackle the struggles and hardships that may come from them.

### **PCOS in Adolescents**

PCOS typically can start to develop around the onset of puberty. As said by the Center for Disease Control and Prevention (2022), “it often begins soon after the first menstrual period, as young as 11 or 12. It can also develop in the 20s or 30s.” (para 2) It often develops around the age of adolescence. Although it may start around this age, there is not much research on it possibly due to the stricter requirements that come with researching minors (Reiser et al., 2022). The diagnosis process is the same for adolescent girls as it is with adults, and they can also take the same medications (Reiser et al., 2022). Most people also diagnose or start to diagnose PCOS in adolescents by looking at their androgen levels (Roe et al., 2011). It is best to diagnose PCOS early because it makes the treatment process easier, slows the effects of the condition, and allows adolescents to live a healthier lifestyle earlier (T. et al., 2022). Although it is important to get diagnosed early on, some doctors may be hesitant. Some doctors may delay diagnosis to avoid

overdiagnosis of PCOS in adolescents (Ismayilova & Yaya, 2022). Adolescents are brushed off because the symptoms overlap with normal puberty development instead of just considering them at high risk (Ismayilova & Yaya, 2022). This leads to adolescents being diagnosed less even if they are consistently showing symptoms, but their doctors are not keeping up with the symptoms either. By being on top of the symptoms, it can cause less harm to the body and allow for quicker treatment, although the process isn't as easy as it may seem.

When it comes to adolescence medicine, it's important to not only be able to identify issues an adolescent may have, but be able to advocate as well. Self-advocacy in medicine is important because it can stress to the doctors the concerns a patient may be having and lead to a sooner diagnosis (Ismayilova & Yaya, 2022). Many patients have also reported educating themselves on the condition and the symptoms they were experiencing (Ismayilova & Yaya, 2022). When asked, some adolescent patients said they underrecognized certain symptoms they experienced and did not find it important, therefore causing a delay in their diagnosis (Ismayilova & Yaya, 2022). Delays in diagnosis can be harmful to the person with PCOS as the symptoms can manifest into worse conditions. Many people newly diagnosed with PCOS report feeling concerned about their physical and future health (Ogden & Bridge, 2022). By building confidence in their advocacy skills, adolescents can build confidence in making sure their medical questions are answered. One example comes from Ismayilova & Yaya (2022) where someone said, "I had been trying to get my doctor to figure stuff since I was 15. 14 or 15 I knew there was something wrong because I'd never had a regular cycle since I hit puberty, starting my period at 12 years old." (p. 9). Even though the person recognized the symptoms for several years, it took her a while to get listened to, but showed self advocacy. Self advocacy allows

adolescents to build confidence in their own health which can help them get diagnosed sooner if they are showing consistent symptoms at a young age.

### **Barriers to a Diagnosis**

Although diagnosis for PCOS should be easier, there are barriers that come to diagnosing it, especially within adolescents. The diagnosis criteria can be controversial in adolescents because of their body's developments and the impact it may have on them (Ismayilova & Yaya, 2022). This means that it is harder and more complicated to give adolescents a proper PCOS diagnosis. When surveyed, 41% of people had to see three or more medical professionals before getting a diagnosis (Ismayilova & Yaya, 2022). This is most likely due to the different doctors who treat different aspects of PCOS such as a general physician for weight loss, gynecologists for irregular cycles, dermatologists for hirsutism (excess hair growth on face) or acne, and endocrinologists for androgen regulation (Center for Disease Control and Prevention, 2022). With diagnosis involving so many steps, 34% of people with PCOS say it took them two or more years from the first time they saw a health professional about their symptoms to actually get the PCOS diagnosis (Ismayilova & Yaya, 2022). Most people who did get diagnosed were diagnosed by a female health care provider (Ogden & Bridge, 2022). The delay in the diagnosis can be a stressor for some people. Having no answer to their symptoms can make girls feel abnormal and compare themselves to others (Divya & Ranganathan, 2022). People with PCOS are already prone to having self image issues, anxiety, and depression, so the effects of the delays in diagnosis just makes those symptoms worse (Islam et al., 2021).. People can end up feeling dissatisfied about their diagnosis and the length of time it took to get there which can affect overall view on the condition itself.

In Ismayilova & Yaya's (2022) survey, they found several issues that came with the diagnosis experience. Many people said their doctors had failed to stress the importance of the symptoms and why treating them was important (Ismayilova & Yaya, 2022). Since the symptoms of PCOS can lead to lifelong possibly morbid (if not treated) conditions like diabetes, heart disease, etc., it is important to highlight the importance of treating a patient's symptoms. This once again highlights the importance of getting diagnoses for adolescents, as early intervention can avoid lifelong complications (Jain et al., 2011). Doctors were also not empathetic towards patients' symptoms, leaving them feeling dismissed and not cared for (Ismayilova & Yaya, 2022). This feeling of dismissal was especially high in adolescents looking for a diagnosis for their symptoms. One patient said they felt like they didn't stress the importance and their concerns over the symptoms after being dismissed which lead to increased worry about symptoms (Ismayilova & Yaya, 2022). With many people having a medium degree of satisfaction about their diagnosis, their worries and anxiety increase because patients may not be sure on what to do next (Ogden & Bridge, 2022). Failure to show the importance of symptoms can lead to not catching certain harmful symptoms early on, making them more prone to other conditions. This is important especially for adolescents because creating a healthier lifestyle early on delays the onset of other conditions (T et al., 2022). This can only happen if adolescents are able to identify their symptoms and the condition itself within themselves. Not only do most adolescents lack awareness of what PCOS is, but they under-recognize their own symptoms which can cause a delay in diagnosis (Ismayilova & Yaya, 2022). Many adolescents did not realize their symptoms were abnormal or have concern over them, meaning they become under-recognized as they continue over time (Ismayilova & Yaya, 2022). Some did not even know what PCOS was before being diagnosed, (Ismayilova & Yaya, 2022). Underrecognizing

their own symptoms can cause a barrier in getting diagnosed sooner and seeking medical care for their symptoms. (Ismayilova & Yaya, 2022). It is important to recognize the barriers that can delay someone in being diagnosed. It gives researchers more opportunity to discover how to break down these barriers and work around them in order to catch PCOS earlier on.

### **Conclusion**

Adolescents with Polycystic Ovarian Syndrome should be diagnosed sooner because they can change their lifestyles in order to prevent the onset of other symptoms PCOS can cause. Some of these symptoms include increased testosterone levels, irregular periods, and insulin resistance (which can later lead to Type 2 Diabetes). These symptoms can typically appear in adolescents around the time of puberty. There are many barriers to receiving a diagnosis for adolescents when it comes to the relationship between them and their health care providers. There are different specialities that cover different aspects of the condition and health care providers may even dismiss the symptoms presented to them. This is why it's important for adolescents to learn what their consistent symptoms mean and how to advocate for their health to their doctors. When PCOS is diagnosed early, adolescents can offset the start of their symptoms and live better lives.

Overall, there should be more research on PCOS in adolescents and the effects of it. There are not many research articles on just adolescents with PCOS, mostly adults talking about their experiences as adolescents. Research allows for sooner diagnosis and can even break down some of the barriers presented when trying to get a diagnosis. This research can teach doctors the barriers around PCOS and the history of it. They can learn the benefits that come with earlier diagnosis or even keeping a close eye on the symptoms presented, so they can diagnose it later if they still aren't sure. Even in adolescents that would be labeled as high risk, they can start

changing their lifestyles early on in order to still be ahead of the symptoms that may be revealed. In adolescents, it is important to teach them how to advocate for their own health and their own concerns. Advocacy builds confidence in the long run, both in themselves and the care they receive. Advocacy could be just learning what their symptoms mean and sharing concerns with their doctor to persisting on getting certain tests done to start getting answers. Adolescents should learn how to build confidence in taking control of their own health because that confidence can not only allow them to live healthy lifestyles but could even translate to having confidence in advocating in other areas in life. Adolescent health concerns should be seen as important and taken as seriously as adults' concerns.



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