POLYCYSTIC OVARIAN SYNDROME KNOWLEDGE AND AWARENESS OF NON MEDICAL UNDERGRADUATE STUDENTS

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Abstract: **Polycystic ovary syndrome (PCOS) is areproductive age endocrine problems in females. The PCOS prevalence is increasing widely rapid but the women haven't sufficient knowledge.Aim: to determine polycystic ovary syndrome knowledge &awareness of female non medical undergraduate students by using a descriptive design the study conducted at non medical faculties in portsaid city on a total of 1000 girl. Data collection by, structured interviewed questionnaire Results findings indicated that The level of awareness of PCOS among non medical famle students was 3.7% which was agood knowledge, on the other hand ,52.4% of females do not have prior knowledge about PCOS .44.9%, 40.2%, 11.4%, and 2% have known about PCOS via internet, family &friends, medical team, and general information respectively anf finally 1.5% via the past history,there were highly statisatically significant correlation bettween total PCOS Knowledge and age ,faculty ,shool years,and family history p value less than .001 .Conclusion:The current study indicated that, level of knowledge and awearness of PCOS of non medical famle students was poor Recommendation: Polycystic ovary syndrome is vital health concern its assessment is needed to be a part of care monitoring and improvement courses .**

Keywords: **knowledge &awareness , Polycystic ovarian syndrome.**

I. INTRODUCTION

Polycystic ovary syndrome (PCOS) is a prevalent, chronic endocrine disorders with reproductive, metabolic and psychological character. It is afemale sex hormones imbalance. The polycystic ovary syndrome name is misrelated as the chief disorder isn't ovaries, the main cause is increased levels effect of hormones on the ovaries that trigger symptoms. More specific, involve higher levels of the male hormones, androgens which involve testosterone and the insulin hormone **(Sunanda & Nayak . 2016).**

Polycystic ovary syndrome is more prevelant, occurring in up to 1 in 5 reproductive age females . Up to 25% of reproductive-aged female are affected in India . Although there is no treatment for PCOS, the signs can be managed. This may caause menstrual cycle changes , ovarian cyst, failure to conceive and other health disease. It is a common health disease among adolescents and young female . PCOS affects about 10 million female world wide. It always comes post menarche in adolescent girls or young female with oligomenorrhea, infertility, and often obesity **(Borruel et al.,2013).**

Modern technology ascertainment affects in daily life and changed our lifestyle morely . Food intake of sugar, fast food, and soft drinks and lack of exercise cause PCOS . PCOS may be due to high insulin production level. PCOS seems to occur in families, too, so if it is aheredity disorder **(Boyle &Teede .,2012).**

Clinical manifestations of POS are oligomenorrhea, amenorrhea, infertility or intial trimester miscarriage, obesity, hirsutism, acne, acanthosisnigricans, male alopecia . It is a heterogeneous disease, ultrasound and combinations of signs to do diagnosis and treatment is depend on signs **(Lujan, Chizen, & Pierson, 2008).**

PCOS diverse manifestations occur in an early age . It is vital to do an early diagnosis to prevent early and late syndrome sequel . PCOS occur also in girls with early pubarche and thelarche**(Joshi etal .,2014).** Therefore, the diagnosis and management must be considered in risk factors young girls. Increased PCOS awareness in young girls is necessary **(Bronstein etal .2011).**

Lack of lifestyle changes knowledge are the major factor cause this disorder. There is a need to improve awareness among females to prevent major fertilityproblems cases . Amaterity nurse plays a critical role beyond the day to day reponsabilities. Nurses provide comprehensive care to adolescent suffer from the syndrome. Essential component of nursing practice must be involved in the nursing education. So updating the knowledge of PCOS to modify adolescent girls lifestyle and the risk reduction **(Sunanda &Sabitha 2016).**

Significance of study:

PCOS is being undiagnosed in the adolescent population. Awareness of PCOS and its treatment should be increased for adolescent girls**(Jiskoot et al .,2017)**. Given the increased PCOS prevalence, its short- and long-term effects, and its costs to the health care system, one may wonder why such lack of awareness about PCOS**(Stefanaki et al ,2015)**.Limitednarrow studies have investigated awarness PCOS in young females in portsaid city ,So we aim to determine polycystic ovary syndrome knowledge &awareness of female non medical undergraduate students

AIM

Determine polycystic ovary syndrome knowledge &awareness of female non medical undergraduate students

Specific Objectives:

– Assess knowledge and awareness of polycystic ovary syndrome among female non medical undergraduate student

- Identify the relation between knowledge and awareness of polycystic ovary syndrome and sciodemographic characteristicsof female non medical undergraduate student

II. MATERIAL AND METHODS

This research was cross sectional descriptive on 1000 participants who at non medical faculties affiliated to portsaid university at portsaid governorate.

Inclusion criteria :

Female non medical students were included.

Exclusion criteria..

Males were excluded, medical students were excluded and anyone unwilling to participate or unable to comply with protocol requirements were excluded

Study tools..

To determine the level of knowledge and awareness of POS., a structured questionnaire was established. The questionnaire included 3 domains: First section was demographics of the subjects. Second part of questionnaire is 20 PCOS Knowledge questions, and third part of questionnaire contained question regarding the information sources.

Scoring was done by making cutoff value of 11 for 20 knowledge questions . The score ≤ 11 was poor knowledge while score ≥ 12 was adequate knowledge

Before distributing the tools a pilot study was done that represents(10%) 100 girl and excluded from study. Certain modifications on the tools were done.. The tools were reviewed by 5 expertise's from nursing and medical staff to judge content validity, The tool was found reliable by alpha cronbach coefficient (Cronbach's alpha =0.7).

All ethical consideration were followed in the study: an anonymity and confidentiality of the participants were maintained. The investigator explained the aim and young famle were assured that the study will lead to no actual or potential harm. Young famale were also assured that the information obtained will be confidential and used for the research aim only. The researcher collect data three times per week. The investigator begain the interview, which lasted about 20 m. The study was take place during the period from *septamber* 2018 to Junuary 2019.

Data analysis:

The collected data analyzed using SPSS version 16, running on IBM compatible computer categorical data were expressed as relative frequency (number) and percent distribution, Student's t test was utilized for two bunches and one ANOVA (f) test was utilized to compare more than two bunches for nonstop quantitative variables. Person's relationship coefficient was utilized to assess relationship of two ceaseless quantitative variables. The distinction was considered critical at p ≤ 0.05.

III.   RESULTS

The research includes 1000 girls. Their demographic charactet are shown in **table 1.** More than half of subjects 564(56.4%) were having age ranges between 21-less than 24 years with mean age = 21.149±1.22 . Seventy hundred and fifty nine respondents (75.9%) were in theory faculties with 24.5% of them were in second academic year. Majority of respondents (92.2%) were unmarried and (94.2%) were urban.

Table (2) Shows medical history of non medical students .Among the study sample 4.2% were already PCOS patient with the same percent has family history of polycystic ovary with 45.4%in relation class other than first or scond

General knowledge for non medical students about the PCOS were revealed in **table (3).** The table showed that 45.4% of studied students don't know the PCOS definition , 60.6% of them don't know the difference between PCOS and ovarian cysts , 69.6% of them don't know symptoms of PCOS and 83.9 % of them don't know effects of PCOS. Finally 54.5% of them don't know important long term concern on PCOS, On the other hand, there is adequate knowledge in causes ,risk factors, diagnosis, treatment and cure (53.5%,65.8%,71.9%,51.7% and 45.0% respestively).

Health risks knowledge for students about the PCOS is presented in **table 4.** the table reveals that most odf the studied female non medical students know the health risks of pcos as Menstruation risks , Pregnancy risks ,….ect

Table (5) showed lifestyle habits knowlged for students about the PCOS . the table reveals that 49.7% of the studied children mention that fast food affect treatment and illness and 40.1 % for Salt-rich meals affect treatment and illnessfinally54.8% for smoking and alcohol affect treatment and illness. On ther other hand , the studied students don know the health habits regarding eating lots of high-fat diets affect treatment and disease and treatment with alternative medicine and herbs(62.2% and 43.0%).

The awareness level of PCOS among non medical is 3.7% which was agood knowledge, while 43.9% of non medical female had adequate knowledge about PCOS on the other hand ,52.4% of females do not have prior knowledge about PCOS **(Figure 1).**

Sources of information is presented in **Figures 2 as ,** 44.9%, 40.2%, 11.4%, and 2% have known about PCOS via internet, family &friends, medical team, and general information respectively anf finally 1.5% via the past history

Table (6) reveals Correlation among socio demographic characteristics, past history, family history and PCOS Knowledge . there were highly statisatically significant correlation bettween total PCOS Knowledge and age ,faculty ,shool years,and family history p value less than .001

Table (1):- Socio- demographic characteristics of students

Personal characteristics.	No.	%
Age (years)		
Less than 20	427	42.7
20-less than 24	564	56.4
24or more	9	.9
Mean ± SD	21.149±1.22	
Faculty		
Practice	241	24.1
Theory	759	75.9
Academic year		
first	282	28.2
Second	245	24.5
Third	324	32.4
Fourth	149	14.9
Marital status		
Single	922	92.2
Married	78	7.8
Monthly income		
More than enough	143	14.3
Enough	712	71.2
Not enough	145	14.5
Residence		
Rural	58	5.8
Urban	942	94.2

Table (2):- Medical history of non medical students (n=1000)

Personal characteristics	No.	%
Suffer from polycystic ovar		
Yes	26	4.2
No	958	95.8
Family suffer from polycystic ovary		
Yes	42	4.2
No	958	95.8
If yes "mention" the relation		
First class	28	66.6
Scond cclass	2	4.8
others	12	28.6

Table (3):-General knowledge for non medical students about the PCOS n=(1000)

ITEMS	No	%
Definition polycystic ovary syndrome (PCOS)?		
True	282	28.2
False	264	26.4
Don't know	454	45.4

Difference between PCOS and ovarian cysts True False Don't know	197 197 606	19.7 19.7 60.6
Symptoms of PCOS? Don't know know	696 304	69.6 30.4
Cause of PCOS - Don't know - Causes of hormones and genes	465 535	46.5 53.5
Risk factors of PCOS Know Don't know	658 342	65.8 34.2
Diagnosis of PCOS Know Don't know	719 281	71.9 28.1
treatment of PCOS be treated true false Don't know	517 171 312	51.7 17.1 31.2
Cure for PCOS? Yes No Don't know	450 174 376	45.0 17.4 37.6
Effects of PCOS? Don't know know	839 161	83.9 16.1
Important long term concern on PCOS? Yes No Don't know	189 266 545	18.9 26.6 54.5

Table (4): Health risks knowledge for students about the PCOS

Information for students	**No**	**%**
Minimize the health risks of PCOS Healthy balanced diet, exercise regularly. There is no health risk to the injured.	**753** **247**	**75.3** **24.7**
Menstruation risks Know Don't know	**673** **327**	**67.3** **32.7**
Pregnancy risks Know Don't know	**753** **247**	**75.3** **24.7**
Cope with PCOS health risks Know Don't know	**555** **445**	**55.5** **44.5**
Pregnancy occurance risks Yes, but is difficult Happens with ease	**867** **133**	**86.7** **13.3**

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Table (5): Lifestyle habits knowledge for students about the PCOS

lifestyle habits	No	%
Fast food affect treatment and illness		
Yes	497	49.7
No	196	19.6
Don't know	307	30.7
Salt-rich meals affect treatment and illness		
Yes	401	40.1
No	222	22.2
Don't know	377	37.7
Eating lots of high-fat diets affect treatment and disease		
Yes	149	14.9
No	229	22.9
Don't know	622	62.2
Smoking and alcohol affect treatment and illness		
Yes	548	54.8
No	152	15.2
Don't know	300	30.0
Treatment with alternative medicine and herbs		
Yes	329	32.9
No	241	24.1
Don't know	430	43.0
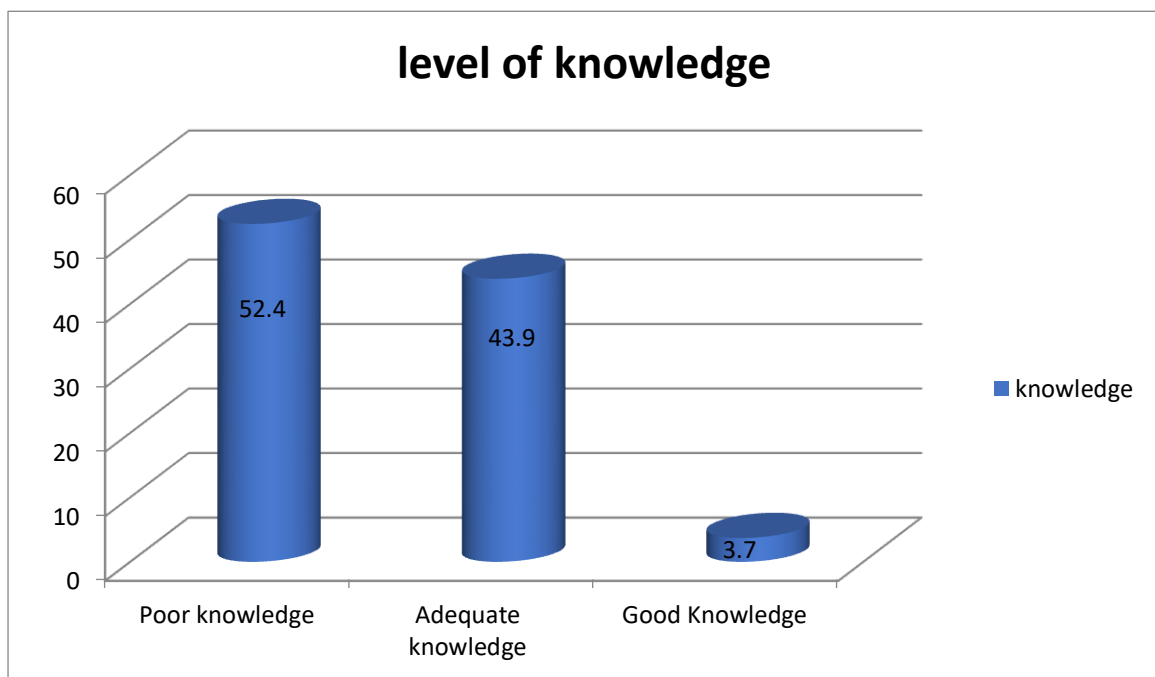
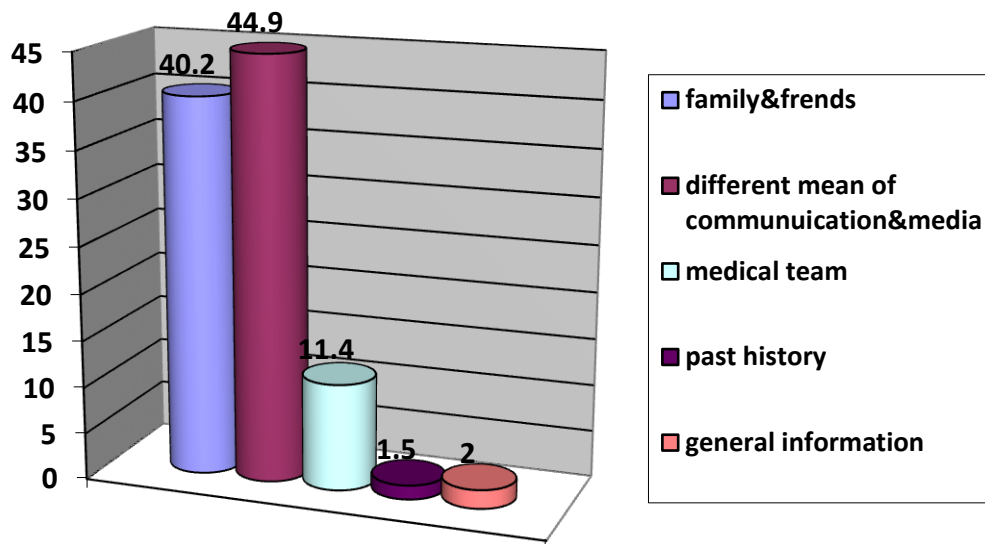**Figure(1): Distribution of students regarding their level of knowledge**

Figure (2) Source of information of non medical students regarding PCOS

Table (6): Correlation among socio demographic characteristics, past history, family history and PCOS Knowledge

		PCOS knowledge
Past history	R	-0.051
	P value	0.108
age	R	-0.090[**]
	P value	0.005
Faculty	R	-0.255[**]
	P value	0.000
Schoolyear	R	-0.123[**]
	P value	0.000
Monthlyfamilyincome	R	-0.005
	P value	0.871
Family history	R	-0.170
	P value	0.000

Correlation significant at the 0.01 level   (2-tailed).

IV.   DISCUSSION

PCOS is a chronic multisystem problem, occurs by endocrine disorders . It occur with a wide range symptoms involving irregular menstrual cycle, obesity, hirsutism, rogenisation, insulin resistance, and subfertility. PCOS has many complications like breast cancer, diabetes mellitus, and hypertension. **(Brennan et al .,2017).**

It is a very prevelant problem of reproductive age women **(Mahoney., 2014)**. So the the current study aim is to determine level of knowledge &awareness of polycystic ovary syndrome among female non medical undergraduate student. In this study, a number of females non medical undergraduate student involved in the study had prior knowledge about PCOS up to 3.7%. This awareness level is unsatisfactory especially due to the large number of students involving in this study in which more than half of them had poor knowledge about PCOS.

The findings were similar to the descriptive study conducted by **Ms. Khushboo (2016)** to assess knowledge level of POS in Mohali. 200 girls were taken as sample from the schools. The result shows that majority of girls 61.5% had fair knowledge, 17.5% girls had good level of knowledge and minority of girls 0.5% had excellent knowledge level. The mean was 8.0 with 2.7 standard deviation. The findings showed that there was lack of knowledge of girls regarding PCOS. Additionally the study of **Mohamed, 2016** showed that most of the subjects had poor knowledge and only 7.3% of subjects had good knowledge.

Thispoor knowledge level of PCOS may be because of that students did not receive the basic information about PCOS. As This rational supported by **Sowmya and Philomena (2013**) whom mentioned that POS teaching program was effective . Also, the above rational supported by **Jayasena& Franks., (2014)**who mentioned the effectiveness of structured teaching program regarding knowledge on POS among the students and showed that pre program the majority of students had poor knowledge, whereas 9.17% of them had fair level.

Also the current study findings rationals were supported by study of **Simu (2013)** that shows the effectiveness of selfinstructional programe on knowledge of POS between adolescent and stated that adolescent girls have marked improve in knowledge after self-instruction programe. As same as results are in the same line with **Jayshree & Chaitanya (2017)** mentioned that the educaitonal program improve PCOS knowledge.

Finally onthe side of knowledge level concern ,a survey on symptoms and awareness of PCOS in urban Pakistani women found that only 10% were familiar with PCOS, which is inconsistent with our study**(Ansari et al., 2014)** Another study performed in Nitte Usha Institute of Nursing Sciences found 76% had moderate knowledge and 10.7% had good awareness of PCOS**(Sabitha & Sunanda. 2016)**. In a study performed in a Semi Urban School of Sambalpur, India, it was identified that 78% students never heard of PCOS before which is inconsistent with our value**(Hansa et al. 2016)** In a study in Tertiary Care Hospitals of Pakistan, 55.6% patients were found to be unaware about PCOS **(Abbas et al., 2014)**. A survey in Mumbai performed on women visiting gynaecological clinics showed that 6% of the participants considered themselves as not at all aware about PCOS**.** The previous study of Mumbai also showed 81% participants think PCOS is manageable **(Pitchai, Sreeraj & Anil, 2016)**

In current study, The knowledge source was commonly from internet, followed by almost equal by asking family and friends and the last resource is doctors, which gives us an view about preferred way of gathering information in Egyptian community. This is disagree with a study on POS in girls in Rotterdam revealed that 11.5% of the subjects got information from a doctor and 5% from the internet **(Jayshree et al, 2017).** In another in Mumbai, India the respondent's main source information about PCOS was doctor and internet which account for 51% and 22% respectively**(Pitchai, Sreeraj & Anil, 2016).**

The results of the present study revealed that there were highly statisatical significant correlation bettween total PCOS Knowledge and age ,faculty ,shool years,and family history . The results of the current study agreed with the results of **Mohamed (2016)** that mentioned that there were highly statistical significant relationship of students age , family history and education with knowledge level. These findings was congruent with **Sowmya and Philomena (2013)** whom revealed that there was relation between the age years with pre-test knowledge level. While findings of **Jayasena& Franks., (2014).**were incongruent as it , showed no relation between knowledge level and students age.

V. CONCLUSION

The study conclude that the knowledge level about causes, symptoms, possible complications and management of polycystic ovary syndrome is insufficient so it is necessary to improve knowledge about PCOS and upgrading the current health care curriculam.

VI. RECOMMENDATIONS

-   Apply educational program for girls in various areas in order to improve PCOS knowledge level

-   The ministry can also introduce health education at the earliest level regarding PCOS. This is to ensure an early prevention by providing a good understanding on the condition.

-   Adolescents Counseling must be involved in the curriculum to provide an awareness about the disease

-   Study can be reconducted on a larger number to generalize the results.

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