Assess the Prevalence of Poly cystic ovarian syndrome among Adolescent girls

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ABSTRACT

World Health Organization (WHO) estimation disclosed over 116 million girls (3.4%) area unit stricken by PCOS worldwide. The predisposing risk factors embrace genetic science, system, lifestyle/environment, fatness that contributes to the event of PCOS. it's calculable that between 5 to ten % of U.S. girls of childbearing age have PCOS. that is regarding five million girls, which makes the condition one among the foremost common secretion endocrine disorders among girls of generative age. A study to assess the prevalence of PCOS among adolescent women at hand-picked setting, Chennai. Objective: to assess the prevalence of PCOS among adolescent women. Methodology: A non-experimental descriptive analysis style was adopted during this study. The non-probability convenient sampling technique was accustomed choose the sample size of two hundred adolescent Girls. The assessment of the prevalence of PCOS was administrated employing a self-reported check list through a Google-type. A survey link was sent to the respondents, via email and WhatsApp& teams. knowledge was analyzed by descriptive and inferential statistics. Result: our Majority (36.5%) of the samples had gentle & moderate PCOS symptoms and twenty-sevenths had severe symptoms. relating to physical activity, the bulk (38%) of the samples had gentle physical activity, thirty-fourth had moderate physical activity and twenty-eighth had severe activity. There was a direct correlation between PCOS symptoms and Physical activity. There was a statistically vital relationship between PCOS symptoms with age, religion, academic standing, dietary habits, previous information, supply of data, the cycle of emission and BMI and there was a statistically vital relationship between physical activity with age, Religion, academic standing, monthly family financial gain, age at the time of start, previous information, supply of data, variety of family, Cycleof emission & BMI. Conclusion: PCOS among adolescents is a rising problem that wants careful assessment, timely intervention, and appropriate treatment. Diagnosis of PCOS in adolescence remains a challenge attributable to overlapping symptoms of PCOS with traditional time of life changes in adolescents. life-style modifications for weight reduction and dietary modifications and psychological content plays vital role in these young ladies for preventing long run complications.

Keywords*: Poly cystic ovarian syndrome (PCOS), Prevalence, PCOS symptoms, Physical activity, Adolescent Girls.**

INTRODUCTION

The World Health Organization (WHO) estimates that 116 million women (3.4%) worldwide were affected by polycystic ovary syndrome in 2012. India ranks between 3.7 and 22.5 percent, depending on the population studied and the criteria for diagnosis. It is estimated that one in five (20%) Indian women suffer from PCOS. If not monitored in a timely manner, the condition can have serious health effects. According to a study by the PCOS Society, out of 10 women in India suffer from polycystic ovarian syndrome (PCOS), a common endocrine disorder in women of childbearing age. And out of 10 women diagnosed with PCOS, six are teenage girls.

Polycystic Ovarian Syndrome (PCOS) is one of the most common endocrine disorders in women of childbearing age, affecting approximately 6.5% to 6.7% of all pre-menopausal women. As a cystic disease of the ovaries by Stein &Levanthal, it is now believed to be linked to a flurry of endocrine and metabolic disorders such as high blood pressure, glucose intolerance (IGT), type 2 diabetes mellitus, coronary artery disease, increased endometrial and possibly breast Cancer.

Polycystic Ovarian Syndrome (PCOS) is a condition that affects a woman's hormone levels. Women with PCOS produce more than normal amounts of male hormones. This hormonal imbalance causes your body to skip menstrual

periods, making it difficult for you. PCOS also causes hair growth on the face and body, as well as baldness, and can contribute to long-term health problems such as diabetes and heart disease.

The signs and symptoms of PCOS often develop around the first menstrual period during puberty; sometimes Polycystic Ovarian Syndrome develops later, for example in response to significant weight gain; The signs and symptoms of PCOS vary. At least two of these signs: Infrequent, irregular, or prolonged menstrual cycles are the most common signs of PCOS. Elevated levels of male hormones can lead to physical signs such as excessive facial and body hair (hirsutism) and occasionally severe acne and patterns, baldness, your ovaries may be enlarged, and contain follicles that surround the eggs. As a result, the ovaries can no longer work regularly. The exact cause of PCOS is unknown. Factors that can play a role include: Excess insulin can increase androgen production, leading to difficulty ovulating, inflammatory disease, heredity, and excess androgens that lead to hirsutism and acne.

Complications of polycystic ovarian syndrome can be infertility, gestational diabetes or pregnancy-related high blood pressure, miscarriage or premature delivery, non-alcoholic steatohepatitis - a severe inflammation of the liver caused by accumulation of fat in the liver, metabolic syndrome: a group of disorders that include high blood pressure or blood sugar levels, and abnormal blood sugar. which significantly increase the risk of cardiovascular disease, type 2 diabetes or prediabetes, sleep apnea, depression, anxiety and eating disorders, abnormal uterine bleeding, and cancer of the skin lining the uterus (endometrial cancer).

Disorder in women of childbearing age with significant clinical conditions of hirsutism, oligomenorrhea, and infertility. Socio-economic studies from India have found that PCOS is a widespread lifestyle disorder among the urban middle- and high-income population compared to the rural population. A large ethnographic study identifying the prevalence of PCOS in different socioeconomic groups would be helpful in reassuring women about lifestyle changes.

PCOS is a complex endocrine disorder that is more common in women of childbearing age. PCOS may first appear in adolescence, but the incidence of PCOS in adolescence is unknown because the diagnostic criteria for PCOS in the adolescent age group have not yet been defined, symptoms of PCOS tend to overlap with normal pubertal changes, which is what the diagnosis is still going to make increasingly challenging

In adolescent girls, the exact prevalence of PCOS in India is unknown due to limited data. Various studies in India on PCOS have reported a prevalence of 3.7% to 22.5% and even up to 36% in adolescents. The significant deviation in the various studies is due to the lack of consensus on the diagnostic criteria, while in the study by Nidhi et al., the prevalence rate was 9.13%. Therefore, the study was conducted to assess the prevalence of PCOS in a community setting.

Statement Of The Problem
A study to assess the prevalence of PCOS among adolescent girls at selected setting, Chennai.

Objectives
1. To assess the prevalence of PCOS among adolescent girls.
2. To associate the prevalence of PCOS with demographic variables.
3. To create awareness on PCOS.

Inclusion Criteria
- Adolescents aged 15–18 years,
- Unmarried
- Attained menarche more than 2 years.

Methods and Materials
The present study was to assess the prevalence of PCODS among adolescent girls in a selected setting, Chennai. A non-experimental descriptive analysis style was adopted during this study. The sample size was 200 adolescent girls in the age group of 15 – 18 yrs.were willing to respond to the survey from urbanpopulation respectively.Non-probability convenient sampling technique was used to select the samples.Informed consent was obtained from all the participants and they were given a detailed explanation on the study.

A self-administered survey questionnaire was prepared basedon the available literature on symptoms and physical activity for PCOS. The questionnaire included demographic details was assessed by self-structured questions and PCOS symptoms &physical activitywas administrated employing a self-reported check list through a Google-type. A

survey link was sent to the respondents, via email and WhatsApp & teams. The submitted questionnaire was scrutinized for analysis on the basis of complete data and those withoutduplicity.ThedatawasenteredintoSPSS software. Knowledge was analyzed by descriptive and inferential statistics.

Description Of The Tool
Structured Questionnaire and Likert's rating scale was used to collect data. It consists of three sections.

Section a: Demographic Variables included structured questionnaire to elicit the age, religion, educational stratus, type of family, dietary habits, monthly family income, age at menarche, cycle of menstruation, history of menstrual problems in the family, previous knowledge on PCODS and source of information.

Section B: Prevalence Of Pcods: Rating scale was used to assess the symptoms and physical activity of adolescent girls.
- Symptoms included BMI, irregular menstrual periods, menstrual cramps, heavy bleeding, excessive facial or body hair, hair loss from the head, thinning hair, acne/pimples, oily skin, darkened skin in certain areas of the body, excess weight gain, headaches, fatigue, mood changes, depression, related health conditions, sleep problems, pelvic pain.
- Check list was used to assess the PCODS symptoms. Scored as Yes(1), No (0). Classified into mild symptoms (< 50%), moderate symptoms (51 – 75%) & sever symptoms (75 – 100%).
- Physical activity included yoga, walking, aerobics & jogging. Rating scale was used to assess the physical activity. Scored as never (2), sometimes (3), always (3). Classified into mild activity (< 50%), moderate activity (51 – 75%) & sever activity (75 – 100%).

Data Collection Methods
The researcher's self-presentation and information about the nature of the study were explained to the samples to facilitate collaboration in data collection. A declaration of consent was obtained from the samples. The sample that met the criteria was selected using the non-probability sampling methods. The data was obtained from the adolescent girls through self-reporting of demographic variables and a rating scale was used to assess the prevalence of PCODS.

RESULT AND DISCUSSION

Demographic Variables
The majority (50%) of the samples were 15 years old, 67.5% were Hindus, 61% had secondary education, 86% were from the nuclear family, 91.5% were non-vegetarian, and 53% samples monthly income was 5001 to 15,000 rupees, 50.5% attained menarche between the ages of 9 to 12 years, 70.5% had regular menstruation, 80% had no history of menstrual problems in the family, 71% had no prior knowledge of this Polycystic Ovarian Syndrome and 17% had a source of information from a health professional.
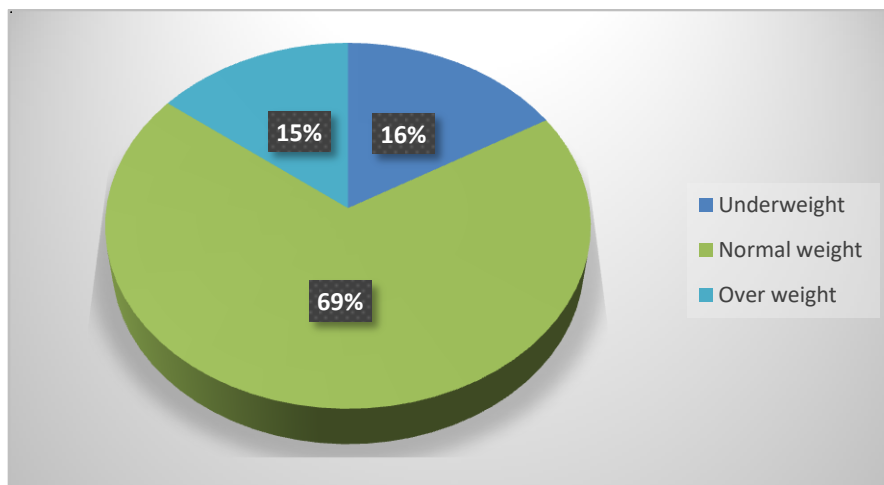
BODY MASS INDEX

Fig 1: BODY MASS INDEX

Figure 1: showed that the majority (69%) were normal weight, 16% underweight and 15% obese/overweight. Previous results, backed up by the non-obese study by Joshi B et al, 43% PCOS cases had a higher waist-to-hip ratio and a higher BMI. The BMI in confirmed PCOS cases in that of Joseph N was 20.7% were obese.

TAB 1: SYMPTOMS OF PCODS

S.NO	SYMPTOMS OF PCODS	YES		NO	
		F	%	F	%
1.	Irregular menstrual periods	104	52.0	96	48.0
2.	Menstrual Cramps	156	78.0	44	22.0
3.	Heavy bleeding	66	33.0	134	67.0
4.	Excessive facial or body hair	20	10.0	180	90.0
5.	Hair loss from the head	170	85.0	30	15.0
6.	Thinning hair	54	28.0	144	72.0
7.	Acne/Pimples	87	43.5	113	56.5
8.	oily skin	104	52.0	96	48.0
9.	Darkened skin in certain areas of the body	40	20.0	160	80.0
10.	Excess weight gain	58	29.0	142	71.0
11.	Head aches	58	29.0	142	71.0
12.	Fatigue/ feeling easily tried	92	46.0	108	54.0
13.	Mood changes	128	64.0	72	36.0
14.	Depression	32	16.0	168	84.0
15.	Related health conditions	42	21.0	158	79.0
16.	Sleep problems	94	47.0	106	53.0
17.	Pelvic pain	194	97.0	6	3.0

Tab 1: tab 1: In this study, 52% had irregular menstrual periods, 78% menstrual cramps, 33% heavy bleeding, 10% excessive facial or body hair, 85% hair loss from the head, 28% had thinning Hair, 43.5% had acne/pimples, 52% had oily skin, 20% had dark skin in certain areas of the body, 29% were overweight, 58% had a headache, 46% had fatigue, 64% had mood swings, 16% had depression, 21% had related health problems, 47% had sleep problems, and 97% had pelvic pain.

Supported by Maslyanskaya S et al. Menstrual irregularities were the most common occurrence in 71% of cases, including oligomenorrhea, menorrhagia, and amenorrhea. A recent study found that PCOS was the most common underlying etiology in hospitalized adolescents with abnormal uterine bleeding (AUS) and menorrhagia, accounting for 33% of admissions. Maslyanskaya S., Talib HJ, Northridge JL, et al. Acne or oily skin, indicative of androgenic activity, was observed in 64% of adolescent girls. Hirsutism in 21% of cases; Hair loss in 7% of girls while pigmentation was in 36% of girls; Mood changes included irritability and depression in 14% of the girls. Many girls had a combination of symptoms. The most common were menstrual irregularities and acne or oily skin suggestive of androgenic activity.
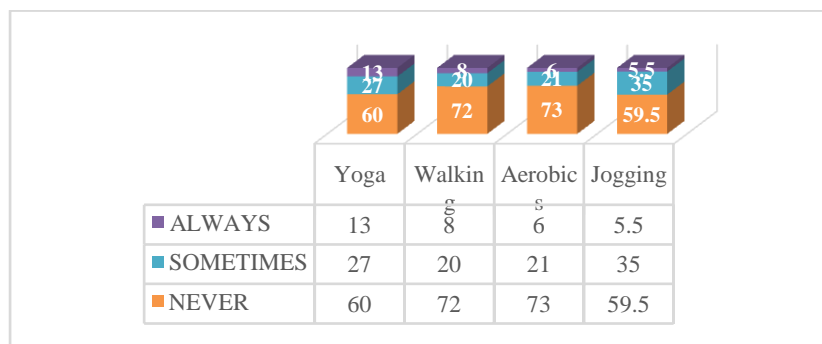
PHYSICAL ACTIVITY

	Yoga	Walking	Aerobics	Jogging
ALWAYS	13	8	6	5.5
SOMETIMES	27	20	21	35
NEVER	60	72	73	59.5

Fig 2: Physical Activity

Fig 2 in relation to physical activity 27% of adolescent girls practiced yoga sometimes & 13% always practiced yoga,

20% sometimes walked and 8% always walked, 21% sometimes did aerobics and 6% always did aerobics, 35% sometimes jogged and 5.5% jogged all the time.
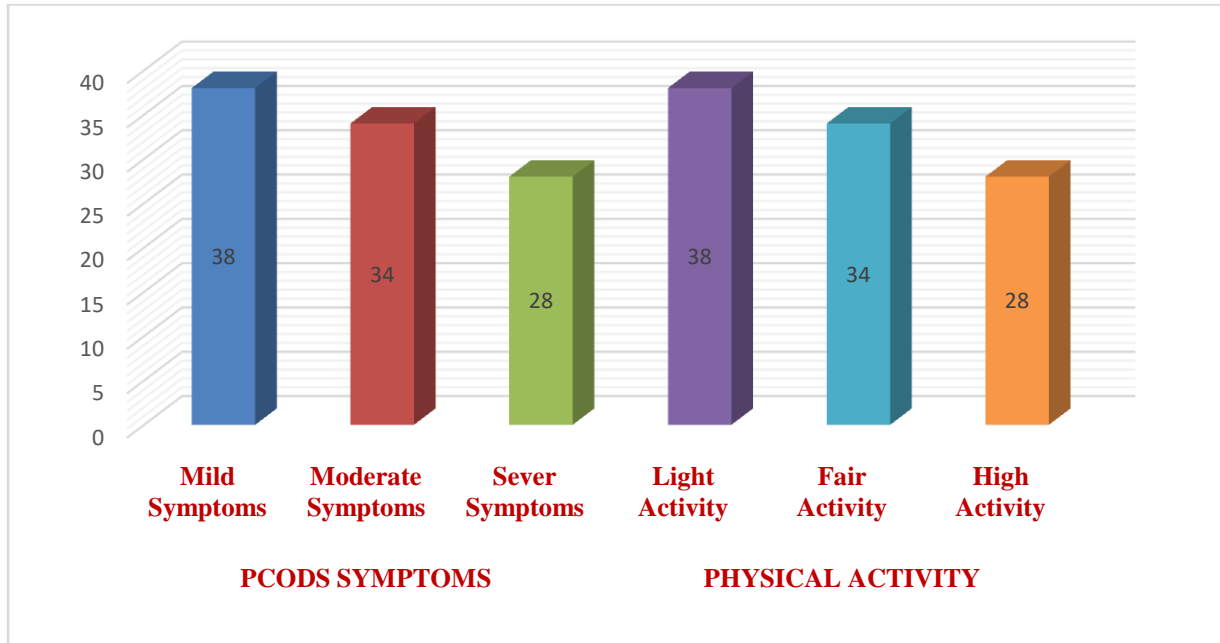
3.5 OVERALL SYMPTOMS AND PHYSICAL ACTIVITY

Fig 3: Pcos Symptoms & Physical Activity

Fig 3: Regarding PCOS symptoms, 38% had mild symptoms, 34% had moderate symptoms, and 28% had severe symptoms. In terms of physical activity, the majority (38%) were slightly active, 34% were fairly active and 28% highly active. Singh A et al. (2018) conducted a study on the prevalence of polycystic ovarian syndrome in adolescent girls. 117 adolescent girls aged 15 to 19 participating in OPD with oligomenorrhea and/or hirsutism were recommended for biochemical testing. Sonographic, hormonal and sonographic evaluation for the diagnosis of PCOS based on the Rotterdam criteria. The results showed that the prevalence of PCOS in the study in the study group was 11.96%. It concluded that PCOS was increasingly found in adolescence, although the overall prevalence is low and assessing PCOS in adolescents is challenging. At this age, lifestyle change is essential to prevent long-term reproductive and metabolic complications.

3.6 TAB 2: CORRELATION OF POLYCTSTIC OVARIAN SYNDROM BETWEEN PCOS SYMPTOMS, PHYSICAL ACTIVITY AND BMI

S.NO	VARIABLES	CORELATION COEFFICIENT VALUE
1.	PCOS symptoms	$r = -.015$
	Physical activity	$p = 0.829$
2.	BMI	$r = -.216^{**}$
	PCOS symptoms	$p = 0.002$
3.	BMI	$r = -.060$
	PHYSICAL ACTIVITY	$p = 0.397$

Table 2: showed that, there was a positive correlation between BMI and PCOS symptoms at $P<0.01$ level of significance and there was a no correlation between PCOS symptoms&physical activity and BMI and physical activity.

Association Of Polycystic Ovarian Symptoms And Physical Activity With Demographic Variables

There was a statistically significant association between PCOS symptoms with demographic variables likecycle of menstruation**,** H/o menstrual problem, previous knowledge, source of information, BMI at 0.01 level and age, religion, educational status at 0.05 level. There was no statistically significant relationship between PCOS symptoms with demographic variables like type of family, dietary habits, monthly family income, age at menarche.

There was a statistically significant relationship between Physical activity with demographic variables like age, monthly family income, type of family, age at menarche, cycle of menstruation, previous knowledge, source of information at 0.01 level.There was no statistically significant relationship between Physical activity with demographic variables like educational status, dietary habits, H/o menstrual problem, BMI**.**

CONCLUSION

The reproductive phase of life brings multiple physiological, anatomical and psychological changes within the lifetime of girls. because of familial, cultural and social restrictions, most adolescent girls don't seem to be ready to share and find the correct recommendation for menstrual-related issues. PCOS may be a condition that's of great concern. PCOS among adolescents is a rising problem that wants careful assessment, timely intervention, and appropriate treatment. Diagnosis of PCOS in adolescence remains a challenge attributable to overlapping symptoms of PCOS with traditional time of life changes in adolescents. Though the incidence of PCOS in adolescents is low the incidence of PCOS among adolescence has seen an increasing trend. Early diagnosis is very important to instill early life-style modifications which is able to stop metabolic and procreative complications. life-style modifications for weight reduction and dietary modifications and psychological content plays vital role in these young ladies for preventing long run complications.

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