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## Research Article

### ULTRASONOGRAPHIC EVALUATION OF PREVALENCE OF POLYCYSTICOVARIAN SYNDROME IN THE DIFFERENT AGE GROUPS OF REPRODUCTIVE AGE (IN EASTERN PART OF ODISHA)

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#### ABSTRACT

PCOS is now a frequent problem in the adolescent females who get afflicted mostly with gynecological problems like- Amenorrhea, Oligomenorrhea, Menorrhagia. Most of these females are associated with obesity, hirsutism, acne like signs. There is also increased risk of insulin reaction, type-II diabetes mellitus, infertility, psychological disorder. Therefore our aim is to find the prevalence of PCOS by USG examination in eastern part of Odisha.

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#### INTRODUCTION

The exact prevalence of the syndrome is not precisely defined which criteria's are mainly responsible for the diagnosis of PCOS. According to Roherdareoligohydramnios, hirsutism & obesity together with enlarged polycysticovary are the diagnostic criteria of PCOS. It is also accepted by many authors that PCOS is a complex manifestation of triad of clinical manifestation like oligomenorrhea, hirsutism, obesity due to the result of over production of androgens, primarily from the ovary & is associated with insulin resistance which was first recognized by Archardand Thiersin 1921 (Association between glucose intolerance & hyperandrogenism). In another group of studies it was published that major symptoms of PCOS include amenorrhoea, oligomenorrhea, DUB, acne, hirsutism, obesity & infertility. Now PCOS is a major health concern in India, because majority of the patient with PCOS are reported to have risk of infertility, pregnancy loss, obesity, cardiovascular disorder, diabetes mellitus, depression, acne & many others which are mostly seen in their production age group 15 to 45 years. In India the prevalence rate is gradually increasing & found to be in major parts of India because of the lifestyle, habit of taking packed & fast food (which are mostly added with chemicals, which disturb the hormone balance)

#### Objective

To study the prevalence rate of PCOS in eastern part of Odisha in the age group of 15 to 45 years a comparative study undertaken.

#### MATERIALS AND METHOD

The study was performed for a period of one year from April-2016 to March-2017 in the different diagnostic centers based at Bhubaneswar & Kalinga Institute of Medical Sciences (KIMS), Bhubaneswar. Reproductive age group of males were taken for studies 15 years to 45 years who attend the diagnostic centers & KIMS, Bhubaneswar with a clinical findings of infertility, oligohydramnios, obesity, Hirsutism, Acne & Early pregnancy loss. Total cases of 1000 were taken for studies, who came from different parts of eastern Odisha. The recorded patients were divided in three age groups of a) 15 to 25 years, b) 25 to 35 years, c) 35 to 45 years.

#### The diagnosis of PCOS on trans-abdominal sonography

Ultrasonography was done on the basis of on presence of 12 nos. of follicles which were placed peripherally of size 2mm to 9mm diameter in one or both ovaries & increased ovarian volume (10cm). Rotterdam (2003) diagnostic criteria for PCOS. AE-PCOS society (2009) diagnostic criteria for PCOS.

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Pathological tests like fasting blood glucose, fasting insulin, free testosterone, follicle stimulating hormone (FSH) luteinizing hormone(LH), LH: FSH ratio, were done for the comparative study & statistical analysis.

Clinical features & complains of the above patients were also recorded.

Based on the above parameters the prevalence of PCOS was assessed in different age groups. (Study design: Prevalence study) in two consecutive years.

### Sample size

1000 female patient's age groups 15 to 45 years based (USG reports & pathological tests).

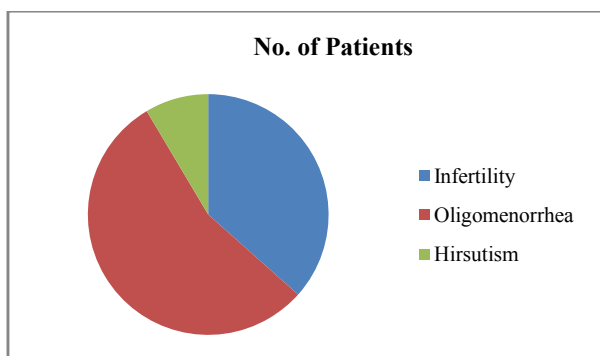
### Collection dates of samples

Different diagnostic centers based at Bhubaneswar & KIMS, Bhubaneswar.

## RESULTS

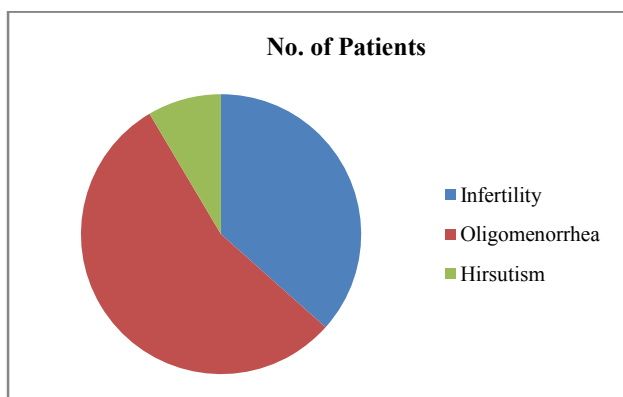
### Total no. of cases scanned (total cases 1000) & scanning analysis (Year 2016-2017)

Patients	No. of Patients	Percentage
Normal pelvis scan	380	38 %
PCOS	126	12.6 %
Having other pathology	494	49.4 %
Total	1000	100



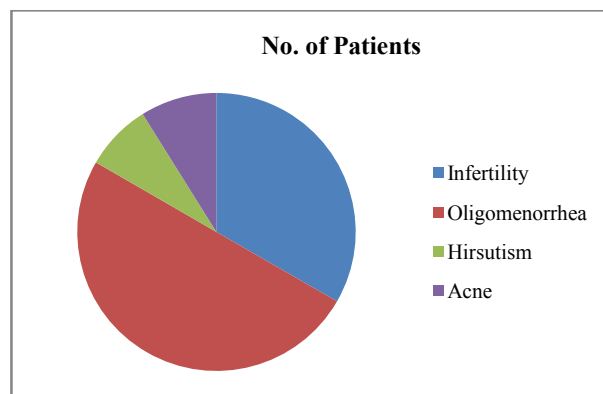
### Total number of scanned and scanning analysis (total scan1000) (Year 2015-16)

Patients	No. of Patients	Percentage
Normal pelvic scan	369	36.90
PCOS	121	12.10
Having other Pathology	510	51.00
Total	1000	100



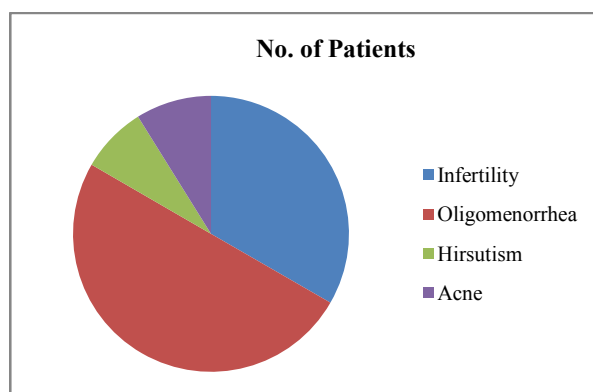
### Distribution of PCOS patient, according to age group (Total count1000) (Year 2016-2017).

Years	No. of Patients	Percentage
15 to 25	72	7.2 %
26 to 35	46	4.6 %
36 to 45	8	0.8 %
Above 45 years	0	0 %
Total	126	



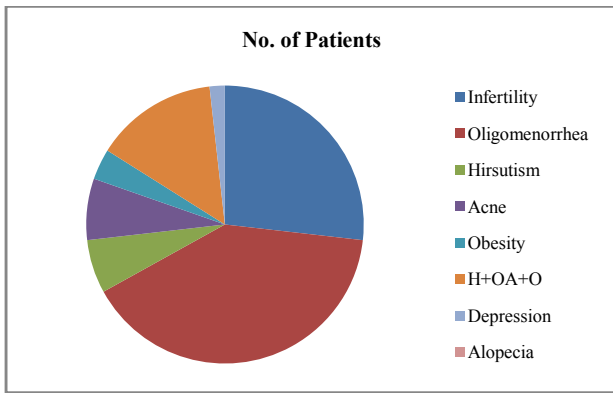
### Distribution of PCOS patients according to age group (total scan1000) (Year2015-16)

Years	No. of Patients	Percentage
15 to 25	69	6.9
26 to 35	36	3.6
36 to 45	6	0.6
Above 45	1	0.1
Total	112	11.2



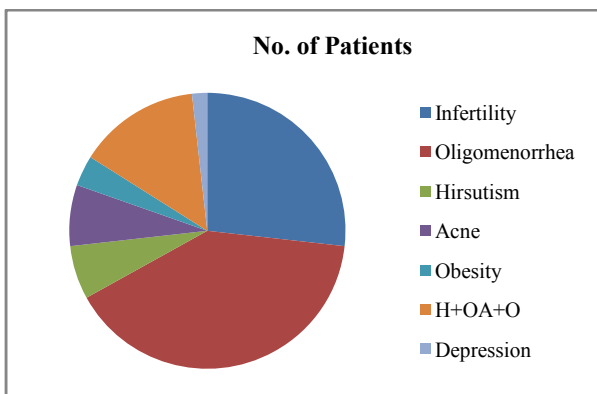
### Distribution of PCOS patients according to complaint (PCOS=126)(Year2016-2017)

	No. of Patients	Percentage
Infertility	32	25.39
Oligomenorrhea/Irregular period	47	37.3
Hirsutism	09	07.16
Acne	06	04.76
Obesity	05	03.96
Combination of Hirsutism + Acne + obesity	22	17.46
Depression with Slleppenia	03	02.38
Alopecia	02	01.58
Total	126	100



**Distribution of PCOS according to complaints (PCOS-112)(Year2015-16)**

	No. of Patients	Percentage
Infertility	30	26.79
Oligomenorrhea	45	40.18
Hirsutism	7	6.25
Acne	8	7.14
Obesity	4	3.57
H+OA+O	16	14.29
Depression	2	1.79
Alopecia	0	0.00
	112	100.00



**DISCUSSION**

It was observed from this study that prevalence of PCOS in patient of different age group varies according to age. Where the incidence ends to decrease with age & decline in advance age of 36 to 45years. The high prevalence of PCOS was noted maximum in the age group 15 to 25years (62%). No patient above 50 years found to be with PCOS. Among the patients with PCOS 37% had oligomenorrhea .07% had hirsutism, 04% had acne, 03% had obesity, 17% had hirsutism + acne + obesity together in 2016-17 study and in 2015-16, patients with PCOS 40% had oligomenorrhoea, 6.2% had hirsutism, 71% had acne, 3.5% had obesity, 16% had hirsutism + acne + obesity together.

**CONCLUSION**

So it is concluded that majority of the patients in young group had oligomenorrhea/ irregular period which should be taken seriously for considering them normal. Another major group which was observed from our study is a major portion of young girls having hirsutism + acne + obesity from different studies it is also found that after 2005 the obesity alone or in combination with acne, hirsutism irregular period is increasing day by day. So, in the conclusion PCOS is a common endocrine disorder of female adolescence & adulthood with

presentation of menstuous irregularities, infertility, hirsutism, acne metabolic abnormality. Early detection of PCOS will help the young girls & patients within fertility to go for early treatment which will not affect them as well as their follicles.

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