

“A Pre-Experimental Study to Assess the Effectiveness of Nursing Led Intervention in Terms of Knowledge Regarding Early Detection and Prevention of Polycystic Ovarian Syndrome Among Adolescents Girls at Selected Shri Guru Ram Rai School, Sahaspur Dehradun, Uttarakhand”).

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Abstract — During the last 10 years there has been increase awareness that the clinical expression on polycystic ovarian syndrome may be broader than define by previous consensus workshop. At the year – **2024** American college of obstetricians and gynecologists annual clinical and scientific meeting highlighted significant gap in polycystic ovarian syndrome (PCOS) care, revealing wide spread patients’ dissatisfaction and the urgent need for improve provider education and comprehensive treatment approaches. The purpose of this study is to explore the relation between genetic and environmental factors that may explain PCOS. We will use information collective during visits to our polycystic ovarian syndrome clinic and the family history of PCOS patient to learn about the causes and the effects of PCOS.

Keywords—(PCOS,Obstetricians,Gynaecologists,Hypothesis,Syndrome

INTRODUCTION

“NO RESEARCH WITHOUT ACTION,NO ACTION WITHOUT RESEARCH.”

-KurtLewin

Up till the year **2003** the consensus in diagnosis of polycystic ovarian syndrome (PCOS) was mainly based on a majority opinion rather than on clinical trial evidence. The following diagnosis criteria were recommended during several consensus sessions in the last decades of the previous century. Clinical or biomedical evidence of Hyperandrogenism, chronic an ovulation and exclusion of other known disorder. However, during the last 10 year there has been increase awareness that the clinical expression on polycystic ovarian syndrome may be broader than define by previous consensus workshop.

A new study presented at the year – **2024** American college of obstetricians andgynecologists annual clinical and scientific meeting highlighted significant gap in polycystic ovarian syndrome (PCOS) care, revealing wide spread patients dissatisfaction and the urgent need for improve provider education and comprehensive treatment approaches. The purpose of this study is to explore the relation between genetic and environmental factors that may explain PCOS. We will use information collective during visits to our polycystic ovarian syndrome clinic and the family history of PCOS patient to learn about the causes and the effects of PCOS.

Polycystic ovary syndrome (PCOS) is a common endocrine and metabolic disorder that affects women of reproductive age. It's characterized by ovarian dysfunction and androgen excess, and cause infrequent menstrual periods, amenorrhea, and sub fertility. The exact cause of PCOS is unclear, but researchers believe it's related to hyperandrogenism and hyperinsulinemia, which are associated with insulin resistance.

PCOS is a common gynecologic endocrine disease; its incidence rates in women were 6 to 10%, whereas those in childbearing age women were 9 to 18%. PCOS have a great impact on women's mental health. Currently, drug therapy for PCOS includes adjusting menstrual cycle, improving hyperandrogenemia, and promoting ovulation. Although drug therapy can improve symptoms of PCOS patients, the recurrence rate is high after drug withdrawal, which causes greater economic burden for patients and society. Therefore, it is very necessary to study PCOS in depth. Modern studies have shown that the etiology of PCOS may be caused by the genes and environmental factor but the specific mechanism has not been clarified.

With the deep studies on PCOS in recent year (2024), researchers understanding of PCOS have reached a new level. However, a large number of PCOS reports are in different directions, in overlapping phenomena exist. For it is urgent to clarify the research status of PCOS. Although articles review can summaries the research progress of PCOS, they lack quantitative analysis and the number of included article are limited. Therefore, this study aimed to grasp the research status of PCOS through bibliometric.

NOTE- Bibliometrics is used to study the status of disease and to predict the future hotspots.

In this study, we used bibliometric to analysis PCOS related articles to provide reference that researchers can used to determine the research status.

- 1) Based on the **NIH 1990 guide and Rotterdam 2003** criteria, the global prevalence rate of PCOS is in the range of 4-21%,
- 2) In which 5-6% of PCOS cases account for the Chinese women age 19-45 years,
- 3) This significant variance could be due to difference in races and diagnostic criteria.

The global incidence rate of PCOS has shown rapidly increasing trend and annually along with the severe long term complications with age, including infertility, obstetrical problem, type 2 diabetes mellitus, cardiovascular diseases, endometrial cancer, psychological problem resulting in a deprived like quality. Considering, these aspects, PCOS has garnered enormous interest from researcher in various fields at home or abroad.

Learning is the beginning of wealth, Learning is the beginning of health, Learning is the beginning of spirituality, Searching and learning is where the miracle process all begins" Polycystic Ovarian Syndrome is the most common endocrine disorder among women between the age between 18 – 44 years. It affects approximately 2% to 20% of this age group. It is one the leading endocrine disease and which affects one in 15 women in worldwide. The incidence of PCOS among adolescents is estimated to be between 11 and 26% and about 50% are overweight. The term Polycystic Ovarian Disease was first described by Irvingstein and

Micheal Leventhal's Triad of Amenorrhea, Obesity, and Hirsutism in 1935 when they observed the relation between obesity and reproductive disorders. It is hence also known as the Stein-Leventhal Syndrome or Hyperandrogenic anovulation and is the most common endocrine ovarian disorder affecting approximately 2-8% women of reproductive age.

Nowadays, it is also referred to as the Syndrome i.e. overnourishment, overproduction of insulin, ovarian dysfunction and ovulatory disruption. Polycystic Ovary Syndrome is a set of symptoms due to elevated androgens in women. Signs and Symptoms of Polycystic Ovarian Syndrome include irregular or no menstrual periods, heavy periods, excess body and facial hair, acne, pelvic pain, difficulty getting pregnant, and patches of thick darker, velvety conditions include type 2 diabetes, obesity, obstructive sleep apnea, heart disease, mood disorders, endometrial cancer, hypertension, dyslipidemia, hyperinsulinemia, and infertility. Polycystic ovary syndrome cannot be prevented. But early diagnosis and treatment helps prevent long-term complications, such as infertility, metabolic syndrome, obesity, diabetes, and heart disease. There is a risk factor for polycystic ovary syndrome is a family history of it. A family history of diabetes may increase the risk for PCOS because of the strong relationship between diabetes and PCOS. Long-term use of the seizure medicine valproates been linked to an increased risk of PCOS.

Girls with low birth weight as well as a family history of diabetes mellitus, premature birth, cardiovascular disease, hypertension, hormonal imbalance, genetic problem, endocrine disease, weakened immune system, environmental factors and toxin effect are at risk for developing polycystic ovarian syndrome. Adolescence is a transitional stage of physical and psychological development that generally occurs during the period from puberty to legal adulthood. Adolescence is a period having the sense of identity and the sense of intimacy. It is the transition from childhood to adulthood. Also many serious diseases in adulthood have their roots in adolescence.

For example, tobacco use, sexually transmitted infections including HIV, and poor eating and exercise habits lead to illness or premature death including HIV, and poor eating and exercise habits lead to illness or premature death later in life. The word adolescent comes from the Latin word *adolescere* which means to grow. Adolescents represent a period of intensive growth and changes in nearly all aspects of child's physical, mental, social, and emotional life. During adolescence, young women are primarily concerned with finding their identity and expressing who they are in the world.

Puberty causes many physical changes to take place, and adolescents must adapt to their changing bodies. All of these changes can make adolescence a confusing and stressful period. Children as young as 16 years are diagnosed with polycystic disease which occurs due to the imbalances or abnormalities in the hormones. Hormonal abnormalities can make the ovaries produce more eggs. These eggs turn into cysts and the ovaries become large and studded with numerous cysts. It begins as early as in teenagers and mostly affects adult ovarian girls of childbearing age. The establishment of a regular menstrual cycle is an important process for an adolescent girl. The challenge is to distinguish normal individual variation from real endocrine or organic problems. Avoiding too early unnecessary intervention without missing relevant abnormalities requires a firm grasp of process of physiological sexual development as well as of the symptoms and etiology of relevant

abnormalities. Gynecological problems of adolescents occupy a special space in the spectrum of gynecological disorders of all ages. This is because of the physical nature of the problems which are so unique, special, and skin.

Associated specific for the age group, and also because of the associated and psychological factors which are very important in the growth and psychological remodeling of someone in the transition between childhood and womanhood. Although PCOS is a common disorder, the diagnosis may be overlooked during adolescence, as irregular menses with an ovulatory cycle, obesity, and acne are frequent in adolescent women. The incidence of PCOS among adolescents is estimated to be between 11 and 26% and about 50% are overweight. There is no cure for PCOS, but controlling it lowers the risks of infertility, miscarriages, diabetes, heart disease, and cancer. Present day lifestyle, food habits, environmental exposure to toxins along with hereditary predisposition for metabolic syndrome like obesity, hyperlipidemia, diabetes and hypertension and stress has contributed to the common problem faced by today's female population.

NEED FOR THE STUDY

According to a study by Polycystic ovarian syndrome Society, One in every 10 women in India has polycystic ovary syndrome (PCOS), a common endocrinal system disorder among women of reproductive age. And out of every 10 women diagnosed with PCOS, six are teenage girls.

Research help us better understand the cause, symptom and effect of PCOS. This knowledge is essential for accurate diagnosis and effective treatment. It places a vital role in enhancing health care practices, increasing awareness, and ultimately improving the lives of those living with PCOS.

A population study revealed that overt and occult PCOD accounted for 90% of patients with oligomenorrhea and 37% with amenorrhea, or 73% with oligo- or amenorrhea. Oligo- or amenorrhea accounted for 21% of couples with infertility and the annual incidence was 247 patients per million of the general population. The annual incidence of infertility due to PCOD per million was 41 with overt PCOD and 139 with occult PCOD (total 180). Of those, 140 appeared to respond well to clomiphene (78%) but 40 (22%) failed, requiring alternative therapy.

A study on teenage girls and college girls in several colleges around India was found to show a higher percentage of college girls with PCOD and there was around 36 % of increase in cases of PCOD compared from a period of 2007- 2008, showing a severe fast increase of cases of PCOD among college girls in an alarming rate.

STATEMENT OF THE PROBLEM

A pre-experimental study to assess the effectiveness of nursing led interventions in terms of knowledge regarding early detection and prevention of polycystic ovarian syndrome among adolescent girls at selected Shri Guru Ram Rai school, Sahaspur, Dehradun, Uttarakhand.

OBJECTIVES

- 1) To assess the level so knowledge regarding polycystic ovarian syndrome among adolescent girls at selected school.
- 2) To provide the nursing led interventions for polycystic ovarian syndrome among adolescent girls at selected school.
- 3) To find the association between the levels of knowledge regarding the polycystic ovarian syndrome among adolescent girls at selected school with their demographic variables.

HYPOTHESIS

H1- There was a significant difference between the pre – post test level of knowledge among the adolescent girls at selected school after administering nursing led intervention program.

H2- There was a significant association between the pre test levels of knowledge regarding polycystic ovarian syndrome among adolescent girls with their demographic variables.

OPERATIONAL DEFINITIONS

ASSESS: The process of checking and documenting measurable terms, knowledge and awareness.

KNOWLEDGE: The fact or condition of knowing something with familiarity gained through experience or association.

EFFECTIVENESS: The extent to which the objective of a research project has been realize.

NURSE: A licensed health care professional who practices independently or supervised by a physician, surgeon, or dentist and who is skilled in promoting and maintaining health compare licensed practical nurse, registered nurse.

INTERVENTION: A treatment or strategy that's apply to a group of people to assess its effect on them.

NURSE LED: A type of healthcare where a nurse is responsible for the coordination, management, and continuity of care for a patient.

POLYCYSTIC OVARIAN SYNDROME: A common hormonal condition that affects women of reproductive age. It usually starts during adolescence, but symptoms may fluctuate over time.

ADOLESCENT: A transitional stage of physical and psychological development that generally occurs during the period from puberty to legal adulthood (age of majority).

SCHOOL: Organized spaces purposed for teaching and learning.

DETECTION – The act of noticing or discovering something, especially something that is not easy to see or hear.

ASSUMPTIONS

This study assumes that:

Students may have a little knowledge regarding polycystic ovarian syndrome

- A nursing intervention program to enhance knowledge in adolescent girls regarding polycystic ovarian syndrome

1.9 DELIMITATION

This study is delimited to

- Only 60 students at selected schools
- The adolescent girl in selected schools of Dehradun
- The students available during the period of data collection
- Willingness to participate

1.10 CONCEPTUAL FRAME WORK

A conceptual frame work sets forth the standards to define a research question and find appropriate, meaningful answer for the same. It connects the theories, assumptions, beliefs, and concepts behind the research and presents them in a pictorial, graphical or narrative format.

Conceptual frameworks illustrate the expected relationship between variables. It define the relevant objective for the research process and map out how they come together to draw coherent conclusion.

The conceptual framework adopted for this study is based on health belief model (HBM). It is a discussion about the relationship of concepts of that under lies the study problem and support the rationale for conducting the study.

The development of the conceptual framework is a fundamental process required before conducting actual research because 'it guides each stage. Conceptual model help to express abstract conceptualization and they serve as important.

The framework (fig 1) adopted for this study is based on health belief model (1950) by social psychologist **Irwin M. Rosenstock, Good fry M. Hochbaum, S. Stephen Kegels and Howard Leventhal** at a US public health service.

HBM remains one of the best known and most widely used theories in health behavior research. The HBM suggests people's beliefs about health problems, perceived benefits of action and barriers to action and self-efficacies explain engagement (or lack of engagement) in health promoting behavior.

The major components of health belief model theory are:

Perceived susceptibility –Belief about getting a disease/condition or how likely adolescents girls believe they are to develop PCOS.

Perceived severity: Also called perceived seriousness, refers to the negative consequences an individual associates with an event, or outcome, or extent to which adolescent's girls believe PCOS could have negative impact on their health and studies.

Perceived benefit: Is defined as one's belief in the efficiency of the advised action to reduce risk or seriousness of impact. In this study the perceived benefit may be knowledge and positive attitude of adolescents' girls regarding PCOS.

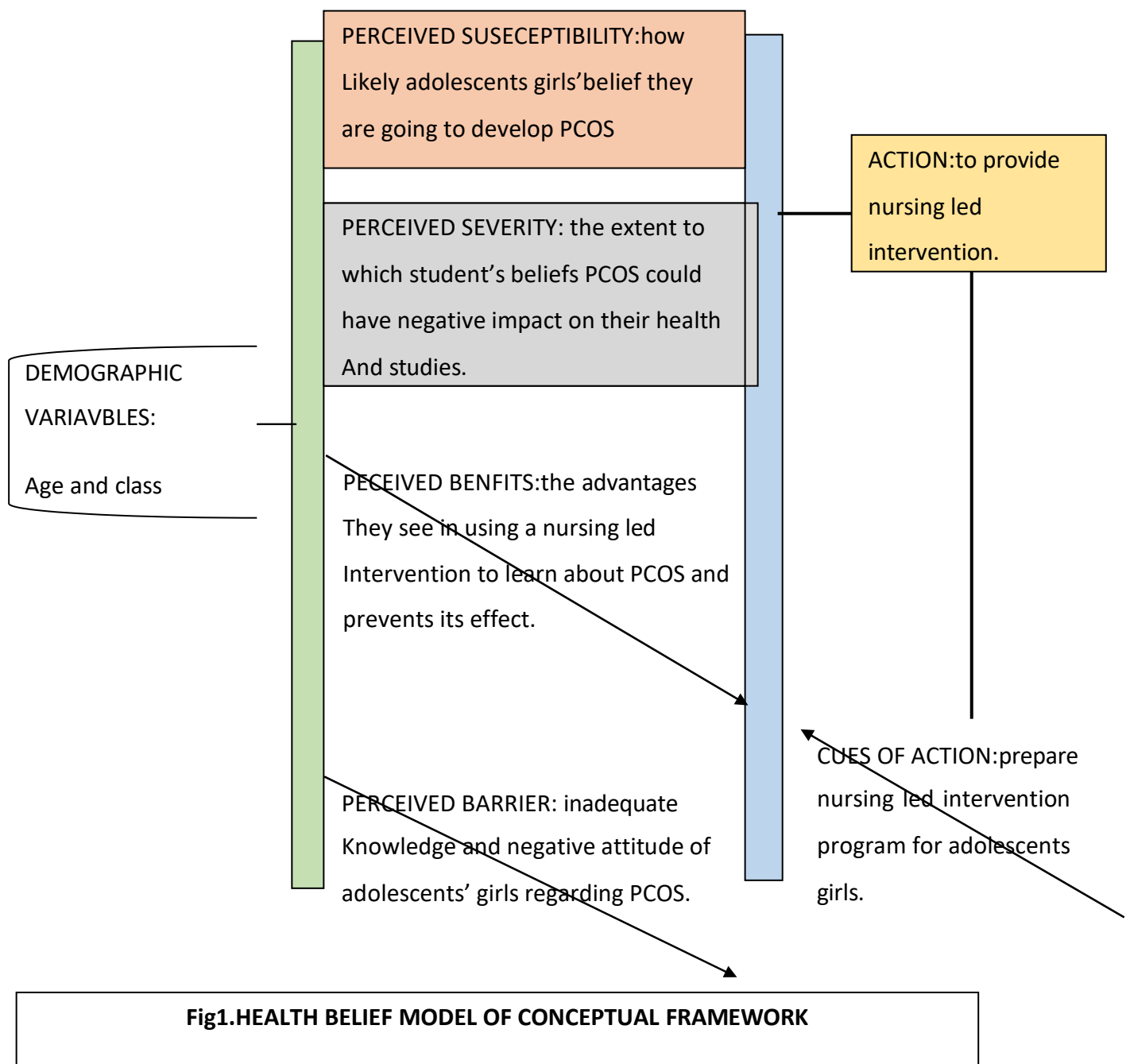
Perceived barrier: Defined as one's opinion of the tangible and psychological costs of the advised action. The perceived barriers in the study are inadequate knowledge and negative attitude.

Cues of action: Triggers that prompt adolescent girls to take actions, such as exposure to information about PCOS or experiencing symptoms.

Self-efficacy: Their confidence in their ability to use the nursing led intervention effectively.

PROJECTED OUTCOME

The findings of the study will help the nurses to assess the level of knowledge regarding polycystic ovarian syndrome among adolescent girls using structured multiple choice questionnaire.



REVIEW OF LITRATURE

The review of literature in a research report is a summary of current knowledge about a particular practice problem and includes what is known and not known about the problem. The literature is reviewed to summarize knowledge for use in practice or to provide a basis for conducting a study. Review of literature is an essential activity of scientific research

project; "literature review involves system identification, location securing and summary of written material that information on research problem "Literature was reviewed and organized under the following headings: Studies related to Polycystic Ovarian Syndrome.

1. Reviews related to assess the level of knowledge among adolescent girls form high risk of polycystic ovarian syndrome.
2. Review related to effectiveness of nursing led intervention among adolescent's girls.

3. Study related to high risk of polycystic ovarian syndrome among adolescent's girls.

1. Reviews related to assess the level of knowledge among the adolescent girls from high risk of polycystic ovarian syndrome.

Dr. Kalavathi, D. Biradar, Dr. Amrita N Shanmanrudi (2015) conducted a descriptive study to determine the prevalence of PCOS among adolescent girls in Bangalore. The study revealed that majority that is 76.2% of adolescent were in their late adolescent. Ultrasound report of the adolescent revealed that 30 of them were diagnosed as PCOS. This difference was statistically significant. The study concluded that early diagnosis and intervention will reduce the long term health complications associated with PCOS.

Hoda Abdel Azim Mohammed (2016), conducted quasi experimental study to assess the knowledge on polycystic ovarian syndrome among 96 students in Egypt. The study revealed that after educational program the majority of students had good knowledge (92.7%). The study concluded that educational program is effective in improving the knowledge of students.

Hanan Elsayed Mohammed, Suzan Elsaid Mansour (2015) conducted a quasi experimental study on effectiveness of educational sessions on polycystic ovarian syndrome

among 95 late adolescent girls in Egypt. The study revealed that there is inadequate knowledge regarding polycystic ovarian syndrome before educational sessions. After educational sessions girls had adequate knowledge. The study concluded that there was significant difference of knowledge score between before and after educational sessions. The utilization of educational sessions was effective to increase the knowledge level of late adolescent girls about polycystic ovarian syndrome self protective measures.

Gibson-Helm, M., Dokras, A., Karro, H., Piltonen, T. & Teede, H. J. Knowledge and practices regarding polycystic ovary syndrome among physician in Europe, North America, and internationally: an online questionnaire-based study.

Amal Alessa, Dalal Allied, Sara Almutairi, etc. Ali (2017), conducted a cross-sectional study to assess the level of knowledge of PCOS among 2000 women of age group (18-50) in Saudi Arabia. The study revealed that the level of knowledge of PCOS was significantly related higher educational level and woman with health college qualification. The study concluded that there is a high level of awareness of PCOS among Saudi Arabia.

Jayshree J. Upadhye, Chaitanya A. Shembekar, (2017), the study was conducted to assess the knowledge on PCOS among 200 medical students. The data was collected from the students by using structured questionnaire. The study revealed that 33% girls had information from teacher, 19% got information from friends, 11.5% got information from a doctor, 3.5% got from newspaper, 5% got information from internet. 28% girls were unaware of PCOS. The study concluded that knowledge of the disorder and counseling for adolescents should be included in the curriculum.

Sunanda B, Sabitta Nayak (2016), conducted a descriptive study to assess the knowledge on the polycystic ovarian syndrome among 150 student nurses in Mangalore. The study revealed that 76% of the samples were with average knowledge and 10.7% with good knowledge regarding polycystic ovarian syndrome. The study concluded that source of information, consumption of junk food, dietary food patterns of the student were associated with their level of knowledge on PCOS.

Mr. Khushboo Brar, Mrs. Tarundeep Kanur, Mr. P. vadivukarasi Ramanadin (2016), conducted a descriptive study to assess the level of knowledge regard PCOS among 200 adolescent girls in Mohali. The study revealed that majority of girls 123 had fair knowledge and minority girls had excellent level of knowledge. The study concluded that there was lack of knowledge of teenage girls regarding PCOS. The administration of information booklet may have helped the teenage girls to understand more about PCOS.

Pothiraj Pitchai, S.R. Sreeraj, Parmar Recma Anil, (2016), the descriptive study was conducted in Mumbai, India. Subject was recruited through purposive sampling method with the sample size of 100 who were visited gynecological clinics and around Mumbai, India. The study revealed that 21% of the respondents are very well aware about polycystic ovarian syndrome. The study concluded that efforts need to intensify in creating awareness on the general public about PCOS.

Nomanui Haq, Zarmina Khan, Sohail Riaz, etc. All (2016), the mixed methodology research was conducted study to assess the knowledge of polycystic ovarian syndrome among 500 female science students in Pakistan. The study revealed that the 90.2% subject were having adequate knowledge about polycystic ovarian syndrome after educational intervention. The study concluded that different educational programs should be done to provide knowledge about polycystic ovarian syndrome.

2. Reviews related to effectiveness of nursing led intervention among adolescents girls.

Beena Joshi, Srabian Mukherjee, Rama Vaidya (2014) conducted a cross-sectional study to assess the prevalence of polycystic ovarian syndrome among 778 adolescents and young girls aged 15-24 years in Mumbai. The study revealed that there is no community based prevalence data is available for this syndrome. The study concluded that PCOS is an emerging disorder during adolescence and screening could provide opportunity to target the group for promoting healthy lifestyle and early interventions to prevent PCOS.

Pastoor, H., Both, S., Laan, E. T. M. & Laven, J. S. E. Sexual dysfunction in women with PCOS: a case control study. This study shows that women with the syndrome suffer from impaired sexual function with minimal impact of endocrine dysfunction, highlighting the importance of psychosexual counseling.

Dr. Prof. Mrs. Anitarajendrababu, Mrs. Mini Abraham, (2017), conducted a pre- experimental one group pretest and post test research design to assess the effectiveness of planned teaching program regarding the knowledge on PCOS among 60 adolescent girls in Chennai. The study revealed that 52 of the adolescent girls had inadequate knowledge and none of them had adequate knowledge on PCOS in pre test. In post test 7 had moderately

knowledge 53 had adequate knowledge and none of them had inadequate knowledge regarding PCOS. The study concluded that planned teaching program was effective to create awareness and to increase knowledge among the adolescent girls.

Khushbu Patel (2017), conducted a pre-experimental research design to assess the effectiveness of planned teaching program on PCOS in terms of knowledge and attitude among 60 adolescent girls in Ahmadabad. The study revealed that adolescent have lack of knowledge about PCOS and unfavorable attitude and the knowledge level increased and gain favorable attitude after the planned teaching program. The study concluded that planned teaching program is effective in improving the knowledge and attitude of adolescent girls.

Riestenberg, C., Jagasia, A., Markovic, D., Buyalos, R. P. & Azziz, R. Health care-related economic burden of polycystic ovary syndrome in the United States: pregnancy-related and long-term health consequences. **This paper highlights that early diagnosis and interventions could possibly reduce the risk of developing comorbidities and the health- care-related economic burden of PCOS.**

Mohseni M., Eghbali M., Bahrami H., Dastaran F., Amini L. Yoga Effects on Anthropometric Indices and Polycystic Ovary Syndrome Symptoms in Women Undergoing Infertility Treatment: A Randomized Controlled Clinical Trial.

Zhang Y., Guo X., Ma S., Ma H., Li H., Wang Y., Qin Z., Wu X., Han Y., Han Y. The Treatment with Complementary and Alternative Traditional Chinese Medicine for Menstrual Disorders with Polycystic Ovary Syndrome

Sowmya M.A., Philomena Fernandes, (2013), conducted a pre-experimental one group design to assess the effectiveness of structured teaching program on knowledge of polycystic ovarian syndrome among adolescent girls in Mangalore. The study revealed that the structured teaching program was effective in improving knowledge of adolescent girls regarding polycystic ovarian syndrome.

DhitalAD, BadhuB. Effectiveness of structured teaching program in improving knowledge and attitude of school going adolescent on reproductive health **Atiqulla Shariff, Gulam saidunnisa Begum, Ghufan Ayman, Bana Mohammed, Ragha Houssam, Neura Khaled, (2013)** conducted a quasi-experimental study to assess the effectiveness of structured education program among 244 students. The study revealed that the knowledge of participants was improved through structured education program that can play a vital role in prevention and early diagnosis of PCOS.

3. Study related to high risk of polycystic ovarian syndrome among adolescent's girl

Nitin Joseph, Aditya G.R. Reddy, et, al: (2016), conducted a cross-sectional study to assess the proportion of university students with PCOS among 480 participants in Mangalore city in Karnataka state. The study revealed that 39 were already diagnosed with PCOS, 40 were at high risk and 401 were at low risk for PCOS.

The study concluded that PCOS is a common disorder among young women in this setting and this warrants provide screening activities.

Swetha Balaji, Chioma Amadi, Satish Prasad, Jyoti Bala Kasav, (2014) conducted a cross-sectional study to determine urban and rural differences in the burden of polycystic ovarian syndrome, among adolescent girls aged 12-19 years in Vellore, Tamil Nadu. The study revealed that 18% of the participants were confirmed of having PCOS. The study concluded that participants diagnosed with PCOS were higher among urban participants in comparison to rural participants.

Berni, T. R., Morgan, C. L. & Rees, D. A. Women with polycystic ovary syndrome have an increased risk of major cardiovascular events: a population study. Study shows that women with PCOS have a higher incidence of myocardial infarction, angina pectoris and revascularization.

Mills, G., Badeghiesh, A., Suarhana, E., Baghlaf, H. & Dahan, M. H. Polycystic ovary syndrome as an independent risk factor for gestational diabetes and hypertensive disorders of pregnancy: a population-based study on 9.1 million pregnancies. **This study shows that women with PCOS have an increased risk for pregnancy complications, including gestational diabetes and hypertension, independent of coexisting metabolic conditions.**

Koivu Aho, E. et al. Age at adiposity rebound in childhood is associated with PCOS diagnosis and obesity in adulthood-longitudinal analysis of BMI data from birth to age 46 in cases of PCOS. **This study demonstrates that early weight gain in childhood plays a** crucial role in the emerging PCOS, highlighting the importance of early preventive interventions against metabolic disorders.

Stepito, N. K. et al. Women with polycystic ovary syndrome have intrinsic insulin resistance on euglycaemic-hyperinsulaemic clamp. Although insulin resistance is present independently of BMI, this study highlights that insulin resistance worsens by increased BMI irrespective of visceral fat accumulation, supporting inherent insulin resistance.

Manzano-Nunez, R. et al. Non-alcoholic fatty liver disease in patients with polycystic ovary syndrome: a systematic review, meta-analysis, and meta-regression. **This study shows that women with PCOS already at a young age have an increased prevalence of MASLD (metabolic dysfunction associated with steatosis liver disease).**

Vink, J. M., SadrZadeh, S., Lam balk, C. B. & Boomsma, D. I. Heritability of polycystic ovary syndrome in a Dutch twin-family study. This study demonstrates a strong contribution of familial factors to PCOS by using data from monozygotic twins.

Zhu, J. et al. Evidence from men for ovary-independent effects of genetic risk factors for polycystic ovary syndrome. This study showed that applying a polygenic risk score for PCOS has distinct phenotypic consequences in men.

Gupta S, Anitha M, Venkata Rao E, Polycystic ovarian syndrome: prevalence and its co relates among adolescent girls and its associative risk factors among young girls

RESEARCH METHODOLOGY

Research methodology is a way to explaining how a researcher intends to carry out their research. It refers to the collection of practical decisions regarding what data researchers collect, from whom and how researchers analyse it. It is a logical, systematic plan to resolve a research problem. Methodology ensures reliable and valid result that addresses the main aims and objectives.

This chapter –deals with descriptive methodology adopted for this study which includes research designs, research approaches, the setting, sample, sampling technique, developmental of tool/ pilot study, procedure of data collection and method of analysis.

RESEARCH APPROACH

The research approach is an effective strategy to increase the validity of social research. The research helps to decide about the presence and absence of randomization, as well as manipulation, control over variables and involves the description often planned to investigate the phenomenal under study in a structured (quantitative), unstructured (qualitative) or the combination of the two method (mixed).

Based on the nature of problem and objectives of the study the research approaches that is chosen for this study is a descriptive study.

RESEARCH DESIGN

Research design is a strategy for answering research questions. It determines how researcher collects and analyse data. Based on the objectives of this study, non-experimental descriptive design is adopted for this study.

This chapter deals with research methodology adopted for this study. It includes research approach, research design, population, sample, sampling techniques, research setting and description of tools.

Pre experimental research approach is adopted for this study.

RESEARCH SETTING

This study is conducted at selected schools in sahaspur, Dehradun, Uttarakhand. The rationales for selecting the schools of Dehradun are:

1. Easy to reach.
2. The availability of subjects.
3. Feasible for conducting the study.

4. The frugality of time and easy access.

POPULATION

The population is a group of people (sample) that have special characteristics of researcher's interest.

The population for this study consists of nursing students (different years) from selected schools of Sahaspur, Dehradun.

SAMPLE

A sample is "a smaller (but hopefully representative) collection of units from a population used to determine truths about that population." (Field 2005)

SAMPLE CRITERIA

INCLUSION CRITERIA

This will include those adolescent girls

1. Those who are available at the time of data collection
2. Those who are willing to participate in the study
3. The adolescent girls whose age group is between 11 years and above

Exclusion criteria

1. Those who are not available at the time of data collection
2. Those who are not willing to participate in the study

SAMPLE SIZE

For this study the sample size was 60 adolescent girls of age 11 and above.

SAMPLE TECHNIQUE

Sampling is the process of selecting a sample population from the target population. In this present study non probability convenient sampling technique was used.

DESCRIPTION AND DEVELOPMENT OF RESEARCH TOOLS:

The instrument selected in research must be the vehicle that obtains best data for drawing conclusion of the study (Treeze and Treeze 1986).

The tool selected for the study was structured interview questionnaire for assessing the knowledge of school

going adolescent girls regarding polycystic ovarian syndrome (PCOS).

SectionA–Demographic data

It consists of demographic related question such as age,tribe and area.

SectionB–Self structured questionnaire

This part consists of a structured questionnaire to assess the knowledge adolescent girls regarding the polycystic ovarian syndrome.

S.NO	SCORING	INTERPRETATION
1	1–4	Poor knowledge
2	5–9	Average knowledge
3	10–14	Good knowledge
4	15–20	Excellent

CONTENT VAILABILITY

Content validity(Rossiter,2008)is defined as the“degree to which elements of an assessment instrument are relevant to a representative of the targeted construct for a particular assessment purpose”.

The validity of self-structured questionnaires was ensured by writing a letter to expert, seeking opinion on content validity.

Experts are requested to give their opinion and suggestion regarding prevalence, clarity,work ability and arrangement of the items included in the study.

The necessary modification was done to the tools or instruments based on the recommendation received.

RELIABILITY OF THE TOOLS

Reliability refers to the capacity of the instruments to yield the same measurement value when brought into repeated contact with the same state of nature.

Research reliability to whether research tools can reproduce the same result multiple times. if tools produce consistent result, then the tools are likely reliable and non influence by external factors.

PILOT STUDY

A pilot study is a small feasibility study designed to test various aspects of the methods planned for a larger, more rigorous, or confirmatory investigation (**Arain Campbell, 2010**)

A pilot study was conducted, were 10 students of school of Dehradun were selected through non probability convenient sampling technique. The consent was taken prior and the subject inconspicuousness and confidentiality of their responses.

ETHICAL CONSIDERATION

- The ethical permission was taken from the principal of the selected school of Dehradun.
- Written consent was taken from the participants.
- Anonymity and confidentiality were maintained.

DATA COLLECTION PROCEDURE

After getting permission from the principal of selected school, the participants who met the inclusion criteria were selected using non probability convenient sampling technique.

PLANS FOR DATA ANALYSIS

- A descriptive and statistic method was used for data analysis
- The data was collected from 60 school of Dehradun
- Mean, median, mode and standard deviation is used for calculating knowledge of school students regarding polycystic ovarian syndrome
- Chi-square test is used to determine the association between the level of knowledge a school student with their selective demographic variables.

RESEARCH DESIGN

Non experimental descriptive research design

PURPOSE

A descriptive study to assess the level of knowledge and effectiveness of an awareness program among the adolescent girls in selected school.

STUDY SETTING

School of Dehradun

Population based on different variables age, birth, order, normal flow of menstrual cycle, education to parents.

SAMPLING AND SAMPLING SIZE

Convenient sampling

60 adolescent girls of school

DEMOGRAPHIC VARIABLE:

Age, gender, classes of student

TOOLS: structured questionnaire for assessing the level of knowledge.

Analysis: descriptive and statistic

Finding and conclusion

Reporting

Fig2: SCHEMATIC REPRESENTATION OF RESEARCH METHODOLOGY

ANALYSIS AND INTERPRETATION OF THE DATA

Data analysis is a process that involves collecting cleaning and analyzing data to answer question, test hypothesis or disapprove theories it can help user to make better decision.it is a methodological approach to apply statistical technique for describing exhibiting and evaluating the data.

Once the data has been analyzed, the step is to interpret the data.

Data interpretation is a process of analyzing and making sense of complex data to drive meaningful insight, pattern and trends. It involves the examining datasets, identifying relevant information, and drawing conclusion and making decision based on finding.

Objectives of the study

- 1) To assess the levels of knowledge regarding polycystic ovarian syndrome among adolescent girls at selected school.
- 2) To provide the nursing led interventions for polycystic ovarian syndrome among adolescent girls at selected school.
- 3) To find the association between the levels of knowledge regarding the polycystic ovarian syndrome among adolescent girls at selected school with their demographic variables.

Research hypothesis

H1 – There was a significant difference between the pre – posttest level of knowledge among the adolescent girls at selected school after administering nursing led intervention program.

H2- There was a significant association between pre-test levels of knowledge regarding polycystic ovarian syndrome among adolescent girls with their selected demographic variables.

Presentation of the study:

The data was presented under following sections

SECTION-A: Frequency and percentage distribution of demographic variables among selected schools.

SECTION-B: Frequency and percentage of level of knowledge regarding polycystic ovarian syndrome among selected schools.

SECTION-C:Frequency and percentage of nursing led intervention regarding polycystic ovarian syndrome.

SECTION-D: Association between pretest and posttest knowledge score of school girls with their selected demographic variables.

Pre test Section-A

SELECTED DEMOGRAPHIC VARIABLE OF SELECTED SCHOOL STUDENTS.

TABLE2-FREQUENCY AND PERCENT AGE DISTRIBUTION OF DEMOGRAPHIC VARIABLES AMONG SCHOOL STUDENTS

VARIABLES	CHARACTERISTICS	FREQUENCY	PERCENTAGE
1.Age	a) 11-12 years	2	20%
	b) 13-14years	3	30%
	c) 15-16	4	40%
	d) Above16years	1	10%
2. Religion	a) Hindu	2	20%
	b) Muslim	6	60%
	c) Sikh	1	10%
	d) Christian	1	10%
3.Occupation	a) Businessmen	0	0%
	b) Farmer	5	40%
	c) Labour	4	10%
	d) Private job	1	
4.Class	a) Class5 th	0	0%
	b) Class6 th	3	30%
	c) Class7 th	2	20%
	d) Class8 th	5	50%

5.Previous knowledge	a) Yes	4	40%
	b) No	6	60%
6.Source of information	a) Socialmedia	1	10%
	b) News paper	7	70%
	c) Television	1	10%
	d) Others(teaching)	1	10%

SECTION-B

TABLE3-FREQUENCY AND PERCENTAGE DISTRIBUTION OF LEVEL OF KNOWLEDGE REGARDING POLYCYSTIC OVARIAN SYNDROME AMONG ADOLESCENT GIRLS.

S NO.	QUESTIONS	FREQUENCY	PERCENTAGE
1	What is the fullform of PCOS?		
	a) Polycystic ovarian syndrome.	2	20%
	b) Precancerous ovarian syndrome.	1	10%
	c) Postcancer ovary syndrome	4	40%
	d) Postcycle ovulation symptoms.	3	30%
2	What is the PCOS?		
	a) Respiratory syndrome	2	20%
	b) Mental condition	4	40%
	c) Ovarian syndrome	3	30%
	d) Down syndrome	1	10%
3	PCOS caused by?		
	a) Irregular heart beat	5	50%
	b) Ovarian cyst	2	20%
	c) Hormonal changes	3	30%
	d) Dehydration	0	0%

4	Which of the following is a possible cause of PCOS? a) Viral infection b) Genetic factor c) Nutritional deficiency d) Excessive exercise	2 2 1 5	20% 20% 10% 50%
5	Does PCOS affects only obese women? a) Yes b) No	6 4	60% 40%
6	Is there any possibility of pregnancy if women are suffering from PCOS? a) Yes b) No	8 2	80% 20%
7	Which type of hormones are usually elevated in PCOS? a) Estrogen b) Insulin c) Androgens d) Cortisol	2 4 2 2	20% 40% 20% 20%
8	How do androgens affect ovarian function in PCOS?		

	a) They enhance ovulation	2	20%
	b) They inhibit follicular development	6	60%
	c) They decrease estrogen production	1	10%
	d) They stabilized menstrual cycle	1	10%
9	What is a primary role of androgens in women with PCOS?		
	a) Regulating menstrual cycle	1	10%
	b) Symptoms like hirsutism and acne	4	40%
	c) Increasing insulin sensitivity	4	40%
	d) Promoting ovulation	1	10%
10	What is hirsutism?		
	a) Hairloss on the scalp	1	10%
	b) Oily skin	5	50%
	c) Acne formation	1	10%
	d) Excess hair growth on the body and face	3	30%
11	What is a common emotional challenge faced by women with PCOS?		
	a) Increased self esteem	4	40%
	b) Depression and anxiety	3	30%
	c) Reduced stress level	1	10%
	d) Improved mood stability	2	20%
12	Which type of skin disease is often associated		

	With PCOS?		
	a) Eczema	2	20%
	b) Acne	3	30%
	c) Psoriasis	3	30%
	d) Rosacea	2	20%
13	Which of the following menstrual irregularities can indicate PCOS?		
	a) Consistently short cycle	3	30%
	b) Absence of period	2	20%
	c) Regular ovulation	1	10%
	d) Consistently long cycle	4	40%
14	Do people with PCOS always develop cyst?		
	a) Yes	6	60%
	b) No	4	40%
15	At which age is PCOS usually diagnosed at?		
	a) Before puberty	5	50%
	b) Between 15-44 years	3	30%
	c) After menopause	1	10%
	d) Both (b) and (c)	1	10%
16	Which test is commonly used to diagnose PCOS?		

	a) USG and blood test	5	50%
	b) Blood pressure test and blood test	1	10%
	c) ECG and X- ray	2	20%
	d) X- ray and MRI	2	20%
17	Which lifestyle changes often recommended for managing PCOS?		
	a) Increase sugar intake	4	40%
	b) High fat diet	1	10%
	c) Skipping meals	2	20%
	d) Regular exercise	3	30%
18	What is the common treatment for managing PCOS symptom?		
	a) Antibiotics	2	20%
	b) Anti depression	1	10%
	c) Birthcontrols pills	5	50%
	d) Pain relievers	2	20%
19	What is the primary goal of treatment for PCOS?		
	a) Curethe syndrome		
	b) Manage symptoms and reduce longterm risk	1	10%
	c) Eliminate all hormonal treatments	4	40%
	d) Ensure pregnancy	1	10%
		4	40%

20	Which of the following is the potential complication of PCOS?		
	a) High bloodpressure and osteoporosis and infertility	2	20%
	b) Asthmaand migraine	3	30%
	c) Osteoporosis and epilepsy	3	30%
	d) Infertilityand tonsillitis	2	20%

Post test

Section -A

SELECTED DEMOGRAPHIC VARIABLE OF SELECTED SCHOOL STUDENTS.

TABLE2-FREQUENCY AND PERCENT AGE DISTRIBUTION OF DEMOGRAPHIC VARIABLES AMONG SCHOOL STUDENTS

VARIABLES	CHARACTERISTICS	FREQUENCY	PERCENTAGE
1.Age	a) 11-12 years	2	20%
	b) 13-14years	3	30%
	c) 15-16	4	40%
	d) Above16years	1	10%
2. Religion	a) Hindu	2	20%
	b) Muslim	6	60%
	c) Sikh	1	10%
	d) Christian	1	10%
3.Occupation	a) Businessmen	0	0% 50%
	b) Farmer	5	40%
	c) Labour	4	10%
	d) Private job	1	

4. Class	a) Class5 th	0	0%
	b) Class6 th	3	30%
	c) Class7 th	2	20%
	d)Class 8 th	5	50%
5.Previous knowledge	a) Yes	8	80%
	b) No	2	20%
6.Source of Information	a)social media	1	10%
	b) News paper	0	0%
	c) Television	1	10%
	d)Others (teaching)	8	80%

SECTION – B

TABLE 3- REQUENCY AND PERCENTAGE DISTRIBUTION OF LEVEL OF KNOWLEDGE REGARDING POLYCYSTIC OVARIAN SYNDROME AMONG ADOLESCENT GIRLS.

S NO.	QUESTIONS	FREQUENCY	PERCENTAGE
1	What is the full form of PCOS?		
	a) Polycystic ovarian syndrome.	7	70%
	b) Precancerous ovarian syndrome.	1	10%
	c) Post cancer ovary syndrome	1	10%
	d) Post cycle ovulation symptoms.	1	10%

2	What is the PCOS?		
	a) Respiratory syndrome	2	20%
	b) Mental condition	1	10%
	c) Ovarian syndrome	6	60%
	d) Down syndrome	1	10%
3	PCOS caused by?		
	a) Irregular heartbeat	1	10%
	b) Ovarian cyst	2	20%
	c) Hormonal changes	7	70%
	d) Dehydration	0	0%
4	Which of the following is a possible cause of PCOS?		
	a) Viral infection	2	20%
	b) Genetic factor	7	70%
	c) Nutritional deficiency	1	10%
	d) Excessive exercise	0	0%
5	Does PCOS affect only obese women?		
	a) Yes	3	30%
	b) No	7	70%
6	Is there any possibility of pregnancy if women are suffering from PCOS?		
	a) Yes	3	30%
	b) No	7	70%

7	Which type of hormones are usually elevated in PCOS?		
	a) Estrogen	2	20%
	b) Insulin	1	10%
	c) Androgens	6	60%
	d) Cortisol	1	10%
8	How do androgens affect ovarian function in PCOS?		
	a) They enhance ovulation	2	20%
	b) They inhibit follicular development	7	70%
	c) They decrease estrogen production	1	10%
	d) They stabilize menstrual cycle	0	0%
9	What is a primary role of androgens in women with PCOS?		
	a) Regulating menstrual cycle	1	10%
	b) Symptoms like hirsutism and acne	8	80%
	c) Increasing insulin sensitivity	0	0%
	d) Promoting ovulation	1	10%
10	What is hirsutism?		
	a) Hair loss on the scalp	1	10%
	b) Oily skin	0	0%
	c) Acne formation	1	10%
	d) Excess hair growth on the body and face	8	80%

12	Which type of skin disease is often associated with PCOS? a) Eczema b) Acne c) Psoriasis d) Rosacea	2 7 1 0	20% 70% 10% 0%
13	Which of the following menstrual irregularities can indicate PCOS? a) Consistently short cycle	3	30%

	b) Absence of period	7	70%
	c) Regular ovulation	0	0%
	d) Consistently long cycle	0	0%
14	Do people with PCOS always develop cyst?		
	a) Yes	2	20%
	b) No	8	80%
15	At which age is PCOS usually diagnosed at?		
	a) Before puberty	0	0%
	b) Between 15-44 years	9	90%
	c) After menopause	1	10%
	d) Both (b) and (c)	0	0%
16	Which test is commonly used to diagnose PCOS?		
	a) USG and blood test	7	70%
	b) Blood pressure test and blood test	1	10%
	c) ECG and X-ray	0	0%
	d) X-ray and MRI	2	20%
17	Which lifestyle changes are often recommended for managing PCOS?		
	a) Increase sugar intake	0	0%
	b) High fat diet	1	10%
	c) Skipping meals	2	20%
	d) Regular exercise	7	70%
19	What is the primary goal of treatment for PCOS?		
	a) Cure the syndrome	1	10%

	b)Manage symptoms and reduce longterm risk	8	80%
	c)Eliminate all hormonal treatments	1	10%
	d) Ensure pregnancy	0	0%
20	Which of the following is the potential Complicationof PCOS?		
	a)High bloodpressure and osteoporosis and infertility	8	80%
	b)Asthma and migraine	0	0%
	c)Osteoporosis and epilepsy	0	0%
	d) Infertility and tonsillitis	2	20%

MAIN STUDY

Pre-test(Section -A)

SELECTED DEMOOGRAPHIC VARIABLE OF SELECTED SCHOOL
STUDENTS.

**TABLE 2- FREQUENCY AND PERCENTAGE DISTRIBUTION OF DEMOGRAPHIC
VARIABLES AMONG ADOLESCENT’S GIRLS.**

VARIABLES	CHARACTERISTICS	FREQUENCY	PERCENTAGE
1.Age	a) 11-12 years	15	25%
	b) 13-14years	23	38.3%
	c) 15-16	21	35%
	d) above16years	1	1.7%
2. Religion	a) Hindu	34	56.7%
	b) Muslim	24	40%
	c) Sikh	0	0%
	d) Christian	2	3.3%
3.Occupation	a) Businessmen	14	23.3%
	b) Farmer	10	16.7%
	c) Labour	18	30%
	d) Private job	18	30%
4. Class	a) Class5 th	16	26.7%
	b) Class6 th	12	20%
	c) Class7 th	5	8.3%

	d)Class 8 th	27	45%
5.Previous knowledge	a) Yes	27	45%
	b) No	33	55%
6.Source of information	a)socialmedia	10	16.7%
	b) News paper	1	1.7%
	c) Television	2	3.3%
	d)Others (teaching)	47	78.3%

SECTION-B

TABLE 3- REQUENCY AND PERCENTAGE DISTRIBUTION OF LEVEL OF KNOWLEDGE REGARDING POLYCYSTIC OVARIAN SYNDROME AMONG ADOLESCENT GIRLS.

S NO.	QUESTIONS	FREQUENCY	PERCENTAGE
1.	What is the fullform of PCOS?		
	A) Polycystic ovarian syndrome.	20	33.3%
	B) Precancerus ovarian syndrome.	10	16.7%
	C) Postcancer ovary syndrome	25	41.7%
	D) Postcycle ovulation symptoms.	5	8.3%
2	What is the PCOS?		
	A) Respiratory syndrome	17	28.4%
	B) Mental condition	12	20%
	C) Ovarian syndrome	23	38.3%
	D) Downsyndrome	8	13.3%

3	PCOS caused by?		
	A) Irregular heartbeat	11	18.3%
	B) Ovarian cyst	13	21.7%
	C) Hormonal changes	26	43.3%
	D) Dehydration	10	16.7%
4	Which of the following is a possible cause of PCOS?		
	A) Viral infection	10	16.7%
	B) Geneticfactor	13	21.7%
	C) Nutritional deficiency	26	43.3%
	D) Excessive exercise	11	18.3%
5	Does PCOS affects onlyobese women?		
	A) Yes	35	58.3%
	B) No	25	41.7%
6	Is there any possibility of pregnancy if women are suffering from PCOS?		
	A) Yes	38	63.3%
	B) No	22	36.7%

7	Which type of hormones are usually elevated in PCOS?		
	A) Estrogen	22	36.7%
	B) Insulin	8	3.3%
	C) Androgens	18	30%
	D) Cortisol	12	20%
8	How do androgens affect ovarian function in PCOS?		
	A) They enhance ovulation	16	26.7%
	B) They inhibit follicular development	25	41.7%
	C) They decrease estrogen production	5	8.3%
	D) They stabilized menstrual cycle	14	23.3%
9	What is a primary role of androgens in women with PCOS?		
	A) Regulating menstrual cycle	26	43.3%
	B) Symptoms like hirsutism and acne	21	35%
	C) Increasing insulin sensitivity	9	15%
	D) Promoting ovulation	4	6.7%
10	What is hirsutism?		
	A) Hair loss on the scalp	15	25%
	B) Oily skin	13	21.7%
	C) Acne formation	8	13.3%
	D) Excesshair growth on the body and face	24	40%

11	What is a common emotional challenge faced by women with PCOS?		
	A) Increased self esteem	15	25%
	B) Depression and anxiety	22	36.7%
	C) Reduced stress level	16	26.7%
	D) Improved mood stability	7	11.6%
12	Which type of skin disease is often associated with PCOS?		
	A) Eczema	14	23.3%
	B) Acne	24	40%
	C) Psoriasis	12	20%
	D) Rosacea	10	16.7%
13	Which of the following menstrual irregularities can indicate PCOS?		
	A) Consistently short cycle	13	21.7%
	B) Absence of period	26	43.3%
	C) Regular ovulation	7	11.7%
	D) Consistently longcycle	14	23.3%
14	Do people with PCOS always develop cyst?		
	A) Yes	39	65%
	B) No	21	35%

15	At which age is PCOS usually diagnosed at?		
	A) Before puberty		
	B) Between 15-44 years	15	25%
	C) After menopause	22	36.7%
	D) Both (b) and (c)	15	25%
		8	13.3%
16	Which test is commonly used to diagnose PCOS?		
	A) USG and blood test	25	41.7%
	B) Blood pressure test and blood test	14	23.3%
	C) ECG and X-ray	10	16.7%
	D) X-ray and MRI	11	18.3%
17	Which lifestyle changes are often recommended for managing PCOS?		
	A) Increase sugar intake	16	26.7%
	B) High fat diet	13	21.7%
	C) Skipping meals	8	13.3%
	D) Regular exercise	23	38.3%
18	What is the common treatment for managing PCOS symptoms?		
	A) Antibiotics	12	20%
	B) Anti depression	13	21.7%
	C) Birth control pills	28	46.6%
	D) Pain relievers	7	11.7%

19	What is the primary goal of treatment for PCOS?		
	A) Cure the syndrome		
	B) Manage symptoms and reduce long term risk	15	25%
	C) Eliminate all hormonal treatments	13	21.7
	D) Ensure pregnancy	17	28.3%
20	Which of the following is the potential complication of PCOS?		
	A) High blood pressure and osteoporosis and infertility	15	25%
	B) Asthma and migraine	18	30%
	C) Osteoporosis and epilepsy	17	28.3%
	D) Infertility and tonsillitis	10	16.7%

Post-test

Section -A

SELECTED DEMOGRAPHIC VARIABLE OF SELECTED SCHOOL STUDENTS.

TABLE 2- FREQUENCY AND PERCENTAGE DISTRIBUTION OF DEMOGRAPHIC VARIABLES AMONG ADOLESCENT'S GIRLS.

VARIABLES	CHARACTERISTICS	FREQUENCY	PERCENTAGE
1.Age	a) 11-12 years	15	25%
	b) 13-14years	23	38.3%
	c) 15-16	21	35%
	d) above16years	1	1.7%

2. Religion	a) Hindu	34	56.7%
	b) Muslim	24	40%
	c) Sikh	0	0%
	d) Christian	2	3.3%
3.Occupation	a) Businessmen	14	23.3%
	b) Farmer	10	16.7%
	c) Labour	18	30%
	d) Private job	18	30%
4.Class	a) Class5 th	16	26.7%
	b) Class6 th	12	20%
	c) Class7 th	5	8.3%
	d)Class 8 th	27	45%
5.Previous knowledge	a) Yes	27	45%
	b) No	33	55%
6.Source of Information	a)social media	10	16.7%
	b) News paper	1	1.7%
	c) Television	2	3.3%
	d)Others (teaching)	47	78.3%

AGE: - According to the age participant, it indicates that 25% belong to the age 11- 12years,38.3% belongs to the age 13-14years,35% belong to the age of 15-16years,1.7% belong to the age of above 16years.

RELIGION: - According to the religion 56.7% belongs to the Hindu religion,40%belong to the Muslim religion, 0% belong to the Sikh religion, 3.3% belong to the Christian religion.

OCCUPATION: - According to the occupations of their parents 23.3% were businessman, 16.7% were farmer, 30% were labour, and 30% were private job worker.

CLASS: - According to the class of the participants, it indicates that 26.7 % belong to the class5th,20%belongtothe class6th,8.3%belongtothe class 7thand45%belongtothe class 8th.

PREVIOUS KNOWLEDGE: -According to the previous knowledge 45% are yes and 55% are no.

SOURCE OF INFORMATION: - According to the information of the participants 16.7% get from social media, 1.7% get from newspaper, 3.3% get from television and 78.3 % get from other (teaching).

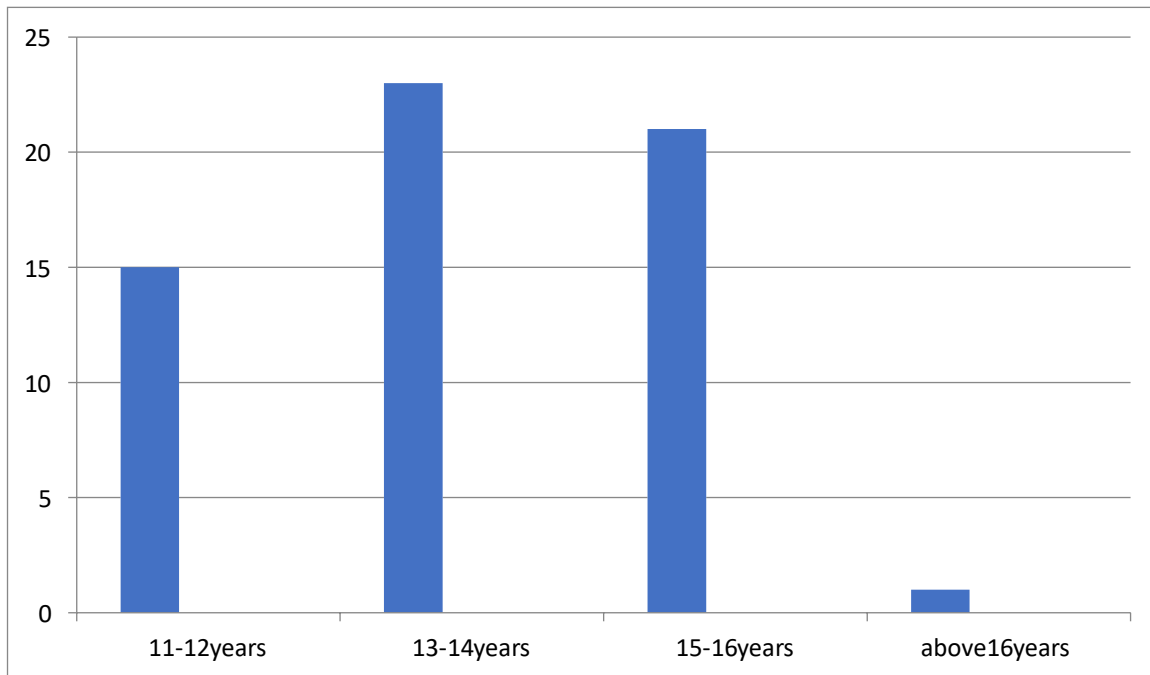


Fig3:FREQUENCY DISTRIBUTION OF AGE AMONG ADOLESCENT'S GIRLS AT SELECTED SCHOOL

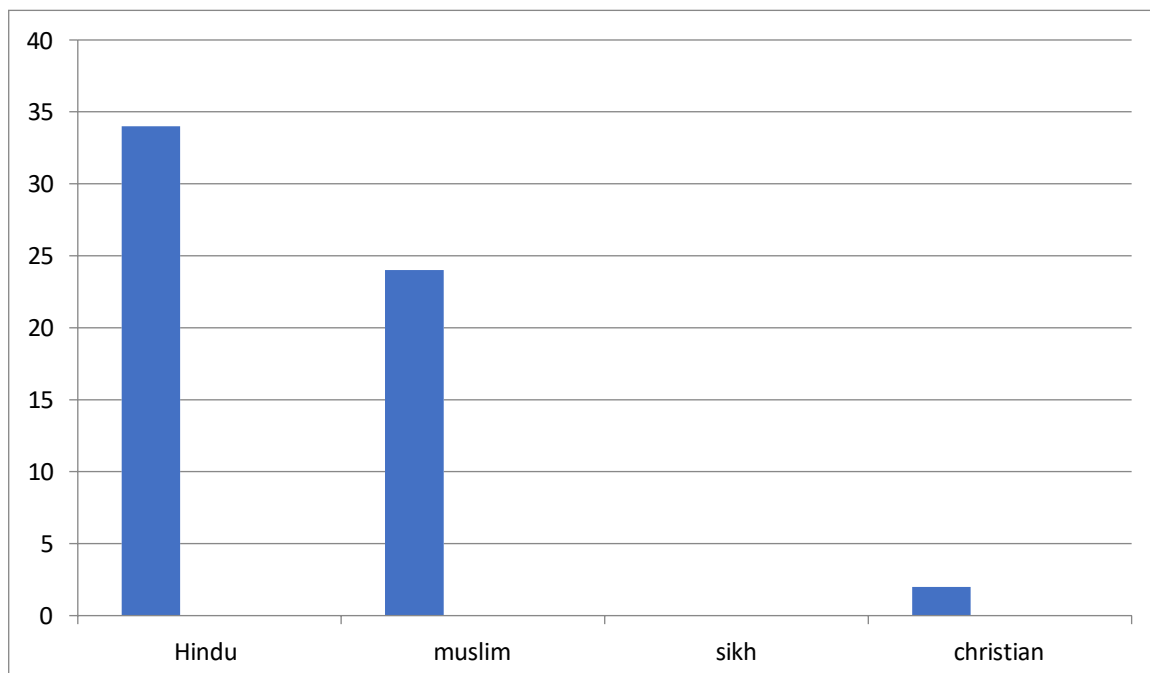


Fig4:FREQUENCY DISTRIBUTION OF RELIGION AMONG ADOLESCENT'S GIRLS AT SELECTED SCHOOL.

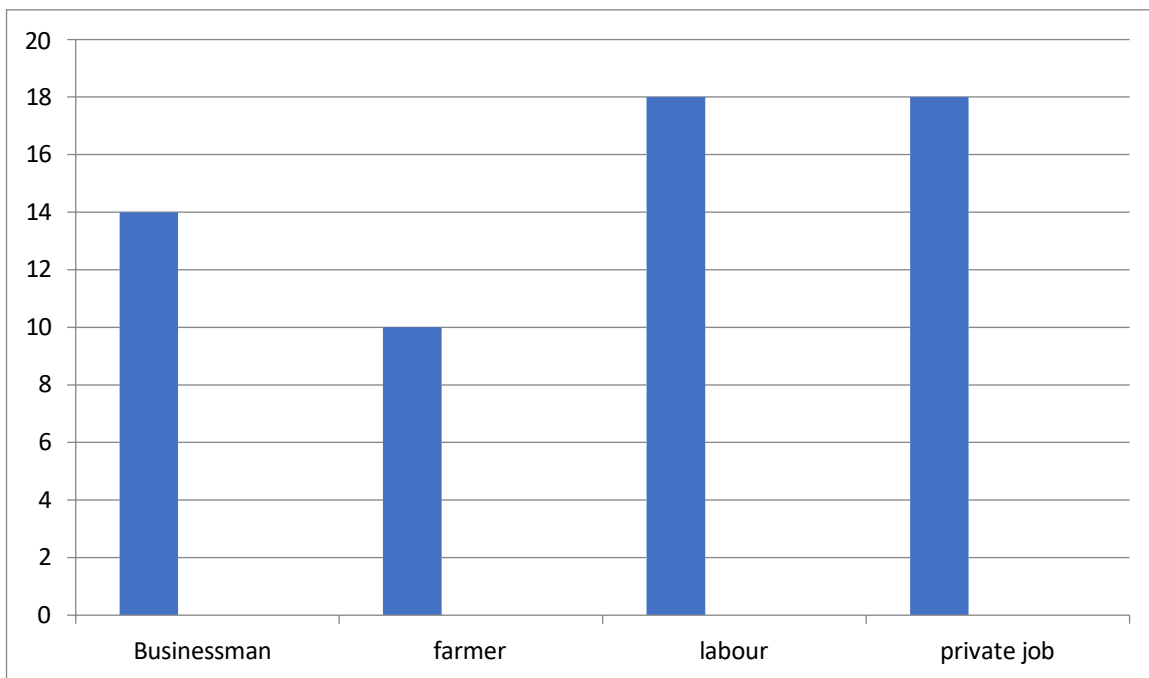


Fig5:FREQUENCY DISTRIBUTION OF OCCUPATION OF THE PARENTS AMONG ADOLESCENT'S GIRLS AT SELECTED SCHOOL.

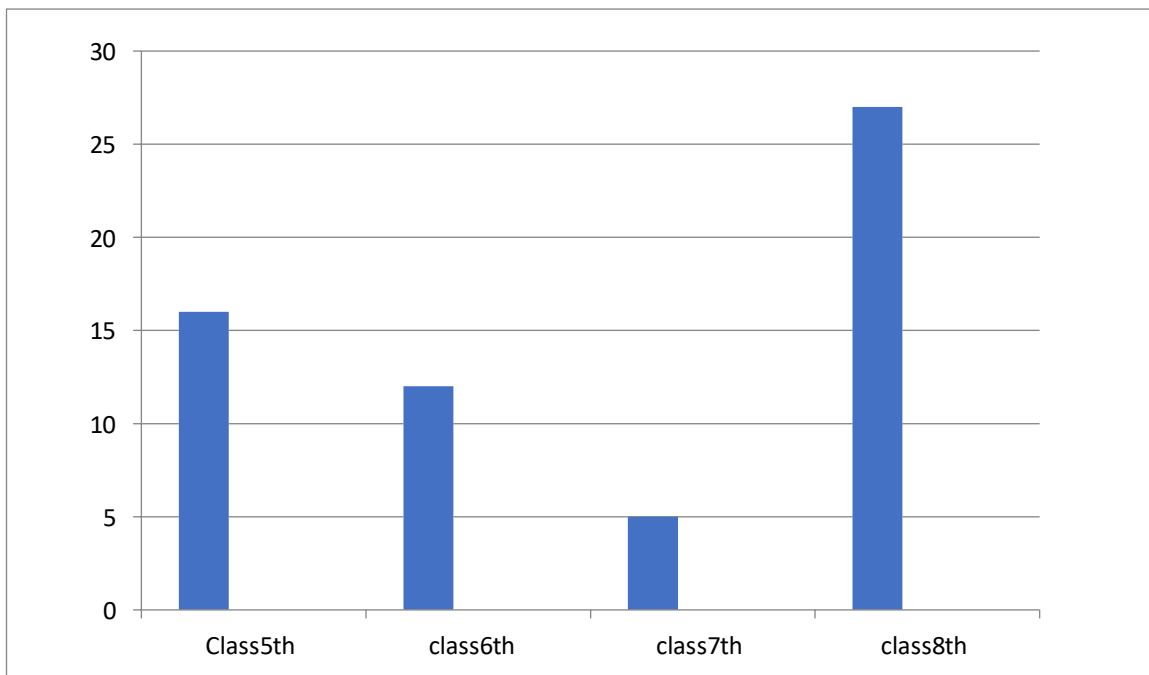


Fig6:FREQUENCY DISTRIBUTION OF CLASS AMONG ADOLESCENT'S GIRLS AT SELECTED SCHOOL.

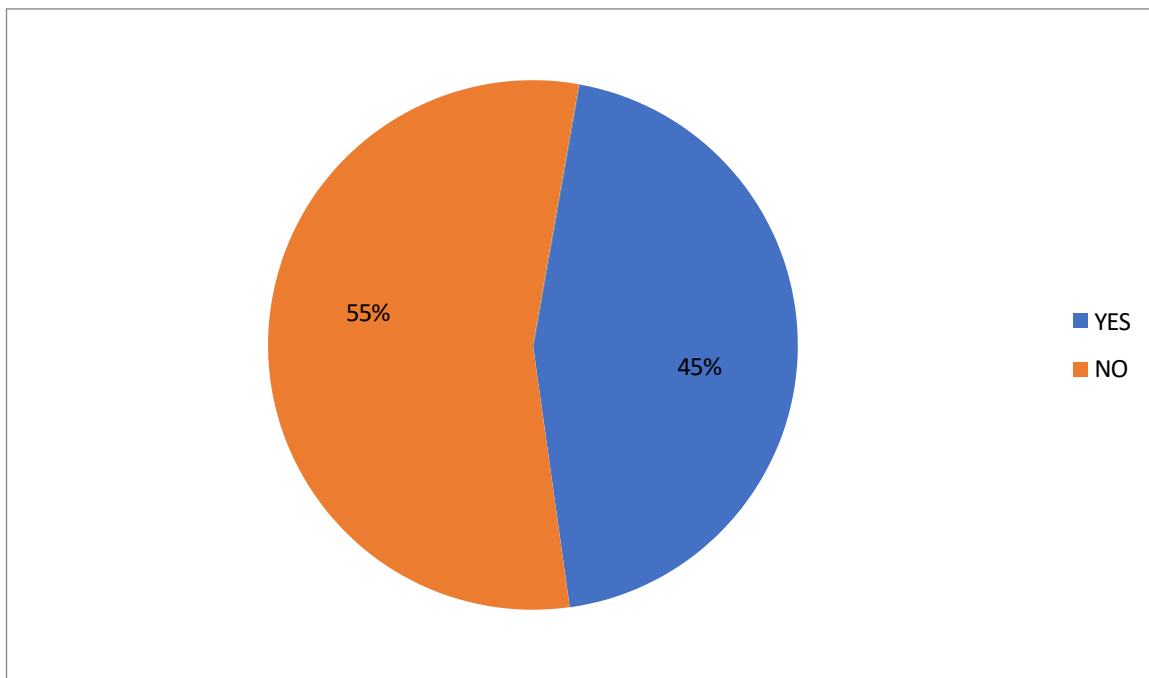


Fig7: FREQUENCY DISTRIBUTION OF KNOWLEDGE AMONG ADOLESCENT'S AT SELECTED SCHOOL.

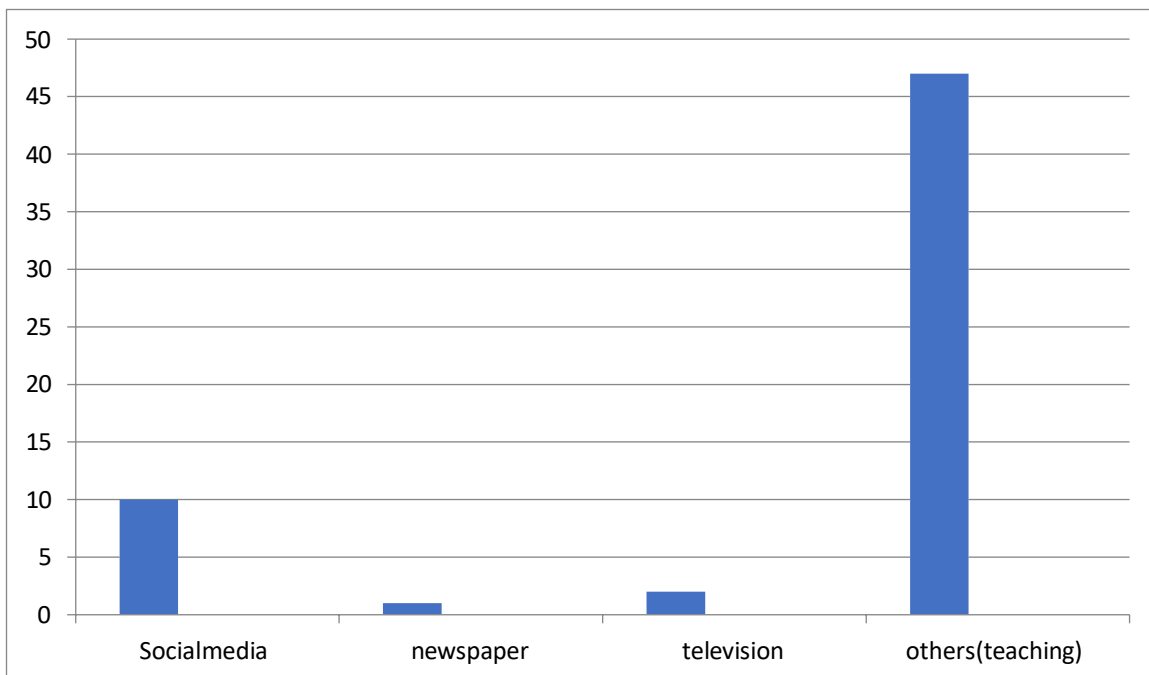


Fig8:FREQUENCY DISTRIBUTION OF SOURCE OF INFORMATION AMONG ADOLESCENT'S GIRLS AT SELECTED SCHOOL.

SECTION-B**TABLE 3- REQUENCY AND PERCENTAGE DISTRIBUTION OF LEVEL OF KNOWLEDGE REGARDING POLYCYSTIC OVARIAN SYNDROME AMONG ADOLESCENT GIRLS.**

S NO.	QUESTIONS	FREQUENCY	PERCENTAGE
1	What is the fullform of PCOS? a) Polycystic ovarian syndrome. b) Precancerous ovarian syndrome. c) Post cancer ovary syndrome d) Post cycle ovulation symptoms.	44 7 5 4	73.3% 11.7% 8.3% 6.7%
2	What is the PCOS? a) Respiratory syndrome b) Mental condition c) Ovarian syndrome d) Down syndrome	7 4 41 8	11.7% 6.7% 68.3% 13.3%
3	PCOS caused by? a) Irregular heartbeat b) Ovarian cyst c) Hormonal changes d) Dehydration	15 18 11 16	25% 30% 18.3% 26.7%

4	Which of the following is a possible cause of PCOS? a) Viral infection b) Genetic factor c) Nutritional deficiency d) Excessive exercise	16 21 17 6	26.7% 35% 28.3% 10%
5	Does PCOS affects only obese women? a) Yes b) No	9 51	15% 85%
6	Is there any possibility of pregnancy if women are suffering from PCOS? a) Yes b) No	23 37	38.3% 61.7%
7	Which type of hormones are usually elevated in PCOS? a) Estrogen b) Insulin c) Androgens d) Cortisol	15 5 38 2	25% 8.3% 63.3% 3.3%
8	How do androgens affect ovarian function in PCOS? a) They enhance ovulation	18	30%

	b) They inhibit follicular development	17	28.3%
	c) They decrease estrogen production	16	26.7%
	d) They stabilized menstrual cycle	9	15%
9	What is a primary role of androgens in women with PCOS?		
	a) Regulating menstrual cycle	7	11.7%
	b) Symptoms like hirsutism and acne	42	70%
	c) Increasing insulin sensitivity	5	8.3%
	d) Promoting ovulation	6	10%
10	What is hirsutism?		
	a) Hair loss on the scalp	15	25%
	b) Oily skin	13	21.7%
	c) Acne formation	18	30%
	d) Excess hair growth on the body and face	14	23.3%
11	What is a common emotional challenge faced by women with PCOS?		
	a) Increased self esteem	15	25%
	b) Depression and anxiety	24	40%
	c) Reduced stress level	13	21.7%
	d) Improved mood stability	8	13.3%
12	Which type of skin disease is often associated		

	With PCOS?		
	a) Eczema	14	23.3%
	b) Acne	31	51.7%
	c) Psoriasis	12	20%
	d) Rosacea	3	5%
13	Which of the following menstrual irregularities can indicate PCOS?		
	a) Consistently short cycle	13	21.7%
	b) Absence of period	27	45%
	c) Regular ovulation	16	26.7%
	d) Consistently longcycle	4	6.6%
14	Do people with PCOS always develop cyst?		
	a) Yes	22	36.7%
	b) No	38	63.3%
15	At which age is PCOS usually diagnosed at?		
	a) Before puberty	12	20%
	b) Between15-44years	28	46.7%
	c) After menopause	13	21.7%
	d) Both(b)and (c)	7	11.6%
16	Which test is commonly used to diagnosed PCOS?		
	a) USG and blood test	28	46.6%
	b) Bloodpressure test and blood test	12	20%
	c) ECG andX- ray	7	11.7%
	d) X- ray andMRI	13	21.7%

17	Which lifestyle changes often recommended for managing PCOS?		
	a) Increase sugar intake	15	25%
	b) High fat diet	7	11.7%
	c) Skipping meals	11	18.3%
	d) Regular exercise	27	45%
18	What is the common treatment for managing PCOS symptoms?		
	a) Antibiotics	14	23.3%
	b) Anti depression	29	48.4%
	c) Birthcontrols pills	6	10%
	d) Pain relievers	11	18.3%
19	What is the primary goal of treatment for PCOS?		
	a) Cure the syndrome	15	25%
	b) Manage symptoms and reduce longterm risk	25	41.7%
	c) Eliminate all hormonal treatments	13	21.7%
	d) Ensure pregnancy	7	11.6%
20	Which of the following is the potential complication of PCOS?		
	a) High blood pressure and osteoporosis and infertility	30	50%
	b) Asthma and migraine	14	23.3%
	c) Osteoporosis and epilepsy	12	20%
	d) Infertility and tonsillitis	4	6.7%

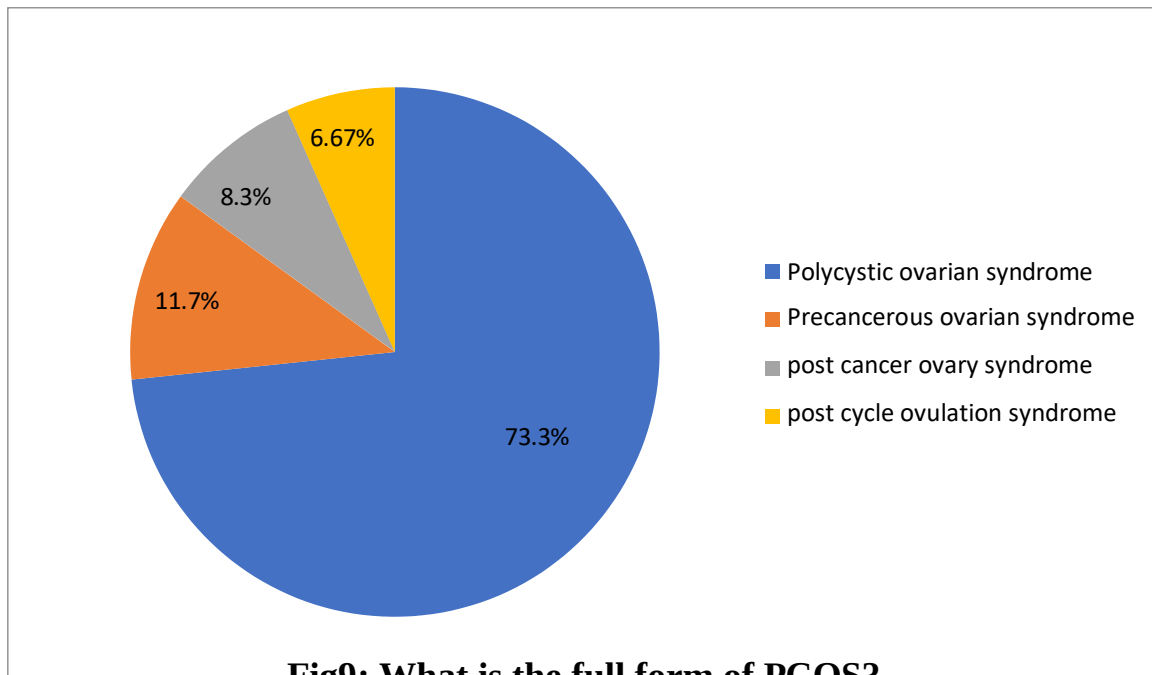


Fig9: What is the full form of PCOS?

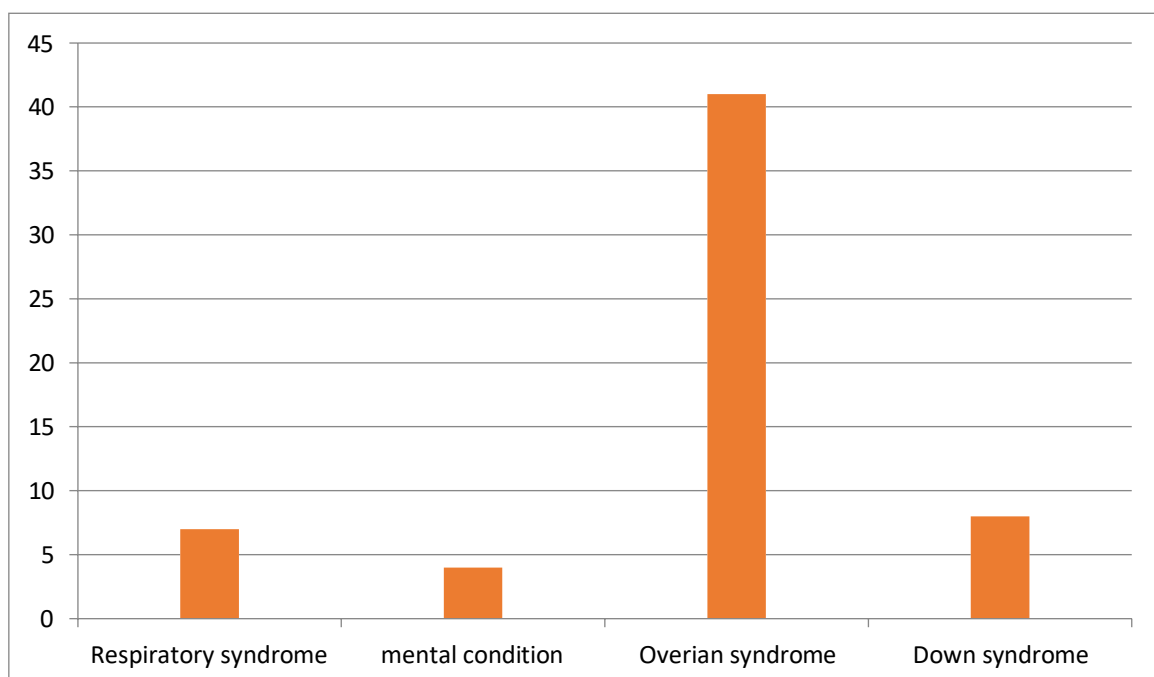


Fig 10: What is the PCOS?

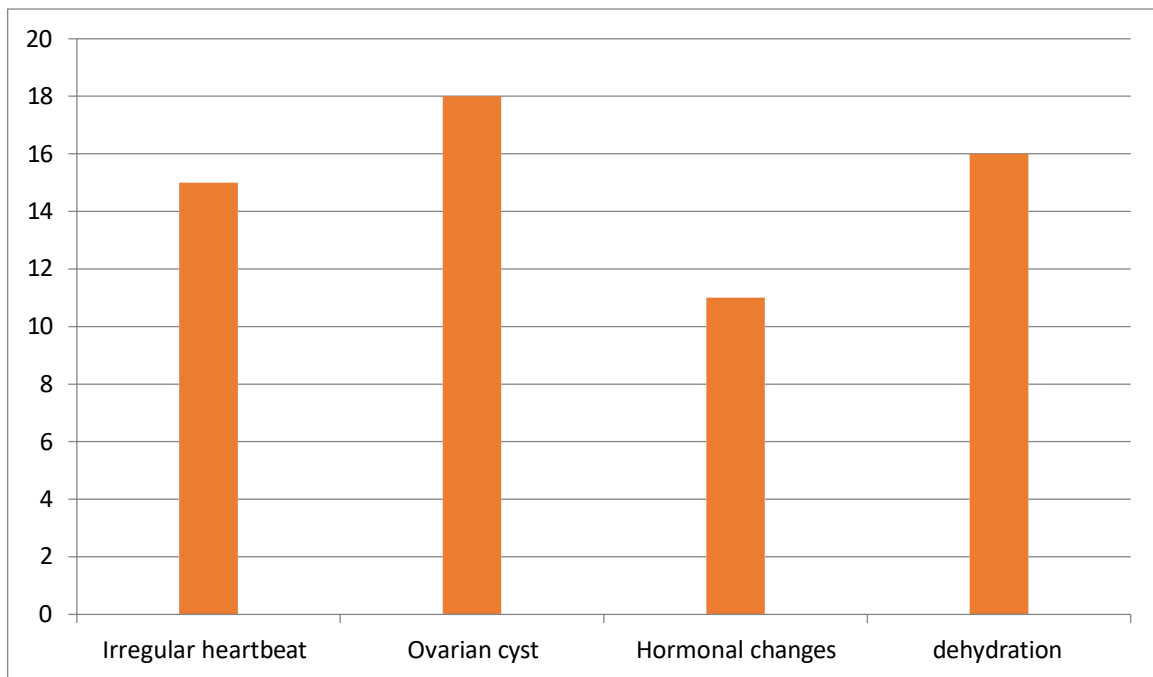


Fig11:PCOS caused by?

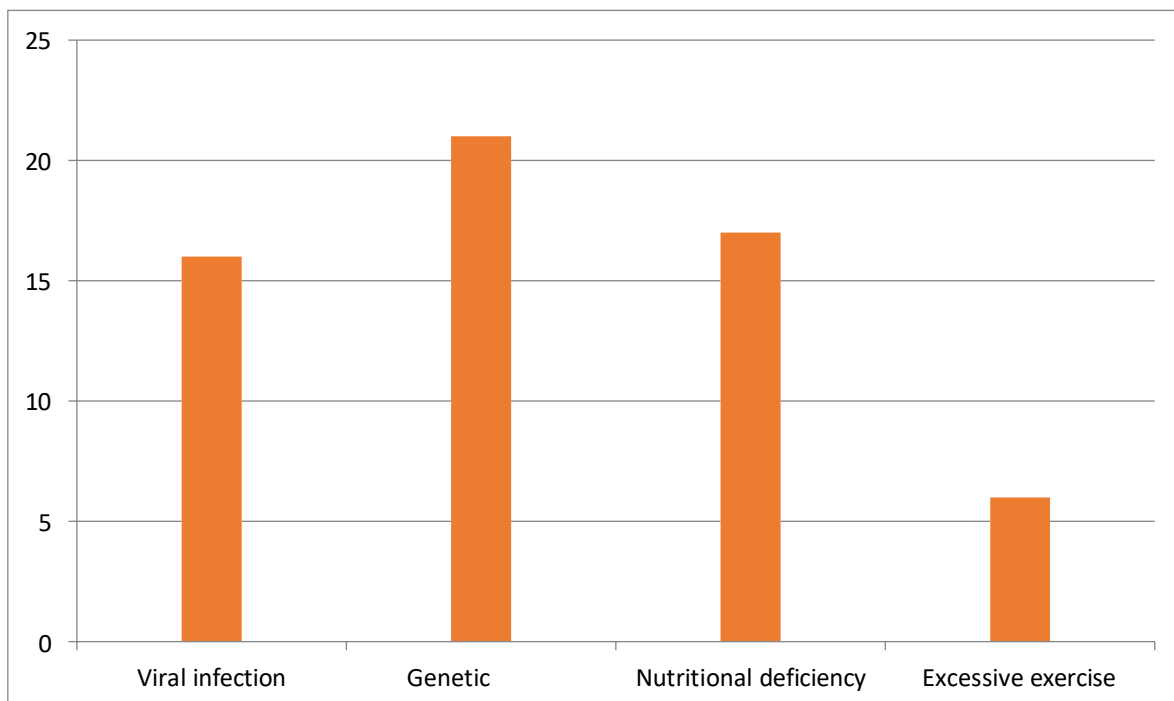


Fig12: Which of the following is a possible cause of PCOS?

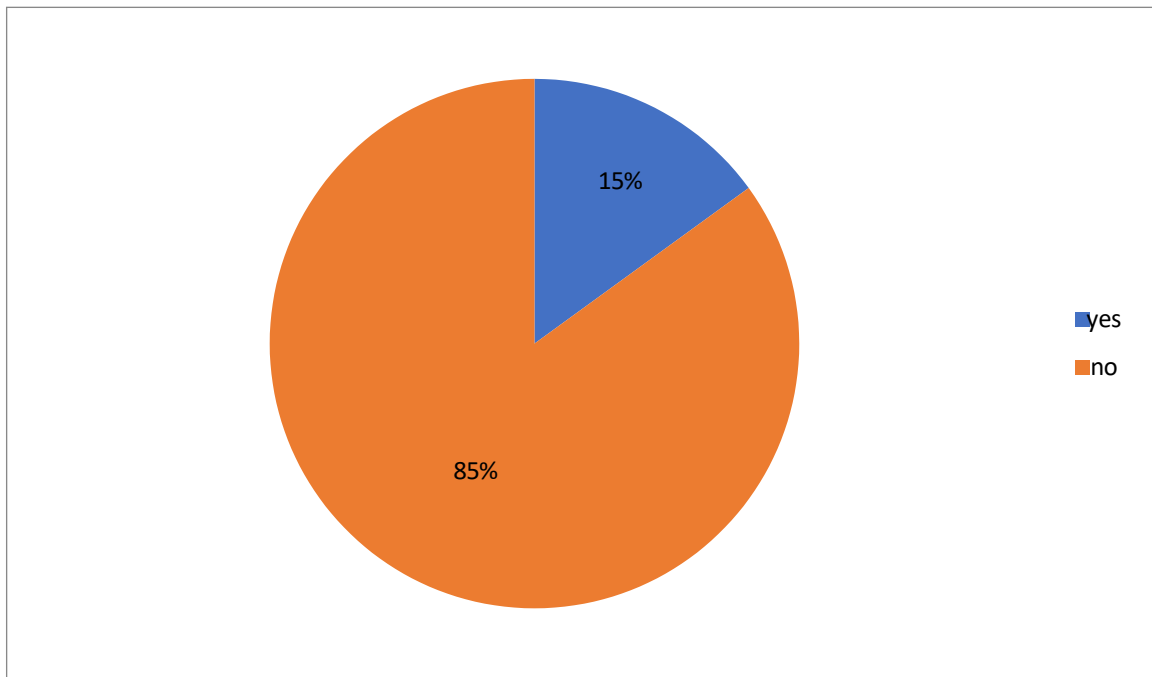


Fig13:Does PCOS affects only obese women?

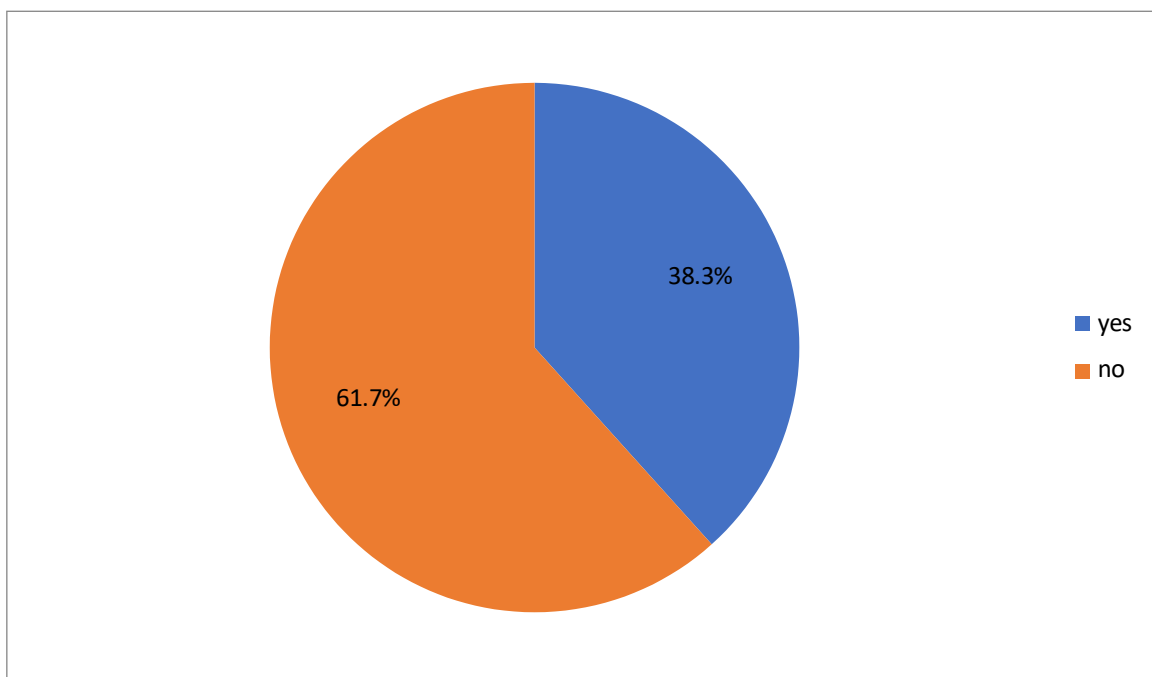


Fig14:Is there any possibility of pregnancy if women are suffering from PCOS in pregnancy?

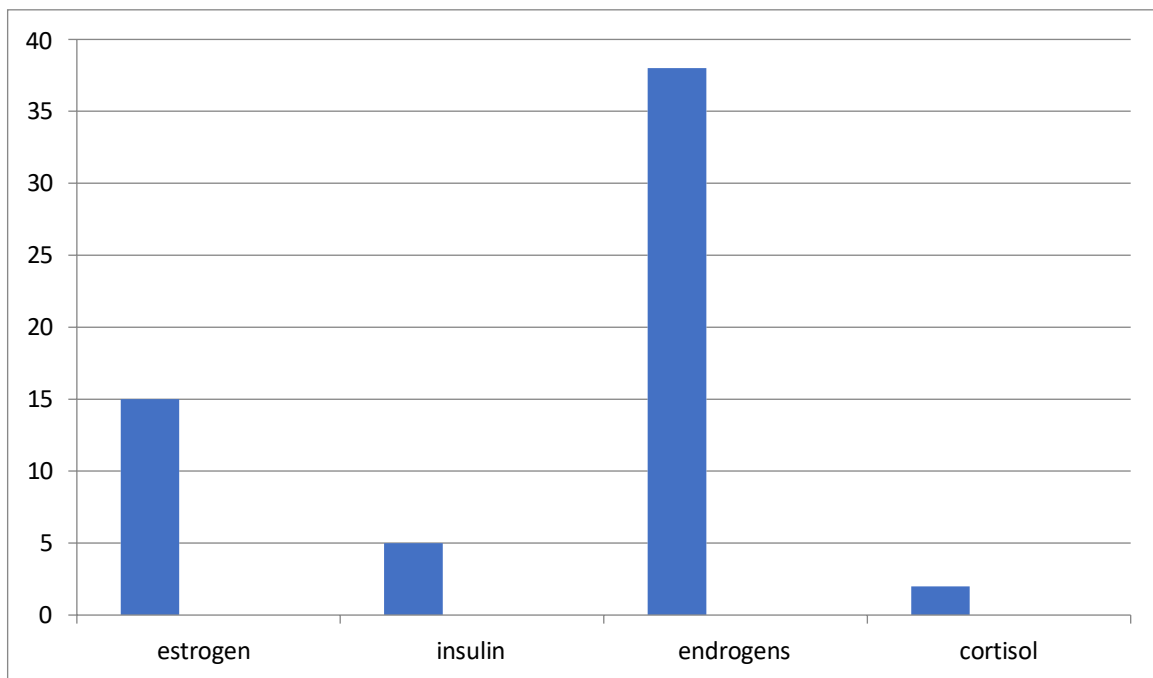


Fig15: Which type of hormone elevated in PCOS?

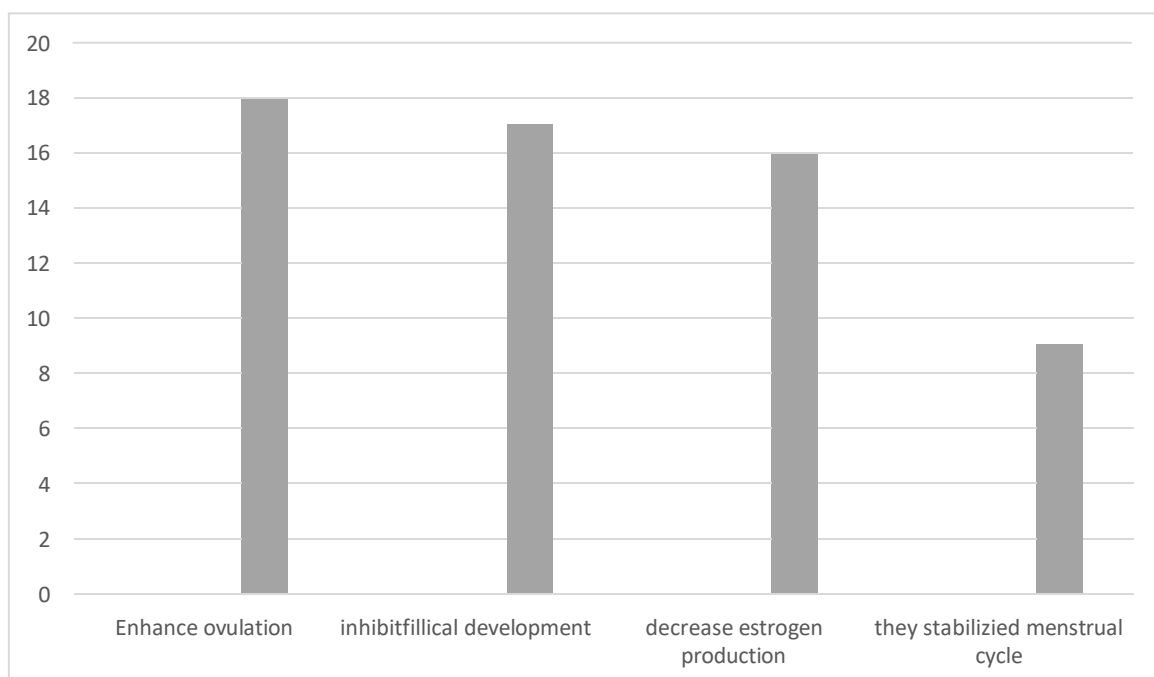


Fig16: How do androgens affect ovarian function in PCOS?

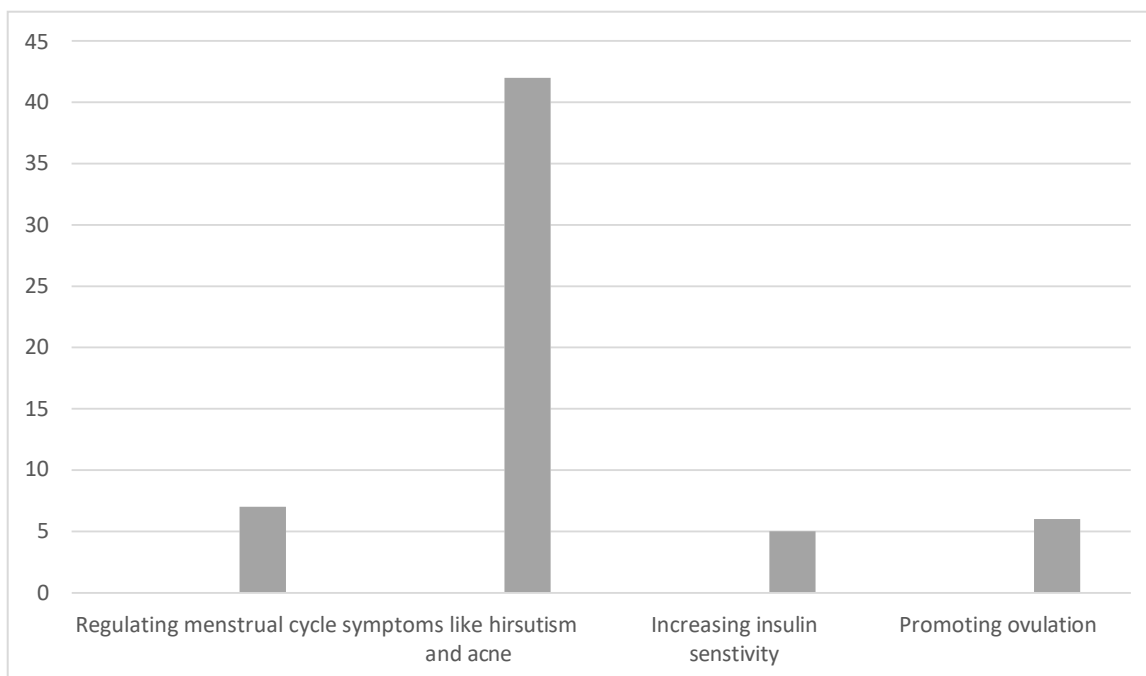


Fig17: What is a primary role of androgens in women with PCOS?

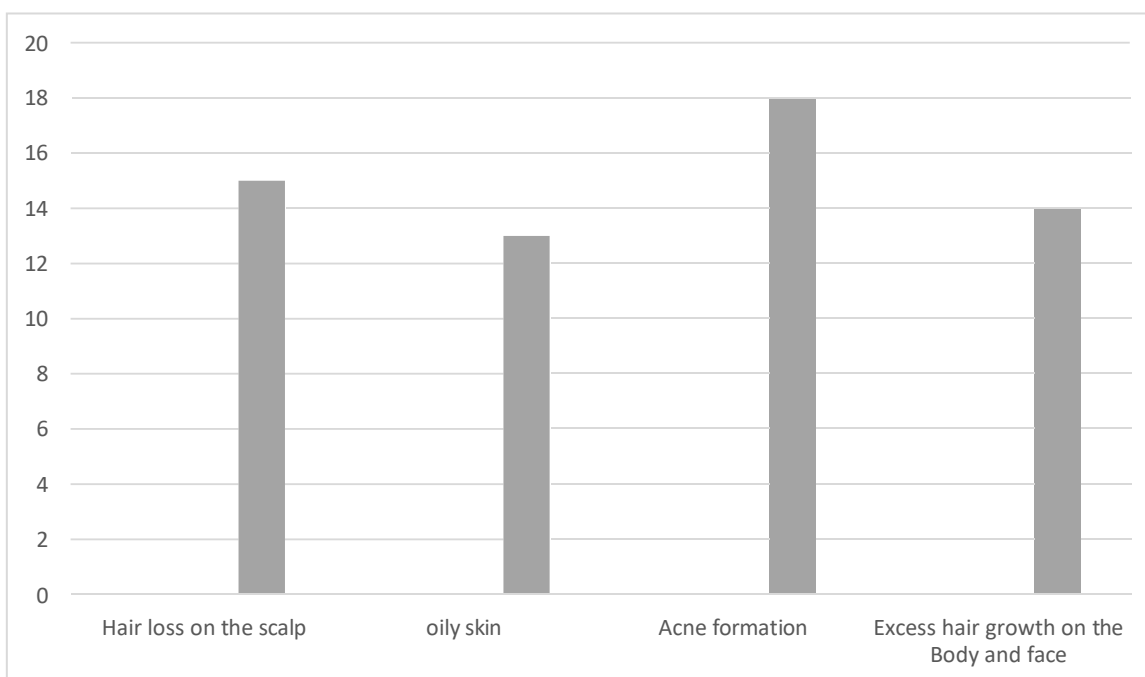


Fig 18: What is hirsutism?

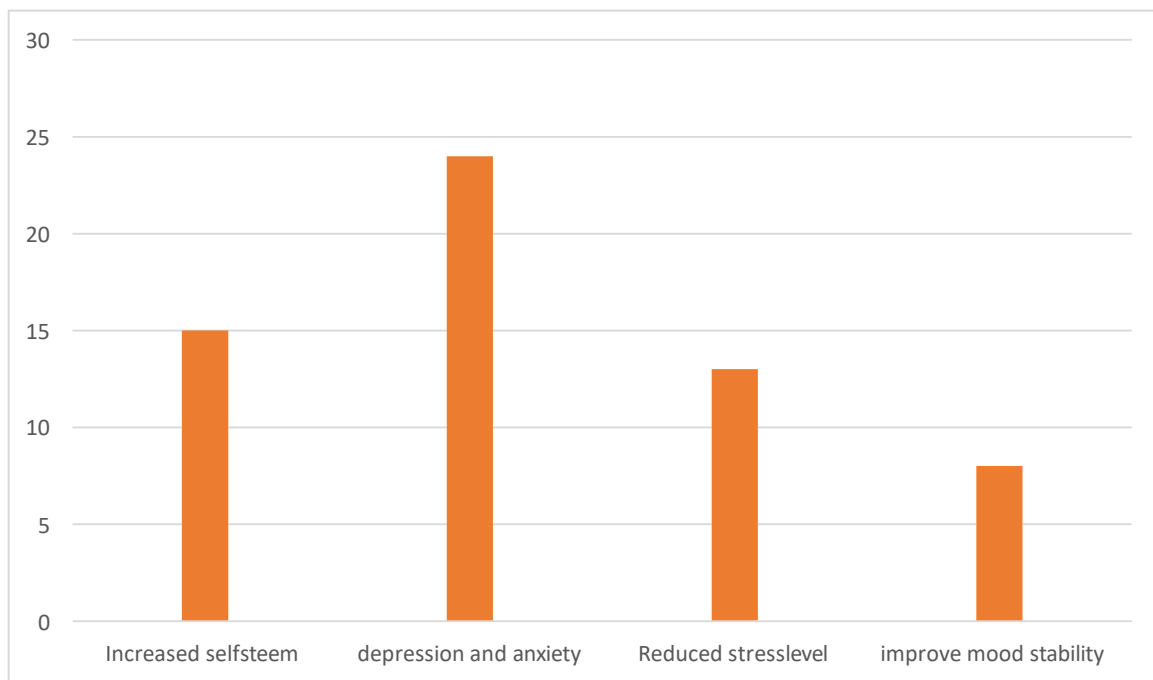


Fig19:What is a common emotional challenge faced by women with PCOS?

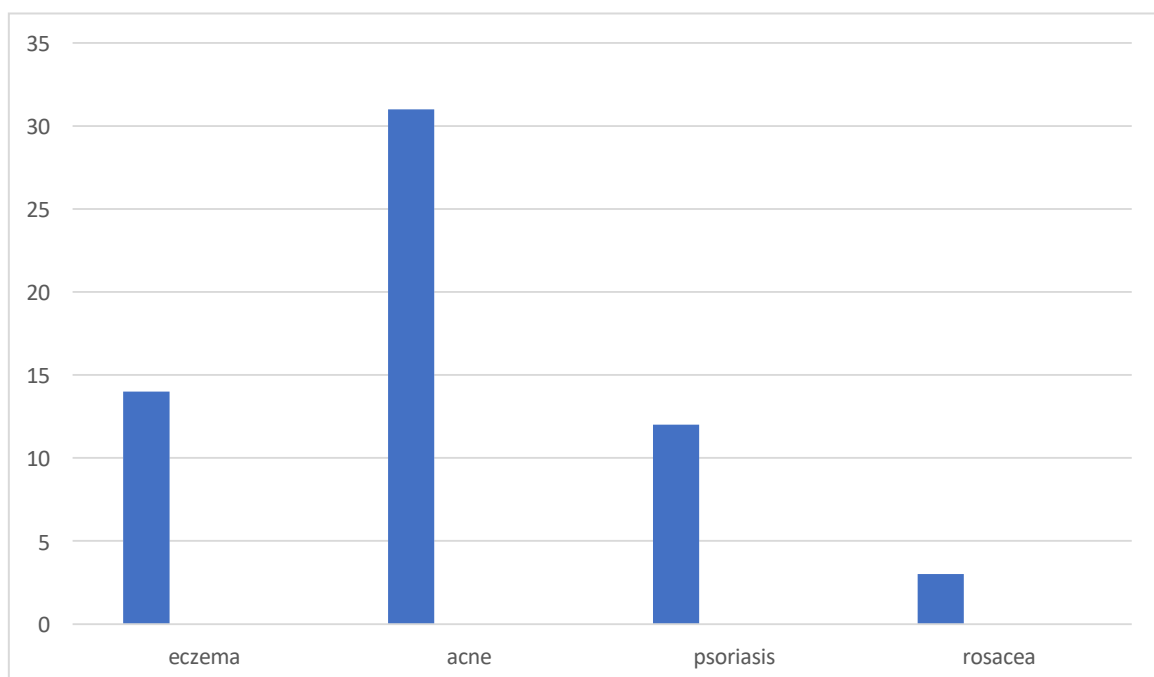


Fig20: Which type of skin disease is often associated with PCOS?

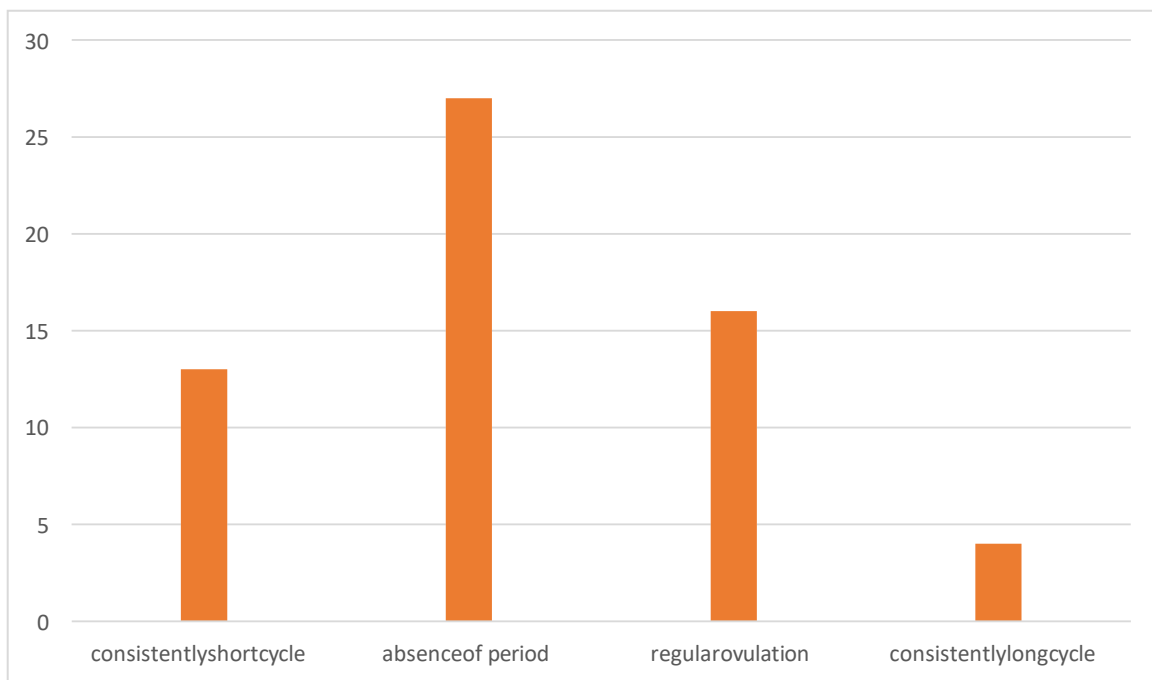


Fig21: Which of the following menstrual irregularities can indicate PCOS?

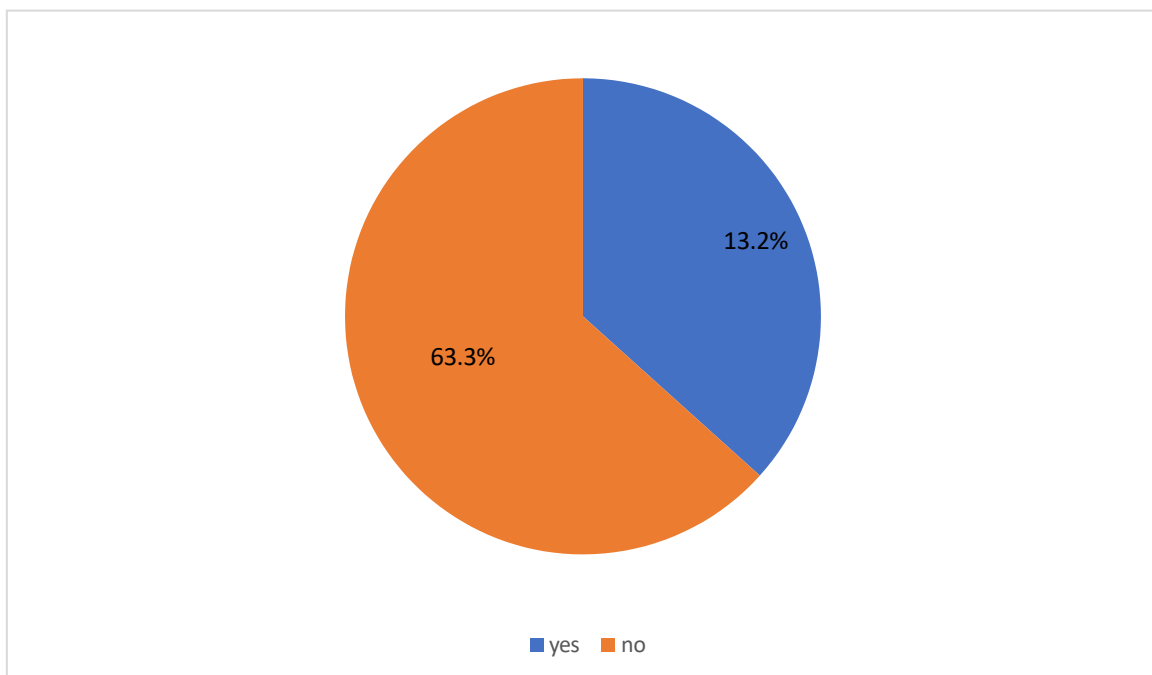


Fig22: Do people with PCOS always developed cyst?

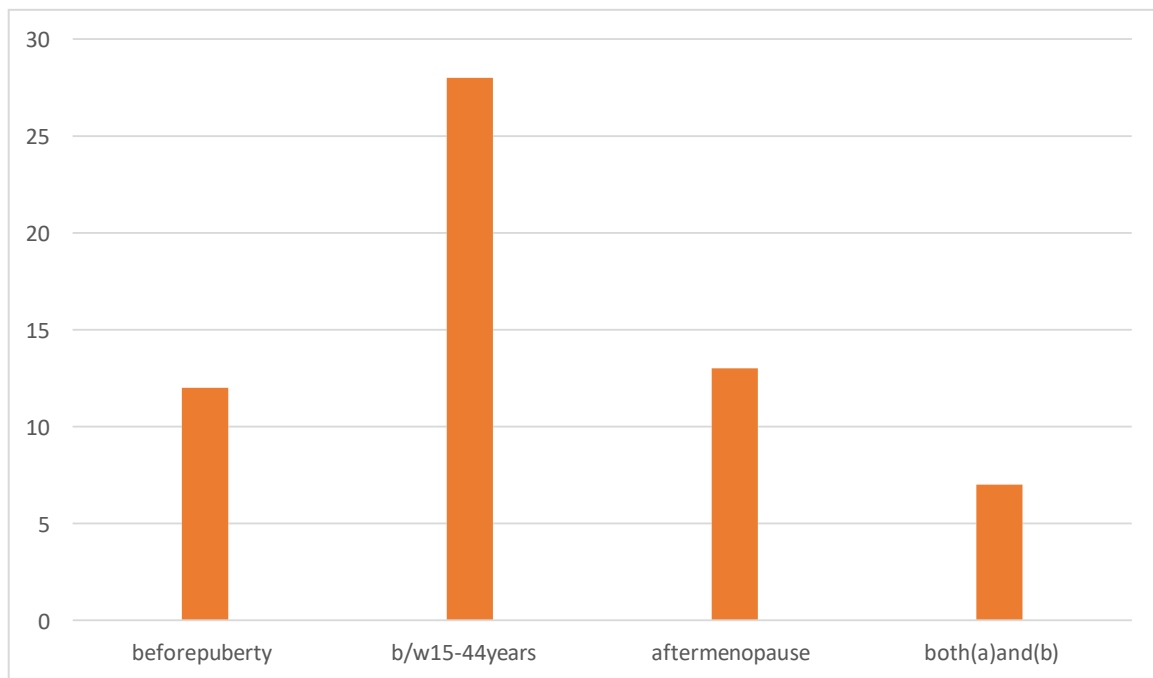


Fig23: At which age is PCOS usually diagnosed at?

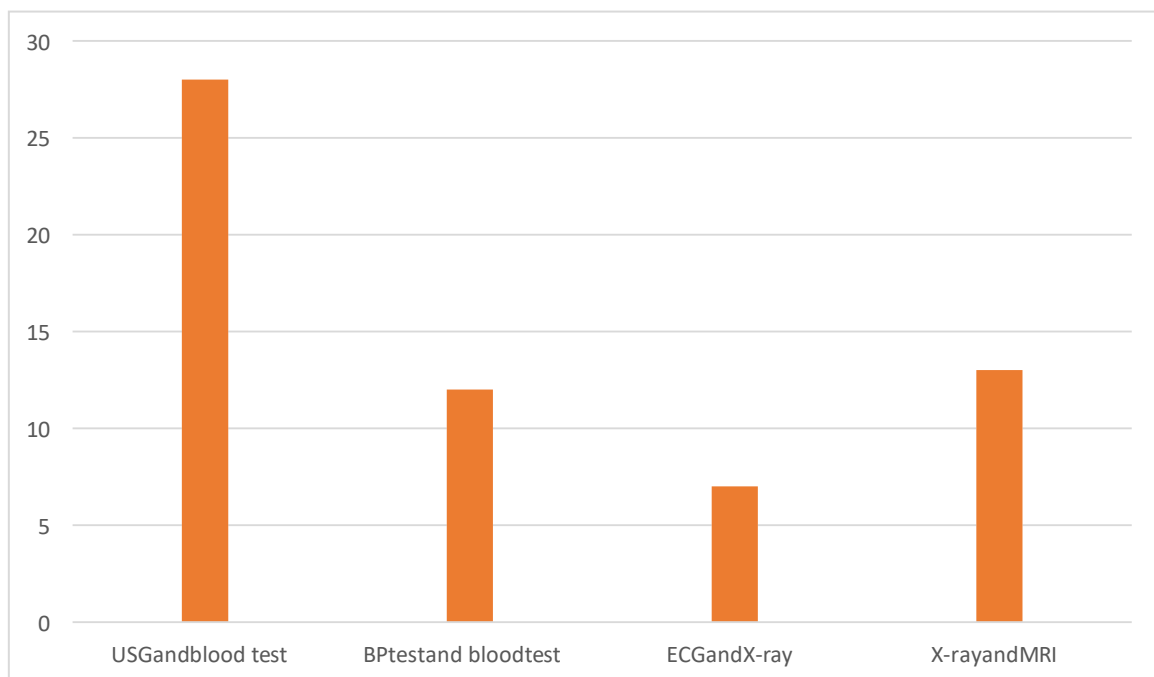


Fig24: Which test is commonly used to diagnosed PCOS?

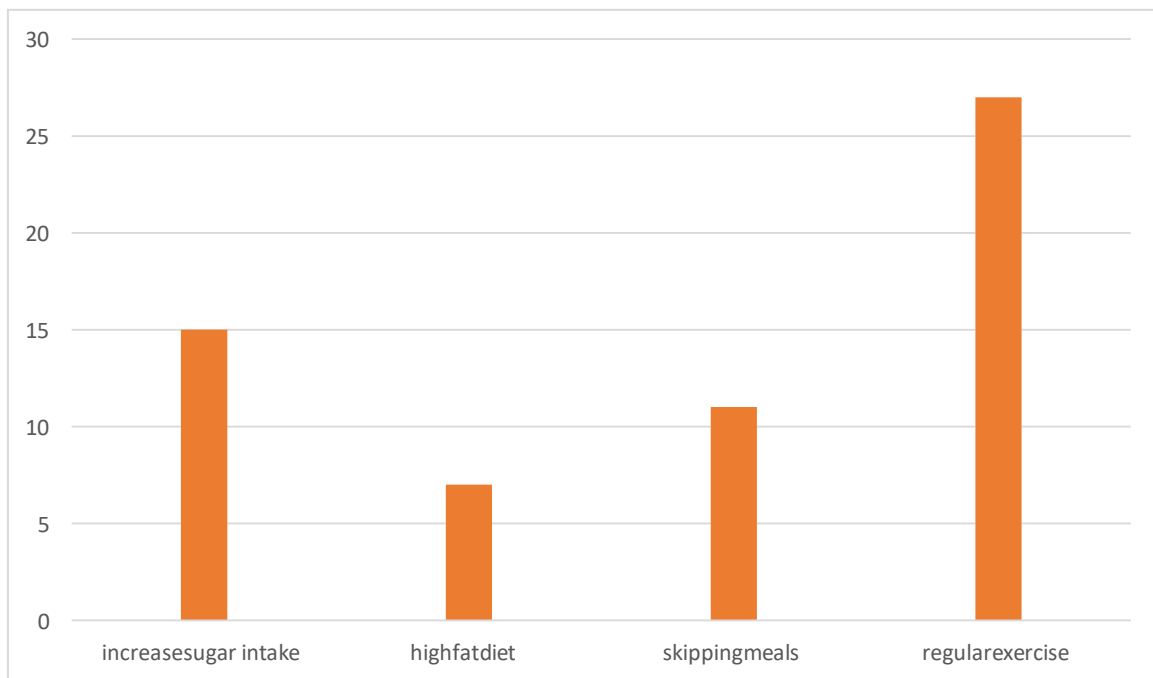


Fig25:Which lifestyle changes often recommended for managing PCOS?

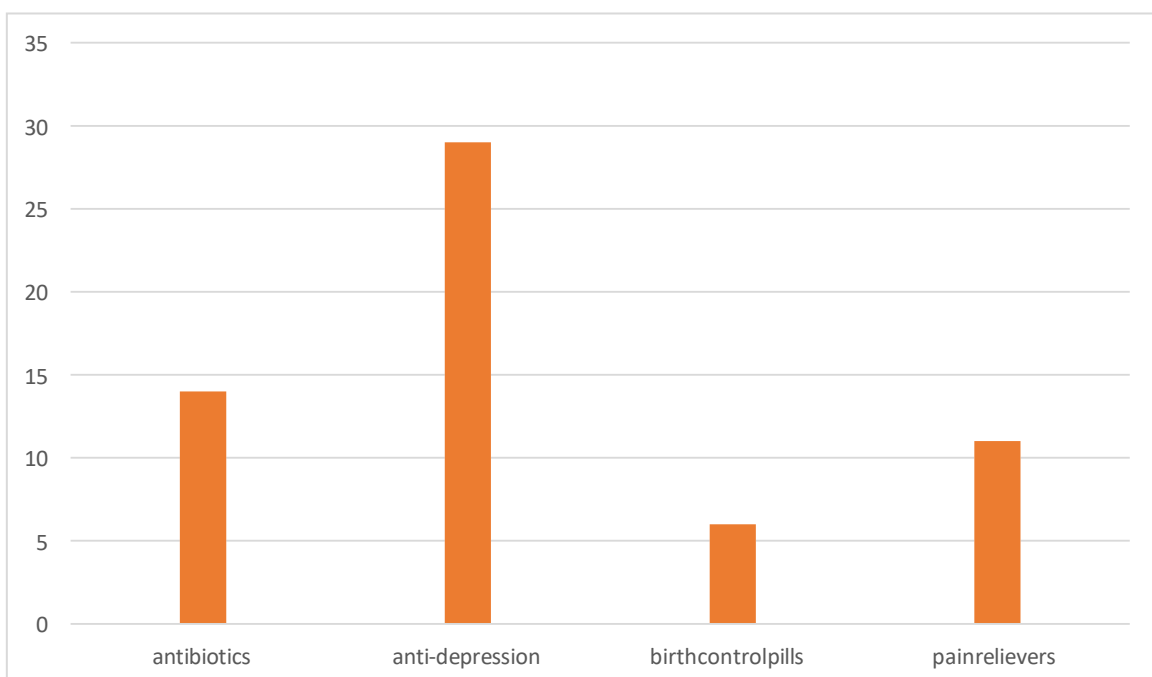


Fig26:What is the common treatment for managing PCOS symptoms?

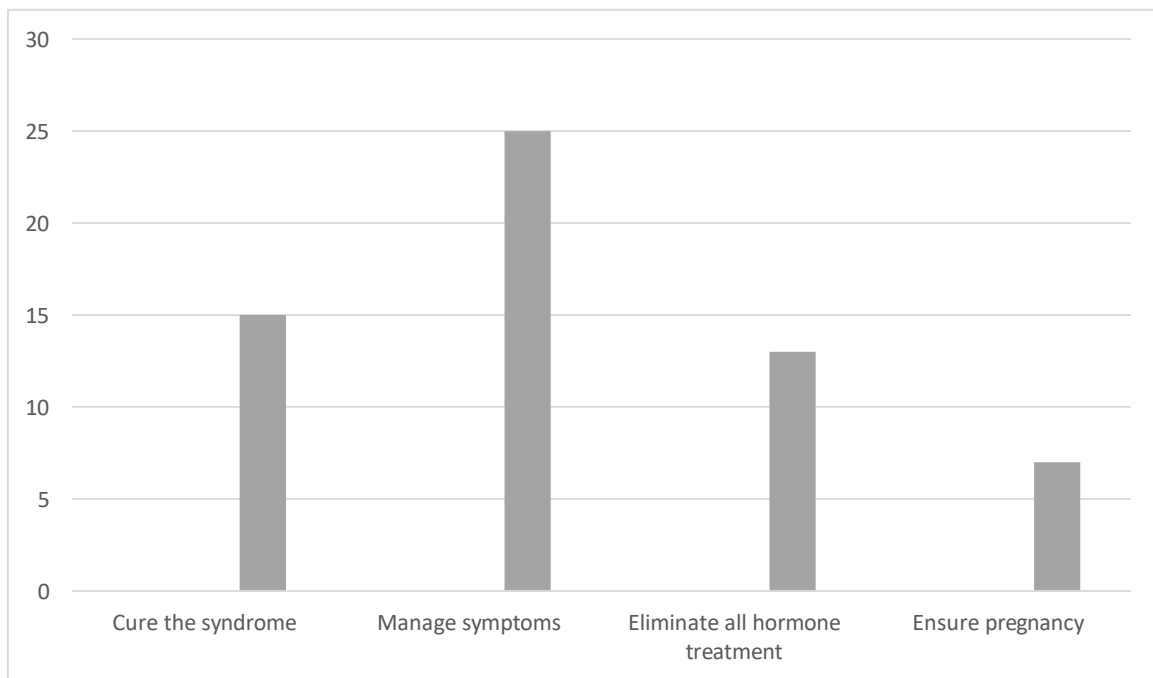


Fig27:What isthe primary goal of treatment for PCOS?

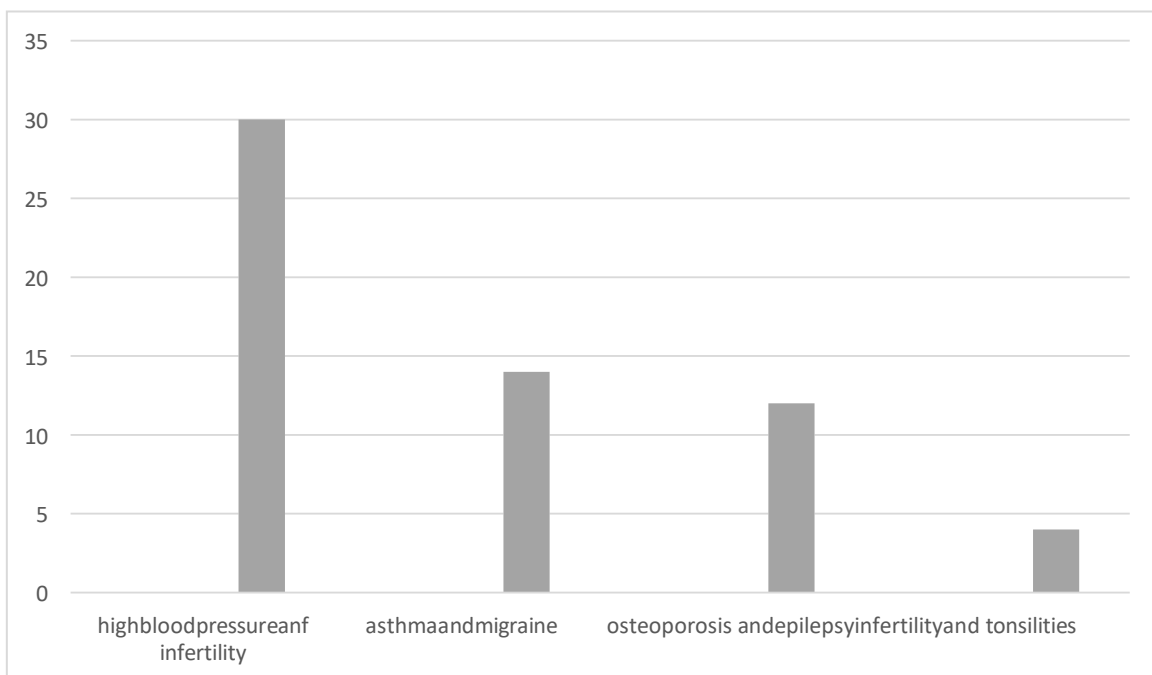


Fig28:Which of the following is the potential complication of PCOS?

SECTION-C

FINDING RELATED TO THE KNOWLEDGE SCORE REGARDING POLYCYSTIC OVARIAN SYNDROME

TABLE4:-Frequency and percentage distribution of knowledge score N=60

S.No	LEVEL OF KNOWLEDGE	SCORE	FREQUENCY	PERCENTAGE
1	EXCELLENT KNOWLEDGE	15-20	0	0%
2	GOOD KNOWLEDGE	10-14	10	16.7%
3	AVERAGE KNOWLEDGE	5-9	38	63.3%
4	POOR KNOWLEDGE	1-4	12	20%

The above table shows the frequency and percentage distribution of knowledge score of adolescent's girls related to polycystic ovarian syndrome. The table depicts that 0 (0%) students had excellent knowledge, 10 (16.6%) students have good knowledge, 38 (63.3%) students have average knowledge, 12 (20%) students have poor knowledge about the polycystic ovarian syndrome.

TABLE5:Mean,median,mode and standard deviation of the collection data

MEAN	MEDIAN	MODE	STANDARD DEVIATION
0.025	0.24	0.249	0.035

SECTION-D

**ASSOCIATION BETWEEN PRE-TEST KNOWLEDGE SCORE OF NURSING STUDENTS WITH
THEIR SELECTIVE DEMOGRAPHIC VARIABLE**

**TABLE6:DISTRIBUTION OF ADOLESCENTS GIRLS BASED ON ASSOCIATION BETWEEN
DEMOGRAPHIC VARIABLES AND KNOWLEDGE RELATED TO POLYCYSTIC OVARIAN
SYNDROME**

S.no.	Demographic Variables		Know ledge			Chi square	DF	Inference
		Good	Average	Poor	Cal. value	Tab. Value		
1.	AGE							
a)	11-12years	0	9	6	2.03	7.81	3	NS
b)	13-14years	0	11	12				
c)	15-16years	0	14	7				
d)	Above16years	0	1	0				
2.	RELIGION							
a)	Hindu Muslim Sikh	0	19	15	0.098	5.99	2	NS
b)	Christian	0	14	10				
c)		0	0	0				
d)		0	1	1				
3.	OCCUPATION							
a)	Businessman Farmer	0	8	6	24.53	7.81	3	NS
b)		0	6	4				
c)	Labour	0	12	6				
d)	Private job	0	14	4				

4.	CLASS							
a)	Class5th Class6th	0	6	10				
b)	Class7th Class8th	0	8	4	2.48	7.81	3	NS
c)		0	3	2				
d)		0	14	13				
5.	PREVIOUS KNOWLEDGE							
	Yes No							
a)		0	16	11	0.34	3.84	1	NS
b)		0	22	11				
6.	SOURCE							
a)	Social media News	0	6	4				
b)	paper Television	0	1	0	1.75	7.81	3	NS
c)	Other(teaching)	0	1	1				
d)		0	34	13				

(**p<0.05),Df-degreeoffreedom,S-significant,NS-nonsignificant INFERENCES

Based on the above data null hypothesis is not accepted and research hypothesis is accepted, which concludes there is non-significant association between demographic variables and level of knowledge regarding polycystic ovarian syndrome among adolescent's girl

DISCUSSION

This chapter discusses the major findings of the study and reviews that in relation to findings from the result of previous study.

The present study was conducted to assess the level of the knowledge regarding polycystic ovarian syndrome (PCOS) among nursing students at selected institute of Dehradun, Uttarakhand. In respect to fulfill the objectives of study, pre experimental design was adopted. There were total sixty samples to fulfill the inclusion and exclusion criteria were selected through convenience non probability sampling technique. Data was collected by using structured questionnaires and then it was organized analyzed and presented under following sections.

SECTION-A: Frequency and percentage distribution of demographic variables among selected schools.

SECTION-B: Frequency and percentage of level of knowledge regarding polycystic ovarian syndrome among selected schools.

SECTION-C: Frequency and percentage of nursing led intervention regarding polycystic ovarian syndrome.

SECTION-D: Association between pre test and post test knowledge score of school girls with their selected demographic variables.

MAJOR FINDINGS OF THE STUDY

SECTION-A: Frequency and percentage distribution of demographic variables among selected schools.

AGE: - According to the age participant, it indicates that 25% belong to the age 11- 12years, 38.3% belongs to the age 13-14years, 35% belong to the age of 15-16years, 1.7% belong to the age of above 16years.

RELIGION: - According to the religion 56.7% belongs to the Hindu religion, 40% belong to the Muslim religion, 0% belong to the Sikh religion, 3.3% belong to the Christian religion.

OCCUPATION: - According to the occupations of their parents 23.3% are businessman, 16.7% are farmer, 30% were laborers, and 30% are in private jobs.

CLASS: - According to the class of the participants, it indicates that 26.7 % belong to the class 5th, 20% belong to the class 6th, 8.3% belong to the class 7th and 45% belong to the class 8th.

PREVIOUS KNOWLEDGE: -According to the previous knowledge, out of the total respondents, 45% responded affirmatively(yes) and 55% responded(no).

SOURCE OF INFORMATION: - According to the information of the participants 16.7% get from social media, 1.7% get from newspaper, 3.3% get from television and 78.3 % get from other (teaching).

SECTION-B: Frequency and percentage of level of knowledge regarding polycystic ovarian syndrome among selected schools.

The frequency and percentage of nursing students who knew the full form of PCOS. Among 60 participants 73.3% students correctly answered the question while 26.6% students are not aware about the full form of PCOS.

16.7% students heard about PCOS previously from social media while 1.7% heard about it from newspaper, 3.3% from television and 78.3% students had heard about it from teaching.

With regard to the knowledge most of them had inadequate knowledge in pretest and most of them had adequate knowledge in post-test.

- With regard to the effectiveness of structured planned teaching on knowledge regarding Polycystic Ovarian Syndrome among adolescents girls, the mean post-test knowledge score was 0.025 more than the mean pre-test knowledge score was 0.23. The obtained „t“ value was highly significant.

The study revealed that structured planned teaching was effective in improving the level of knowledge regarding Polycystic Ovarian Syndrome.

- With regard to the association between the knowledge with their selected demographic variables in the present study findings revealed that there was a significant association between the knowledge among adolescents girls.

SECTION-C Frequency and percentage distribution of level of knowledge regarding polycystic ovarian syndrome.

In the study it was found that 16.7% participants have good knowledge, 63.3% have average level of knowledge and 20% have poor level of knowledge regarding polycystic ovarian syndrome.

SECTION-D Association between pre test knowledge score of adolescents girls with their selected demographic variables.

The findings of the study show that there is association between demographic variables and the level of knowledge regarding polycystic ovarian syndrome.

ASSUMPTIONS

The study assumes that

- Students may have a little knowledge regarding polycystic ovarian syndrome (pcos)
- Self instructed module will enhance knowledge of adolescents girls regarding polycystic ovarian syndrome (PCOS)

RESEARCH HYPOTHESIS

H1 – There was a significant difference between the pre – post test level of knowledge among the adolescent girls at selected school after administering nursing led intervention program.

H2- There was a significant association between pre-test levels of knowledge regarding polycystic ovarian syndrome among adolescent girls with their selected demographic variables.

CONCEPTUAL FRAMEWORK

The health belief model was adopted for conceptual framework. An in-depth review of literature was done for the study. The instrument used for the study consists of two sections.

SECTION-A-Demographic part

SECTION-B-Questionnaire part

The pre-experimental design with a quantitative approach was used with 60 samples of adolescent's girls, who were selected by using convenient sampling technique.

The study was conducted at Shri Guru Ram Rai School Sahaspur Dehradun, Uttarakhand. Prior permission was obtained from consent authorities of selected school. The data was collected by self-administered, questionnaire technique. The data was analysed by experimental statistics.

SECTION-AA demographic characteristics of the study samples

.Highest percentage of participants(100%) in the group of 12-16 years.

.Highest percentage of participants (100%) were females

.Highest percentage of participants(100%) were school girls.

.Highest percentage of participants(27%) were from class 8th.

.63.3% participants had average level of knowledge regarding PCOS.

SECTION-B Level of knowledge regarding PCOS

The frequency and percentage of nursing students who knew the full form of PCOS. Among 60 participants 73.3% students correctly answered the question while 26.7% students are not aware about the full form of PCOS.

16.7% students heard about PCOS previously from social media while 1.7% heard about it from newspaper, 3.3% from television and 78.3% students had heard about it from teaching.

With regard to the knowledge most of them had inadequate knowledge in pretest and most of them had adequate knowledge in post-test.

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The study revealed that structured planned teaching was effective in improving the level of knowledge regarding Polycystic Ovarian Syndrome.

- With regard to the association between the knowledge with their selected demographic variables in the present study findings revealed that there was a significant association between the knowledge among adolescents girls.

SECTION-C Frequency and percentage distribution of level of knowledge regarding polycystic ovarian syndrome.

In the study it was found that 16.7% participants have good knowledge, 63.3% have average level of knowledge and 20% have poor level of knowledge regarding polycystic ovarian syndrome.

SECTION-D Association between pre test knowledge score of adolescents girls with their selected demographic variables.

The findings of the study show that there is association between demographic variables and the level of knowledge regarding polycystic ovarian syndrome.

NURSING IMPELICATION

The implication of the study result has been discussed below:

NURSING PRACTICE

The nurses can

- Learn accurate assessment of level of knowledge by using Self administered questionnaire.
- Structured planned teaching can be incorporated in nursing as specific health education measures to teach about Polycystic Ovarian Syndrome among nursing students
- The nursing personnel can be able to develop specific knowledge and skill in providing health education regarding Polycystic Ovarian Syndrome among adolescent girls.

NURSING EDUCATION

- The Structured planned teaching can be taught to all the nursing students to upgrade their knowledge on Polycystic Ovarian Syndrome among adolescent girls.
- The Structured planned teaching can be taught to nursing students posted in gynecological department to provide health education.

NURSING ADMINISTRATION

- In service education program can be organized for the nurses on polycystic ovarian syndrome.
- The nurse can become an effective coordinator and leader by arranging the health education program at various settings.

NURSING RESEARCH

- Findings of the study can be added to the research review regarding the effectiveness of Structured planned teaching regarding polycystic ovarian syndrome to increased knowledge among adolescent girls.
- The study findings can be used as the baseline data and further studies can be conducted and expand the study in various fields.

NURSING ADMINISTRATION

The special implication of nursing administrator are that they should pay attention towards implementing innovative and evidence based practices, procedures and facilitate adequate knowledge.

LIMITATIONS

1. The study assesses the level of knowledge regarding polycystic ovarian syndrome.
2. The study findings could be generalized only to that population which fulfilled the study criteria.
3. Small samplesize.
4. Structured knowledge questionnaire used for data collection restrict the amount of information that can be obtained for the sample.

To overcome the limitations some recommendations are suggested.

RECOMMENDATIONS

- The same study can be replicated on large sample to generalize the findings among the students and adolescents girls.
- The same study can be conducted in different settings.
- Nursing curriculum should be updated to include comprehensive information about PCOS to improve the awareness of other women once in practice.
- A similar study can be conducted by assessing the knowledge and attitude regarding polycystic ovarian syndrome among adolescent's girls with large sample.

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“We walk by faith, not by sight”

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Neelam Chaudhary

Sonam Parveen

Mohd Khalid

Anjali Kashyap

Suhail

Nishant Paul

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ANNEXURE

DIMS DOON INSTITUTE OF MEDICAL SCIENCES
(UNIT OF SMT. POORNA DEVI MEMORIAL TRUST)

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Ref: 151 /DIMS FN/ 2024-25 Date: 03/12/2024

LETTER SEEKING PERMISSION FOR CONDUCTING PILOT STUDY

From
Anjali Kashyap, Mahima Daniel, Mohd Khalid,
Noelam Chaudhary, Nishant Paul, Sonam Parveen, Suhail
DIMS, Faculty of Nursing
Sahaspur, Dehradun

To,
The Principal
Rajkiya Kanya Pathshala
Sahaspur, Dehradun

Respected sir /madam,

With due respect we are students of B. Sc. Nursing 4th year of Doon Institute Of Medical Sciences, Faculty of Nursing, Shankarpur, Sahaspur. We are going to conduct a pilot study of our research project as a part of partial fulfillment of our bachelor degree course.

Topic:
"A pre experimental study to assess the effectiveness of nursing led intervention in terms of knowledge regarding early detection and prevention of polycystic ovarian syndrome among adolescent girls at selected schools."

We humbly request you to kindly grant us permission to undertake this research project at Rajkiya Kanya Pathshala Sahaspur, Dehradun. We shall be highly obliged to you.

Thanking You

Signature.....
Date.....

Handwritten note: "Permission granted on 5/11/24 at 1:30 PM"

Handwritten signature: Archana Masih

Prof. (Mrs.) Archana Masih
Principal
DIMS, Faculty of Nursing
Dehradun

DIMS
The Doon Institute of Medical Sciences

DOON INSTITUTE OF MEDICAL SCIENCES
FACULTY OF NURSING
(Unit of Smt. Poorna Devi Memorial Trust)
Vill - Shankarpur(Hukumatpur), Block -Sahaspur, Teh.-Vikasnagar, Dist.-Dehradun Pin-248197

Ref. No. 489/DIMS/2024-25 Date: 12/12/2024

LETTER SEEKING PERMISSION FOR CONDUCTING FINAL STUDY

From:-
Anjali Kashyap, Mahima Daniel, Mohd. Khalid,
Neelam Chaudhary, Nishant Paul, Sonam Parveen, Suhail
Faculty of Nursing, DIMS, Shankarpur, Sahaspur, Dehradun

To,
The principal
Shri Guru Ram Rai Inter College
Sahaspur, Dehradun

Respected sir /madam,
With due respect we are the students of B. Sc. Nursing 4th year of Doon Institute of Medical Sciences, Shankarpur, Sahaspur want to state that we are going to conduct a final study of our research project as a part of partial fulfillment of our bachelor degree course.

On Topic:-
"A pre experimental study to assess the effectiveness of nursing led intervention in terms of knowledge regarding early detection and prevention of polycystic ovarian syndrome among adolescent girls at selected schools."

We humbly request to you kindly grant us permission to undertake this research project at Shri Guru Ram Rai Inter College Sahaspur, Dehradun. We shall be obliged to you if you could permit us to carry out this final study.

Thanking you
Regards

Signature [Signature]
Date 12/12/2024
श्री गुरु राम राय इंटर कॉलेज
साहासपुर, देहरादून

[Signature]
Prof. (Mrs.) Archana Masih
Principal Cum Professor
Faculty of Nursing, DIMS
Sahaspur, Shankarpur

CERTIFICATE OF TOOL VALIDATION

This is to certify that the tool planned by Sonam Parveen, Mahima Daniel, Neelam Chaudhary, Mohd. Khalid, Anjali Kaabiyap, Nishant Paul and Suhail the students of BSC Nursing 4th year, from DOON INSTITUTE OF MEDICAL SCIENCES, Shankarpur, Sahaspur, Dehradun is validated by the under signed and they can proceed with this tool for conducting the main study on "A pre experimental study to assess the effectiveness of nursing led intervention in terms of knowledge regarding early detection and prevention of polycystic ovarian syndrome among adolescent girls at selected schools."


Signature of the expert:

Seal:

Name: Dr. Rosaline - A

Designation: Professor

Name of the college: SGRRV, College of Nsg

Date: 2/12/24

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Signature of the expert: Rebecca

Seal:

Name: Ms Rebecca Preeti Bahadur

Designation: Associate Professor

Name of the college: SGRKV, SGRKM & HS,
College of Nursing, Patel Nagar,

Date: 2/12/2024 Dehradun, Uttarakhand

CERTIFICATE OF TOOL VALIDATION

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Signature of the expert:



Seal:

Name:

DR. Shweta Gupta

Designation:

Associate prof.

Department of Paediatric & Shri Raje

Name of the college:

Doon Institute of Medical Sciences

Date:

17/12/2024

CERTIFICATE OF TOOL VALIDATION

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Signature of the expert: A. Panchal

Seal:

Name: Ms. Annu Panchal

Designation: Associate Professor

Name of the college: DIMS, Faculty of Nursing

Date: 03/11/2024

CERTIFICATE OF TOOL VALIDATION

This is to certify that the tool planned by Sonam Parveen, Mahima Daniel, Neelam Chaudhary, Mohd. Khalid, Arjali Kashyap, Nishant Paul and Suhail the students of BSC Nursing 4th year, from DOON INSTITUTE OF MEDICAL SCIENCES, Shankarpur, Sahaspur, Dehradun is validated by the under signed and they can proceed with this tool for conducting the main study on "A pre experimental study to assess the effectiveness of nursing led intervention in terms of knowledge regarding early detection and prevention of polycystic ovarian syndrome among adolescent girls at selected schools."

Signature of the expert: 

Seat:

Name: MS. MANSI FRANKLIN

Designation: NURSING TUTOR

Name of the college: DIMS, Shankarpur, Sahaspur.

Date: 08/10/2024

List of Validators

1. Dr.Roseline. A

Associate professor SGRRU,college of nursing Patel nagar, Dehradun

2. Ms.Rebbecca Priti Bahadur

Associate professor SGRRU,college of nursing Patel nagar, Dehradun

3. Dr.Shweta Gupta

Associate professor

Doon institute of medical sciences Shankarpur, Dehradun

4. Ms. Annu Panchal

Associate professor Dims,faculty of nursing Shankarpur, Dehradun

5. Ms. Mansi Franklin

Dims,faculty of nursing Shankarpur, Dehradun

Section – A

DEMOGRAPHIC VARIABLE

1. **Age**
 - a) 11-12year
 - b) 13-14year
 - c) 15-16year
 - d) Above16 years
- 2 **Religion**
 - a) Hindu
 - b) Muslim
 - c) Sikh
 - d) Christian
3. **Occupation**
 - a) Businessmen
 - b) Farmer
 - c) Labour
 - d) Private job
4. **Class**
 - a) Class5th
 - b) Class6th
 - c) Class7th
 - d) Class8th
5. **Previousknowledge**
 - a) Yes
 - b) No
6. **Sourceof information**
 - a) socialmedia
 - b) News paper
 - c) Television
 - d) Others(teaching)

SECTION-B

SELF STRUCTURED QUESTIONNAIRE

1. **What is the fullform of PCOS?**
 - a) Polycystic ovarian syndrome.
 - b) Precancerous ovarian syndrome.
 - c) Postcancer ovarysyndrome
 - d) Postcycle ovulation symptoms

2. **What is the PCOS?**
 - a) Respiratory syndrome
 - b) Mental condition
 - c) Ovarian syndrome
 - d) Down syndrome

3. **PCOS is caused by?**
 - a) Irregular heartbeat
 - b) Ovarian cysts
 - c) Hormonal changes
 - d) Dehydration

4. **Which of the following is a possible cause of PCOS?**
 - a) Viral infection
 - b) Genetic factor
 - c) Nutritional deficiency
 - d) Excessive exercise

5. **Does PCOS affect only obese women?**
 - a) Yes
 - b) No

6. **Is there any possibility of pregnancy if women are suffering from PCOs?**
 - a) Yes
 - b) No

7. **Which type of hormones is usually elevated in PCOS?**
 - a) Estrogen
 - b) Insulin
 - c) Androgens
 - d) Cortical

8) How do androgens affect ovarian function in PCOS?

- a) They enhance ovulation
- b) They inhibit follicle development
- c) They decrease estrogen production
- d) They stabilize menstrual cycle

9) What is the primary role of androgens in women with PCOS?

- a) Regulating menstrual cycle
- b) Symptoms like hirsutism and acne
- c) Increasing insulin sensitivity
- d) Promoting ovulation

10) What is hirsutism?

- a) Hairloss on the scalp
- b) Oily skin
- c) Acne formation
- d) Excess hair growth on the body and face.

11. Which is a common emotional challenge faced by women with PCOS?

- a) Increased self esteem
- b) Depression and anxiety
- c) Reduced stress level
- d) Improved mood stability

12. Which type of skin disease is often associated with PCOS?

- a) Eczema
- b) Acne
- c) Psoriasis
- d) Rosacea

13) Which of the following menstrual irregularities can indicate PCOS?

- a) Consistently short cycle
- b) Absence of periods (Amenorrhea)
- c) Regular ovulation
- d) Consistently long cycle

14. Do people with PCOS always develop cyst?

- a) Yes
- b) No

15. At which age is PCOS usually diagnosed?

- a) Before puberty
- b) Between 15-44 years
- c) After menopause
- d) Both (b) and (c)

16. Which test is commonly used to diagnose PCOS?

- a) USG and blood test
- b) Blood pressure test and blood test
- c) ECG and X-ray

d) X-ray and MRI

17. Which life style changes often recommended for managing PCOS?

- a) Increase sugar intake
- b) High fat diet
- c) Skipping meals
- d) Regular exercise

18. What is the common treatment for managing PCOS symptoms?

- a) Antibiotics
- b) Anti depression
- c) Birth control pills
- d) Pain relievers

19. What is the primary goal of treatment for PCOS?

- a) Cure the syndrome
- b) Manage symptoms and reduce long term risk
- c) Eliminate all hormonal treatments
- d) Ensure pregnancy

20. Which of the following is the potential complication of PCOS?

- a) High blood pressure and osteoporosis and infertility
- b) Asthma and migraine
- c) Osteoporosis and epilepsy
- d) Infertility and tonsillitis

ANSWER KEYS

Question no.	Answer key	Marks
1	A	1
2	C	1
3	C	1
4	B	1
5	B	1
6	B	1
7	C	1
8	B	1
9	B	1
10	D	1
11	B	1
12	B	1
13	B	1
14	B	1
15	B	1
16	A	1
17	D	1
18	C	1
19	B	1
20	A	1

S.no	Age	Religion	Occupation	Class	Previous knowledge	Source of information
1	C	A	D	D	A	D
2	B	B	C	D	A	D
3	B	B	C	D	B	D
4	C	A	D	D	B	D
5	C	B	D	D	B	D
6	B	A	D	D	B	D
7	B	A	D	B	A	D
8	B	A	C	B	B	D
9	A	B	C	A	A	D
10	A	A	D	B	B	C
11	A	A	C	A	A	D
12	C	A	B	D	A	D
13	C	A	A	D	B	D
14	A	A	D	A	A	D
15	A	A	C	A	A	D
16	A	B	B	A	A	D
17	A	A	B	A	B	A
18	A	A	D	A	B	D
19	B	D	D	A	B	A
20	B	B	C	B	A	D
21	C	A	A	D	B	D
22	B	B	C	A	A	B
23	C	A	D	D	B	A
24	C	D	A	D	B	A
25	B	B	A	D	B	A
26	B	B	A	D	B	D
27	B	B	A	D	B	D
28	B	A	A	B	B	D
29	B	A	D	B	B	D

30	A	A	D	B	B	D
31	B	B	C	D	A	D
32	C	A	B	C	A	D
33	C	A	D	D	A	D
34	C	B	C	D	A	D
35	A	A	D	B	B	D
36	A	A	B	B	B	D
37	C	B	C	D	B	D
38	C	A	D	D	A	A
39	B	B	C	C	A	D
40	B	B	D	C	A	D
41	A	A	B	C	A	D
42	C	A	A	D	A	A
43	D	A	D	B	A	A
44	B	B	C	D	B	D
45	C	A	C	D	A	D
46	A	A	A	A	B	A
47	B	A	C	D	B	D
48	C	A	D	B	B	D
49	B	B	B	D	B	A
50	B	B	B	A	A	D
51	B	B	C	D	B	C
52	C	B	A	D	B	D
53	C	B	C	D	B	D
54	A	B	B	B	B	D
55	C	A	A	D	A	D
56	C	A	B	D	A	D
57	C	B	A	D	B	D
58	B	A	A	D	B	D
59	A	A	C	C	A	D
60	B	B	A	D	A	D

S.No	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	TOTAL
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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26	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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29	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

