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# Polycystic Related Acne among Selected Group of Sudanese Women with Infertility Disorders

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**Justification:** There is no published data about the polycystic related acne among Sudanese women with infertility disorders.

**Objectives:** To know prevalence of polycystic related acne among selected group of Sudanese women with infertility disorder.

**Method:** Descriptive, cross- sectional study, 94 Sudanese women with infertility disorders were involved, based on clinical examination and observation.

**Result:** 36.2% of participants had polycystic related acne.

**Discussion:** The prevalence of acne among the study group is a good sign for polycystic ovary syndrome which is one of most common causes of female infertility.

**Keywords:** *polycystic ovaries, acne, sudanese.*

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*Strictly as per the compliance and regulations of:*



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**Conclusion:** More than one-third of the study group had polycystic ovaries related acne. Further studies must be done involving imaging and laboratory tests.

**Acknowledgement:** To all participants in the study for their collaboration and cooperation with the research team.

**Keywords:** polycystic ovaries, acne, sudanese.

## 1. INTRODUCTION

Polycystic ovary syndrome (PCOS) is a hormonal disorder common among women of reproductive age. Women with PCOS may have infrequent or prolonged menstrual periods or excess male hormone (androgen) levels. The ovaries may develop numerous small collections of fluid (follicles) and fail to regularly release eggs. <sup>(1)</sup>

The three main features of PCOS are:

- Irregular Periods – which means your ovaries don't regularly release eggs (ovulation)
- Excess Androgen – high levels of "male hormones" in your body, which may cause physical signs such as excess facial or body hair (see signs and symptoms below)
- Polycystic Ovaries – your ovaries become enlarged and contain many fluid-filled sacs (follicles) which surround the eggs (it's important to note that, despite the name, if you have PCOS you don't actually have cysts). <sup>(2)</sup>

In polycystic ovary syndrome, multiple cysts in each ovary can be seen with medical imaging. These

cysts are small, immature ovarian follicles. Normally, ovarian follicles contain egg cells, which are released during ovulation. In polycystic ovary syndrome, abnormal hormone levels prevent follicles from growing and maturing to release egg cells. Instead, these immature follicles accumulate in the ovaries. Affected women can have 12 or more of these follicles. The number of these follicles usually decreases with age.

About half of all women with polycystic ovary syndrome are overweight or obese and are at increased risk of a fatty liver. Additionally, many women with polycystic ovary syndrome have elevated levels of insulin, which is a hormone that helps control blood sugar levels. By age 40, about 10 percent of overweight women with polycystic ovary syndrome develop abnormally high blood sugar levels (type 2 diabetes), and up to 35 percent develop prediabetes (higher-than-normal blood sugar levels that do not reach the cutoff for diabetes). Obesity and increased insulin levels (hyperinsulinemia) further increase the production of androgens in polycystic ovary syndrome.

About 20 percent of affected adults experience pauses in breathing during sleep (sleep apnea). Women with polycystic ovary syndrome are more likely to have mood disorders such as depression compared to the general population. <sup>(3)</sup>

There is no cure, but diet, exercise, and medicines can help control the symptoms. Birth control pills help women have normal periods, reduce male hormone levels, and clear acne. Treatments for infertility caused by PCOS may include medicines, surgery, and IVF. <sup>(4)</sup>

Many Sudanese ladies were suffering from polycystic ovaries syndrome which represent an important issue to the women health and to their fertility, which finally may affect the Sudanese community as whole.

A diagnosis of polycystic ovary syndrome can be made when at least two out of three of the following criteria are met:

- The ovaries are "polycystic" because:
  - 12 or more follicles are visible on one ovary or
  - The size of one or both ovaries is increased.
- There are:
  - High levels of 'male' hormones (androgens) in the blood (hyperandrogenism).
  - Symptoms suggesting an excess of androgens such as:

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- Excess hair growth
- Acne
- There is menstrual dysfunction such as:
  - Lack of periods or menses (menstrual flow).
  - Menstrual irregularity.
  - Lack of ovulation. <sup>(5)</sup>

#### Diagnosis: Clinical Diagnosis

- Virilizing signs.
- Acanthosis Nigricans.
- Hypertension.
- Enlarged Ovaries: May or may not be present; evaluate for an ovarian mass.

#### Laboratory Testing

Exclude all other disorders that can result in menstrual irregularity and hyperandrogenism, including adrenal or ovarian tumors, thyroid dysfunction, congenital adrenal hyperplasia, and hyperprolactinemia, acromegaly, and Cushing syndrome.

Baseline screening laboratory studies for women suspected of having PCOS may include the following:

- Thyroid function tests
- Serum prolactin level
- Total and free testosterone levels
- Free androgen index
- Serum hCG level
- Cosyntropin stimulation test
- Serum 17-hydroxyprogesterone (17-OHPG) level
- Urinary free cortisol (UFC) and creatinine levels
- Low-dose dexamethasone suppression test
- Serum insulin-like growth factor (IGF)-1 level

Other tests used in the evaluation of PCOS include the following:

- Androstenedione level
- FSH and LH levels
- GnRH stimulation testing
- Glucose level
- Insulin level
- Lipid panel

#### Imaging Tests

The following imaging studies may be used in the evaluation of PCOS:

- Ovarian ultrasonography, preferably using transvaginal approach
- Pelvic CT scan or MRI to visualize the adrenals and ovaries. <sup>(6)</sup>

Besides irregular menstrual cycles and ovulation, weight gain, and thinning hair, one of the most notable symptoms of PCOS is acne.

PCOS-related acne tends to flare in areas that are usually considered "hormonally sensitive," especially the lower third of the face. This includes your cheeks, jaw line, chin, and upper neck. <sup>(7)</sup>

## II. LITERATURE REVIEW

In study done by Minerva Ginecol; showed that subsequent phases of acne were correlated with the clinical severity of polycystic ovaries and to the presence of Premenstrual Syndrome in 93% of the cases.

## III. JUSTIFICATION

There is no published data about the polycystic related acne among Sudanese women with infertility disorders.

## IV. OBJECTIVES

To know prevalence of polycystic related acne among selected group of Sudanese women with infertility disorder.

## V. MATERIAL AND METHOD

*Study Design:* Descriptive, cross-sectional study

*Study Population:* Sudanese infertile females attended to Banoon IVF center, Khartoum, Sudan

*Study Period:* May-July, 2016

*Sample Size:* 94 participants

*Data Collection:* Data was collected via questionnaire.

*Method:* Clinical examination, observation

## VI. ETHICAL CONSIDERATION

All participants were informed about the purpose of the study and all of them were consent.

## VII. RESULT

36.2% of participants had polycystic related acne.

## VIII. DISCUSSION

The prevalence of acne among the study group is a good sign for polycystic ovary syndrome which is one of most causes of female infertility

## IX. CONCLUSION

More than one- third of the study group had polycystic ovaries related acne. Further studies must be done involving imaging and laboratory tests.

## ACKNOWLEDGEMENT

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