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A study to assess the prevalence of polycystic ovarian disease (PCOD) among adolescent girls in Saraswathi Nagar, Nellore, Andhra Pradesh

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Abstract

Background: Ovulatory disorder is a very common gynecological disorder that presents in a variety of clinical conditions including amenorrhea, irregular periods. Polycystic ovarian disease is an endocrine disorder that affect approximately 5% of young women among all races and nationalities. The most common hormonal disorder may occur among women in the reproductive age, between 13-40 years and leading major cause of infertility.

Aim: The aim of the study was to assess the prevalence of PCOD among adolescent girls.

Objectives: 1. To determine the prevalence of PCOD among adolescent girls in Saraswathi Nagar. 2. To associate the prevalence on PCOD among adolescent girls with selected demographic variables.

Methodology: 100 adolescent girls living in Saraswathi Nagar, Nellore were selected by using simple random sampling method.

Results: Regarding the prevalence of PCOD among adolescent girls, 48(48%) had no PCOD, 23(23%) had mild PCOD, 29(29%) had moderate PCOD and no one had severe PCOD.

Keywords: Prevalence, polycystic ovarian disease, adolescent girls

Introduction

Polycystic ovarian disease is a syndrome characterized by enlarged ovaries with multiple small cysts, and abnormally high number of follicles at various stages of maturation and a thick scarred capsule surrounding each ovary.

Ovulatory disorder is a very common gynecological disorder that presents in a variety of clinical conditions including amenorrhea, irregular periods^[1].

Normal ovulation requires the co-ordination of menstrual cycle, at the central hypothalamo-pituitary axis, the feed back signals and local response within the ovaries. Any disruption to these factors may result in a dysfunctional state leading to an ovulation on and polycystic ovaries^[2].

Polycystic ovarian disease is an endocrine disorder that affect approximately 5% of young women among all races and nationalities. The most common hormonal disorder may occur among women in the reproductive age, between 13-40 years and leading major cause of infertility. Poly cystic ovarian syndrome in gynecology according 75% anovulatory infertility. The risk of polycystic ovarian syndrome was found to be 4% in a women population of reproductive age^[3].

Many adult patients are also diagnosed with PCOD only after treatment for infertility but the emotional and financial strains that results could have been prevented if PCOD were diagnosed in the teenage years and closely followed by physician. About one third of pregnancies in women with PCOD end in spontaneous abortion. Obesity which occurs frequently in about one half of all women with polycystic ovarian disease, further complicates the situation as it increased likelihood of gestational diabetes, pre-eclampsia, pre mature labour, neonatal macrosomia and still birth. Therefore effective treatment of an adolescents with polycystic ovarian disease and establishment of diet and exercise habits to prevent obesity will increased her likelihood to have a complications for pregnancy and healthy baby^[4].

Adolescents with PCOD are at increased risk at developing health problem later on in life, such as type-II diabetes, cardiovascular and infertility. Furthermore, the physical signs of polycystic ovarian syndrome can be determine to a teenage girls self-image.

Women with PCOD have higher incidence of gynecological cancer and are about 2.5 times as likely as healthy women to develop ovarian cancer and the persistent dysfunctional bleeding that affects. Some women with PCOD can lead to anemia [5].

Need For The Study

Polycystic ovarian disease is also known as leventhal syndrome is a chronic disorder in which many benign cysts form on the ovaries. It is one of the most common anovulatory infertility however, the heterogeneous clinical features of PCOD may change throughout the life span, starting from the adolescents to the pre-menopausal age, largely influenced with the obesity and metabolic alterations and the phenotype of women depending on ethnic background [6].

Josephine Jacqueline Mary (2016) states that the incidence varies between 5-10% more common amongst infertile women as well as prevalent in young reproductive period. Almost 75% of women with regular menses and/are infertility may have polycystic ovaries. Polycystic ovaries have been found with ultrasonography in more than 50% of women with regular menstrual cycle [7].

World health organization revealed that increase in the case of ovarian disease occurs in each year from 1994, it occurs amongst all races and nationalities is the most common hormonal disorder among women in reproductive age and is a leading cause of infertility [8].

A study by national institute of health (NIH 2010-2011) has refined that 9.13% of adolescents affects PCOD in India. It is the cause for amenorrhea-30%, oligomenorrhea-75% and hirsutism- 87% of all women. It occurs when there is a hormonal imbalance that results in high level of estrogen hormone, testosterone, and luteinizing hormone, and decrease the secretion of follicle stimulating hormone [9].

In Andhra Pradesh it is estimated that there are 2.2-2.6% most reported studied at adolescents girls are ranging from 18-30 yrs. According to new criteria, the prevalence of PCOD was found to be 4% in a population of 369 unselected women of reproductive age. The problems is more prevalent in rural areas. In Nellore it is estimated that there are 1.05% adolescent girls with PCOD [10].

Problem Statement

A study to assess the prevalence of polycystic ovarian disease (PCOD) among adolescent girls in Saraswathi Nagar, Nellore, Andhra Pradesh.

Objectives

- To determine the prevalence of PCOD among adolescent girls in Saraswathi Nagar.
- To associate the prevalence on PCOD among adolescent girls with selected demographic variables.

Delimitations

- Adolescent girls living in Saraswathi Nagar, Nellore.
- Sample size of 100 adolescent girls.

Methodology

Research Approach

A quantitative approach was adopted to determine the research study.

Research Design

The present study was conducted by using descriptive research design

Setting of the Study

The study was conducted at Saraswathi Nagar, Nellore.

Target Population

The target population for the present study includes all adolescent girls.

Accessible Population

The accessible population for the present study was adolescent girls living in Saraswathi Nagar, Nellore and who fulfilled the inclusion criteria.

Sample

The sample for the present study was adolescent girls.

Sample Size

The sample for the present was 100 adolescent girls.

Sampling Technique

Probability simple random sampling was adapted for the study.

Criteria for Sampling Selection

Inclusion criteria

- Adolescent girls aged 13-19 yrs of age.
- Adolescent girls who are living in Saraswathi Nagar at Nellore.

Exclusion criteria

- Adolescents who are not willing to participate in the study.
- Those who are not present during the time of data collection.

Variables of the Study

Research variable: Prevalence of PCOD.

Demographic variables: It includes age, religion, educational qualification, marital status, type of family, place of food consumption, family income, food pattern and source of information.

Description of the Tool

Part-I: It deals with socio demographic variables.

Part-II: This consists of 14 interview based questionnaire with physical examination to assess the symptoms of PCOD among adolescent girls.

Score Interpretation

| Prevalence of PCOD | Score |
|--------------------|-------|
| No PCOD | 0 |
| Mild PCOD | 1-7 |
| Moderate PCOD | 8-14 |
| Severe PCOD | 15-21 |

Data Analysis and discussion

Table 1: Frequency distribution of prevalence of PCOD among adolescent girls. (N=100)

| S. No | Prevalence of PCOD | Frequency | Percentage |
|-------|--------------------|-----------|------------|
| 1. | No PCOD | 48 | 48% |
| 2. | Mild PCOD | 23 | 23% |
| 3. | Moderate PCOD | 29 | 29% |
| 4. | Severe PCOD | - | - |

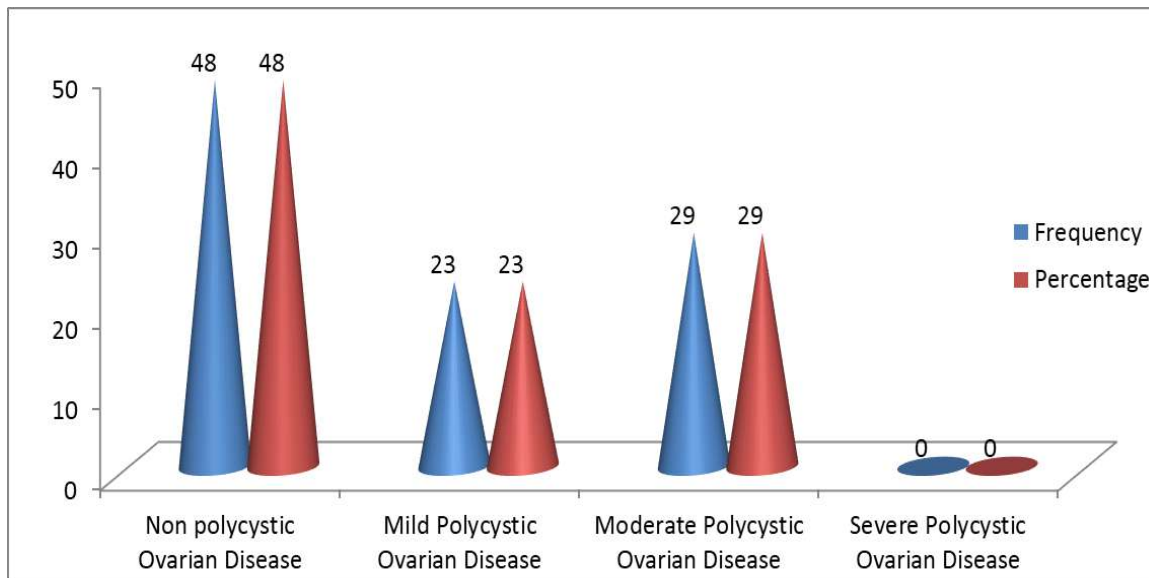


Fig 1: Percentage distribution of prevalence of PCOD among adolescent girls.

Table 2: Mean and Standard Deviation of prevalence of PCOD among adolescent girls. (N=100)

| Category | Mean | SD |
|------------------|------|-------|
| Adolescent Girls | 7.14 | 5.114 |

Table 3: Association between prevalence of PCOD among adolescent girls. (N=100)

| S. No | Demographic Variables | No PCOD | | Mild PCOD | | Moderate PCOD | | Chi-Square |
|-------|---------------------------------|---------|----|-----------|----|---------------|----|---|
| | | F | % | F | % | F | % | |
| 1. | Age in years | | | | | | | C=34.612 Df=6 T=12.592 P<0.05 S* |
| | a. 11-14 | 7 | 7 | 4 | 4 | 14 | 14 | |
| | b. 15-17 | 13 | 13 | 8 | 8 | 15 | 15 | |
| 2. | Food Pattern | | | | | | | C=22.773 Df=9 T=16.919 P<0.05 S* |
| | a. Vegetarian | 20 | 20 | 10 | 10 | - | - | |
| | b. Ova Vegetarian | 6 | 6 | 8 | 8 | 10 | 10 | |
| 3. | Consumption of Food from | | | | | | | C=25.788 Df=9 T=16.919 P<0.05 S* |
| | a. Fast Food | 11 | 11 | 5 | 5 | 6 | 6 | |
| | b. Hotel | 7 | 7 | - | - | 12 | 12 | |
| | c. Home made | 22 | 22 | 18 | 18 | 11 | 11 | |
| 4. | Source of Information | | | | | | | C=15.088 Df=6 T=12.592 P<0.05 S* |
| | a. Mass Media | 24 | 24 | 19 | 19 | 20 | 20 | |
| | b. Health Personnel | 13 | 13 | 4 | 4 | 9 | 9 | |
| | c. Others | 11 | 11 | - | - | - | - | |

Major Findings of the Study

- Regarding the prevalence of PCOD among adolescent girls, 48(48%) had no PCOD, 23(23%) had mild PCOD, 29(29%) had moderate PCOD and no one had severe PCOD.
- The mean score prevalence of PCOD was 7.14 and standard deviation was 5.114.
- Regarding association, among all the demographic variables, age, food pattern, consumption of food from and source of knowledge had significant association with prevalence of PCOD at P<0.05 level.

Conclusion

The study concluded that majority of the nursing students (48%) had no PCOD and 29(29%) had moderate PCOD. Since PCOD is the most common hormonal disorder may occur among women in the reproductive age, especially in 13-40 years and the major leading cause of infertility, necessary measures to be taken to impart knowledge among adolescent population regarding PCOD, its causes, symptoms and complications.

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