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RESEARCH ARTICLE

PCOS: A GROWING PROBLEM AMONG INDIAN WOMEN.

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Abstract

Polycystic Ovarian Syndrome (PCOS) is a disease condition in women which involves cyst formation on the ovaries, which eventually affects the hormonal imbalance in their body. PCOS is the most common endocrine disorder among women between the age of 18 and 44. It affects approximately 2% to 20% women of this age group depending on how it is defined. It is one of the leading causes of poor fertility. This case study involved a questionnaire to study various aspects of PCOS like tests, symptoms, treatments and potential consequences which can be used to assess the level of awareness amongst women. The results revealed that 78.5% of women were aware of PCOS and 11.7% of women are suffering with it amongst the studied population. During survey it was seen that most of the women were aware about menstrual problem being a probable symptom of PCOS. Highest awareness seen amongst the diagnostic test was for sonography i.e. 53.71% and in treatment it was for weight loss and diet adjustments i.e. 35.71%. It has been shown that around 80.85% women wanted the inclusion of PCOS during the Sex - education programs taking place in schools. Thus including PCOS in educational intervention programme could bring about desirable change in knowledge amongst adolescent girls and women. This may lead to early diagnosis of PCOS and its potential consequences can be avoided.

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Introduction:-

In Polycystic ovarian syndrome (PCOS) there is a development of benign cyst on the ovaries of women. It facilitates the morphological changes on the surface of the ovary which leads to the hormonal imbalance as sex hormones are also secreted by ovaries. Being a hormonal disorder it includes multiple organ system of the body and one of the aspect to this is insensitivity of hormone insulin. Women with PCOS have an increased prevalence of subclinical endothelial dysfunction, atherosclerosis, inflammation, and hypertension. These conditions increase the risk of obesity, type II diabetes mellitus and cardiovascular disorder. It is also responsible for development of

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endocrine, metabolic and reproductive disorder in women (**Garad et. al. , 2011**). It is characterized by pregnancy complications, hyperandrogenism, ovulatory dysfunction and infertility (**Susan M Sirmans, et.al., 2014**). PCOS also promotes psychological morbidity which includes low self-esteem, depression, reduced quality of life and poor body image which shows that PCOS is associated with both short term and long term presentation that can adversely affect women at varying stages of life. Thus PCOS can be diagnosed in all stages of life; as young as 8-9 years of age to post-menopausal females (**Polycystic Ovarian Syndrome Association, INC, 2009**).

It has been reported that PCOS effects about 5-10% of all females (**Aziz et al., 2004**) and 4-6% of adolescent girls (**Emans, et. al., 2005**). Sheehan et. al., 2004 and Garad et. al., 2011 had reported that 50-80% of women are resistant to insulin whereas 60-80% of women suffer from hyperandrogenism.

There has been extensive research done on this topic in past few years but still it is being seen that most of the are uninformed about the syndrome and people who know about PCOS have very little knowledge about it. One of the major complains of women having PCOS is receiving inadequate information about disorder even after diagnosis has been made (**Ching et. al., 2007**). As the cases of female infertility are rising day by day it is seen that women suffering from PCOS are at high risk of female infertility. So it has become necessary to let them know about PCOS and its future consequences as if it remains undiagnosed it can lead to further complication.

Materials And Methods:-

A questionnaire was prepared to study the awareness of PCOS among women of different age groups which contains a total of 8 questions. The study was conducted on 350 participants who were selected from K. J. Somaiya College, Vidyavihar, Mumbai, India. The questionnaire is filled in both by pen & paper method and by online method. After the data collection, statistical measurements were done using Microsoft excel.

Table no.(1):- Questionnaire on PCOS

Sr.no.	Questions
1.	Do you suffer from PCOS?
2	If no, then do you know about PCOS?
3.	Which are the symptoms associated with PCOS?
4.	Which are the diagnostic tests do you know about?
5.	Have you tested yourself for any of the diagnostic test?
6.	Does PCOS leads to female infertility?
7.	According to you which are the treatments of PCOS?
8.	Do you think awareness about PCOS be included in sex education?

Results:-

The study on PCOS awareness was done and analysis of the data was carried out based on the age groups. It was seen that amongst 350 participants, 11.7% of women were found to be suffering from PCOS.

The percentage awareness about PCOS as well as female infertility, percentage of women who have tested themselves for PCOS and opinion of women regarding inclusion of PCOS is shown in figure no. (1).

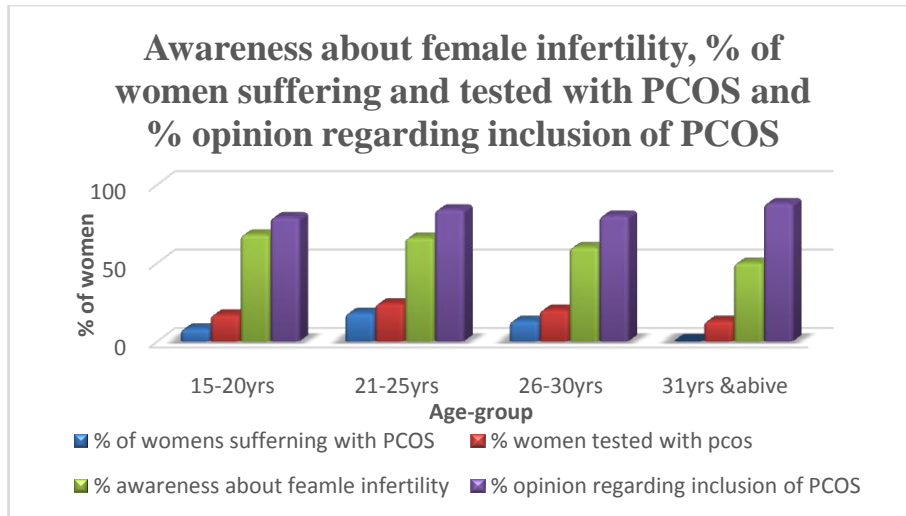


Figure no.(1):-Participants response to the female infertility, % of women suffering and tested with PCOS and % opinion regarding inclusion of PCOS

The awareness about the Diagnostic tests available for PCOS was also collected for few well known and majorly used Diagnostic tests. The percentage of women aware about various test and women having no knowledge about these tests are described below in the figure no.(2).

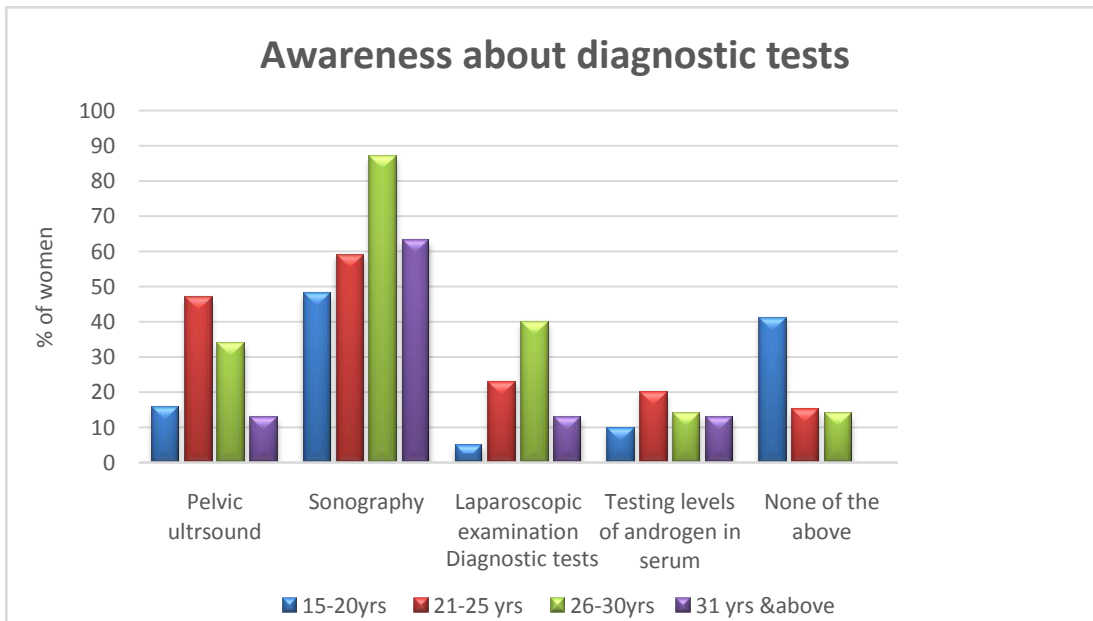


Figure no. (2):-Response of participants towards the awareness of diagnostic tests used for detection of PCOS

For percentage awareness of symptoms and treatments, refer Table no. (2)

Age group		15-20 years	21-25 years	26-30 years	31 years& above
Total		213	114	15	8
Symptoms		%	%	%	%
1.	Menstrual problem	71	79	93	75
2.	Acne	18	42	13	50
3.	Obesity	14	43	27	50
4.	Depression	17	30	40	37
5.	None	19	11	7	12
Treatments		%	%	%	%
1.	Oral contraceptives	25	37	34	25
2.	Clomiphene , Leuprolide	11	12	40	13
3.	Weight loss & diet adjustment	28	49	40	25
4.	Surgery	38	20	20	37
5.	None	43	19	20	25

Table no. (2):-Response of participants towards the awareness of symptoms and treatments available

Discussion:-

This study demonstrates that out of total 350 participants, 78.5% of them were aware about PCOS. Awareness about PCOS was seen highest among the students in the field of science, particularly in the age group of 15-20 years. Similar research has been done under different conditions by E. Scott et. al. , 2001 and they have reported that there is a significant increase regarding awareness of PCOS among women. PCOS is a common cause of an ovulation and female infertility. The infertility rate with polycystic ovarian syndrome is high; these women will have difficulty in getting pregnant and usually require treatments to improve chances of pregnancy. This study also shows that very less number of women are aware about the treatments which are available for PCOS. From this study it was observed that 67.7% of women are aware about the fact that long term PCOS condition can lead to infertility. Prevalence of this condition may vary depending on the diagnostic criteria used but according to this study PCOS thought to effect 11.7% of women and is highest among age group of 21-25 years. According to recent study which was conducted by Metropolis Healthcare (2015), a multinational chain of pathology laboratories, about 18% of women in India are affected by PCOS and this increasing trend of PCOS is predominantly seen in the child bearing age group of 15 to 30 years. Young women diagnosed with PCOS do not get the correct hormonal signals from their pituitary but if it is not diagnosed in its early stage then it can also lead to serious health problems such as impaired glucose tolerance, cardiovascular diseases, type II diabetes mellitus, hyperlipidemia and also increases risk for endometrial carcinoma(Garad et. al. , 2011). Acne, hair loss and other symptom of PCOS can lead to poor self-esteem. Infertility and miscarriages are also stressful (Sheehan et. al. , 2004; Huber- Buchholz et. al., 1999). This is in accordance with survey that 23% and 75.5% of women believe that PCOS leads to psychological problems like depression or anxiety and irregular periods respectively. Similar study on the same aspect was conducted by Ruksana Sheikh et. al. and they have reported that 42% and 48% of women believe that PCOS leads to psychological problems and irregular periods respectively.

Several studies have shown that women with PCOS are having high levels of depression as compared to the healthy women (Deeks et. al. , 2010 ; Mansson et. al. , 2008 ; Rasgon et. al. , 2003 ; Cinar et. al. , 2011).Sign and symptoms of PCOS begin for some females soon after they start having menstrual cycle.Thus inclusion of PCOS in sex education might be helpful as they can consult gynaecologist as soon as they start encountering such symptoms.A study conducted by Rajashekar L. in India & Bangladesh revealed that around 46.50% of the total number of women's having female infertility were suffering from PCOS. In the same article Rajashekar L. also stated that these women's are majorly of age – group 21-30 years i.e. 71.53% and they all were having problem of primary female infertility. This indicates that there is a rise in polycystic ovarian syndrome cases and thus, there is a need to spread awareness among women so as to overcome this major problem of infertility in future.Our study provides prospective data indicating that 81.7% of total participants suggest that information about PCOS should be given to young girls and women during their sex education.

Overall, it is been observed that there is an increase in knowledge regarding PCOS among women, which clearly indicates that including PCOS in sex education program could bring about a significant change in the level of knowledge in women about this disease.

Conclusion:-

The study revealed that majority of the women were aware about PCOS. A few of them already tested themselves for PCOS. Quite a considerable number of women in the age group of 15-20 years are aware about the availability of treatment for the same. The study also highlights the lack of knowledge or ignorance about the subject among few women. A high percentage of women had agreed to the idea of including PCOS as a part of educational intervention programme would be beneficial to avoid complications.

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