

A STUDY TO ASSESS THE EFFECTIVENESS OF INFORMATION
EDUCATION COMMUNATION ON KNOWLEDGE REGARDING
POLYCYSTIC OVARIAN SYNDROME AMONG ADOLESCENT
GIRLS IN A SELECTED COLLEGE AT THENI



COIMBATORE

A DISSERTATION SUBMITTED TO THE TAMILNADU
Dr. M.G.R. MEDICAL UNIVERSITY, CHENNAI IN PARTIAL
FULFILMENT OF REQUIREMENT FOR THE DEGREE OF
MASTER OF SCIENCE IN NURSING

OCTOBER 2017

A STUDY TO ASSESS THE EFFECTIVENESS OF INFORMATION
EDUCATION COMMUNICATION REGARDING POLYCYSTIC
OVARIAN SYNDROME AMONG ADOLESCENT GIRLS IN A
SELECTED COLLEGE AT THENI

BY

ANJANA DEVI.G

A DISSERTATION SUBMITTED TO THE TAMILNADU
Dr. M.G.R. MEDICAL UNIVERSITY, CHENNAI IN PARTIAL
FULFILMENT OF REQUIREMENT FOR THE DEGREE OF
MASTER OF SCIENCE IN NURSING

OCTOBER 2017

A STUDY TO ASSESS THE EFFECTIVENESS OF INFORMATION
EDUCATION COMMUNICATION REGARDING POLYCYSTIC OVARIAN
SYNDROME AMONG ADOLESCENT GIRLS IN

A SELECTED COLLEGE AT THENI

APPROVED BY THE DISSERTATION COMMITTEE ON.....

RESEARCH GUIDE.....

PROF. SELVAKUMARI, MA., Ph.D.,
PROFESSOR IN RESEARCH METHODS,
ANNAI MEENAKSHI COLLEGE OF NURSING,
COIMBATORE.

CLINICAL GUIDE.....

Mrs. M. MUMTAZ M.Sc(N)., MBA (HM)., MPhil (WS).,
PRINCIPAL,
ANNAI MEENAKSHI COLLEGE OF NURSING,
COIMBATORE.

MEDICAL EXPERT.....

Dr. R. THILAGAVATHY, M. B. B. S., D. G. O.,
SENIOR CIVIL SURGEON,
GOVERNMENT HEAD QUARTERS HOSPITAL,
PERIYAKULAM, THENI.

A DISSERTATION SUBMITTED TO THE TAMILNADU
Dr. M. G. R. MEDICAL UNIVERSITY, CHENNAI, IN PARTIAL
FULFILMENT OF REQUIREMENT FOR THE DEGREE OF
MASTER OF SCIENCE IN NURSING
OCTOBER 2017

VIVA VOICE:

1. INTERNAL EXAMINER.....
2. EXTERNAL EXAMINER.....

CERTIFIED THAT THIS IS THE BONAFIDE WORK OF

ANJANA DEVI.G

ANNAI MEENAKSHI COLLEGE OF NURSING,

COIMBATORE.

SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENT

FOR THE DEGREE OF MASTER OF SCIENCE IN NURSING

TO THE TAMILNADU Dr. M.G.R. MEDICAL

UNIVERSITY, CHENNAI

COLLEGE SEAL:

Prof. Mrs. M. MUMTAZ, M.Sc(N)., MBA (HM)., MPhil (WS).,

PRINCIPAL,

ANNAI MEENAKSHI COLLEGE OF NURSING,

COIMBATORE,

TAMILNADU.

DEDICATION

I dedicate my dissertation work to my family.
A special feeling of gratitude to my lovable parents

GANESAN.P and VIJAYALAKSHMI.G

Whose words of encouragement and push for

tenacity ring in my ears.

I also dedicate this dissertation to my lovable husband

SIVALINGASAMY.A and my lovable baby

KAVINAYA.S

ACKNOWLEDGEMENT

I wish to acknowledge my heartfelt gratitude to the **Lord Almighty** for all the wisdom, knowledge, guidance, strength, protection, shield, and support. He has offered me throughout this endeavor and given me courage to overcome the difficulties and thus complete this study successfully.

I honestly express my sincere gratitude to all the study participants who extended their co-operation throughout my study period.

I express my sincere thanks to **Mr. A. KARUPPAIAH, D.Pharm**, correspondent of our college, for giving me an opportunity to study in this esteem institution.

“Things do not turn up in this world until somebody turns them up” I express my sincere respectful and wholehearted gratitude to our principal and my clinical guide **Prof. Mrs. M. MUMTAZ M.sc (N), MBA (HM), M.Phil (WS)**, for her constant support encouragement and guidance in my all endeavors. It is my great honor and privilege to complete this study under her guidance and motivation and support.

An excellent teacher is a complex matrix of builder, artist, leader and harvester. I would like to express my immense gratitude and whole hearted thanks to **Prof Mrs. S. BALAMANI, Msc (N)** Vice principal cum class co-ordinator, for her

insisting support, constructive suggestion and immense encouragement which enabled me to reach my objective. I consider it as a great honour and privilege to have completed my study under her supervision.

I proudly express my sincere thanks to Research Guide **Dr. Mrs. S. SELVAKUMARI MA, M.Phil, Ph.D.,** for her patience and time in checking and rechecking the manuscripts and for sharing his suggestions and constructive criticisms, which meant so much for the completion of the study.

I wish to thank my Medical Guide **Dr. R. THILAGAVATHY, M.B.B.S., D.G.O.,** Senior civil surgeon for her kind consent to the most difficult task of my performance and her expert guidance, valuable suggestions, and constructive criticisms, which meant so much for the study.

My grateful thank to **Mr. DURAIKANNU, Ms.c., M.Phil.,** Vice principal , Kammavar sangam college of arts and science, Theni for permitting to conduct this study.

My sincere thanks to **Dr. ANNASAMY, Ph.D.,** for his support and valuable suggestions in statistical analysis.

I fail on my duty if I forget to be faithful to my teachers **Mrs. K. KOGHILA M.Sc(N), Mrs. S. P. BABEE M.Sc(N), Mrs. M. SARANYA M.Sc(N), Mrs. K. MULLAIKODI M.Sc(N), Mrs. M. NITHYA MS.c(N), Ms.B.RAMYABHARATHI M.Sc(N), Ms.B.UDAYAJAYANTHI,**

Mr.P.V.RUBIN ANTONY, Mrs.F.SUGANTHAKUMARI, Ms.M.ASWATHY and Mr.TITUS FERNANDEZ for their scholarly guidance, valuable suggestions, precise advice, inspiration and encouragement which made the study purposeful.

My special thanks to all the experts those who validated this study content and research tool.

I express my grateful thanks to the Librarian **Mrs. SULOCHANA, M.L.ISc** for her assistance and literature review and extending library facility.

I honestly express my sincere gratitude to all the study participants who extended their co-operation throughout my study period.

I wish to express my thanks and appreciation to **Mr.VENKATESH**, Green Park internet cafe for computing the manuscript clearly, legibly and effectively in a short span of time.

My vocabulary fall short of right word to express my immense debts to my dear HUSBAND **Mr. SIVALINGASAMY.A** and all my family members for their constant prayer, love, sacrifice, encouragement and support during the course of my thesis work.

ABSTRACT

INTRODUCTION : Polycystic Ovarian Syndrome is the most common endocrine disorder among women between the age of 18-44. It affects approximately 2% to 20% of this age group. It is one the leading endocrine disease which affects one in 15 women in worldwide. The main aim of the present study was to evaluate the effectiveness of Information Education and Communication regarding Polycystic Ovarian Syndrome among adolescent girls.

STATEMENT OF THE PROBLEM : A study to assess the effectiveness of Information Education and Communication (IEC) on knowledge regarding Polycystic Ovarian Syndrome among adolescent girls in a selected college at Theni.

OBJECTIVES :

- To assess the level of knowledge regarding Polycystic Ovarian Syndrome among adolescent girls.
- To administer the Information Education and Communication regarding Polycystic Ovarian Syndrome.
- To determine the effectiveness of Information Education Communication on the level of knowledge regarding Polycystic Ovarian Syndrome among adolescent girls.
- To find out association between post test level of knowledge regarding Polycystic Ovarian Syndrome among adolescent girls and their selected demographic variables.

DESIGN : A quantitative approach using pre-experimental one group pre-test post-test design.

PARTICIPANTS : 60 adolescent girls was selected using non probability convenient sampling in Kammavar College of Arts and Sciences at Theni.

TOOLS : Structured multiple choice questionnaire on demographic variables and knowledge regarding Polycystic Ovarian Syndrome, are used for data collection.

INTERVENTION : Information Education and Communication on Polycystic Ovarian Syndrome was given for 45 minutes on the second day.

RESULT : After the Information Education and Communication, Majority of 86.7% of the adolescent girls had adequate knowledge, moderate Knowledge observed on the 11.7% from adolescent girls and only 1.7% had inadequate knowledge. Analysis used paired 't'test found significant value at $p < 0.01$ level.

CONCLUSION : This study finding conclude that Information Education and Communication was effective in improving knowledge regarding Polycystic Ovarian Syndrome among adolescent girls.

Keywords : assess, effectiveness, Information, Education, Communication, knowledge, Polycystic Ovarian Syndrome.

TABLE OF CONTENTS

CHAPTER NO.	CONTENTS	PAGE NO.
I	INTRODUCTION <ul style="list-style-type: none"> ➤ Background of the Study ➤ Need for the Study ➤ Statement of the Problem ➤ Objective of the Study ➤ Hypotheses ➤ Operational Definitions ➤ Assumptions ➤ Delimitations ➤ Projected Outcome 	 1 4 8 8 9 9 10 10 10
II	REVIEW OF LITERATURE <ul style="list-style-type: none"> ➤ Studies related to polycystic ovarian syndrome. ➤ Studies related to knowledge regarding PCOS ➤ Studies related to effectiveness of Educational programme on level of knowledge regarding PCOD ➤ Studies related to effectiveness of Information Education and Communication Package. ➤ CONCEPTUAL FRAMEWORK 	 13 15 18 21 24

(Cont.,)

CHAPTER NO.	CONTENTS	PAGE NO.
III	<p data-bbox="459 230 890 259">RESEARCH METHODOLOGY</p> <ul style="list-style-type: none"> <li data-bbox="512 302 1337 331">➤ Research Approach 28 <li data-bbox="512 376 1337 405">➤ Research Design 28 <li data-bbox="512 450 1337 479">➤ Variables <ul style="list-style-type: none"> <li data-bbox="560 524 1337 553">• Independent Variables 31 <li data-bbox="560 598 1337 627">• Dependent Variables 31 <li data-bbox="560 672 1337 701">• Extraneous Variables 31 <li data-bbox="512 745 1337 775">➤ Setting of the Study 31 <li data-bbox="512 819 1337 848">➤ Population 31 <li data-bbox="512 893 1337 922">➤ Sample and Sample Size 32 <li data-bbox="512 967 1337 996">➤ Criteria for Sample Selection <ul style="list-style-type: none"> <li data-bbox="608 1041 1337 1070">• Inclusion Criteria 32 <li data-bbox="608 1115 1337 1144">• Exclusion Criteria 32 <li data-bbox="512 1189 1337 1218">➤ Sampling Technique 32 <li data-bbox="512 1263 1337 1292">➤ Development of the Instrument 33 <li data-bbox="512 1337 1337 1366">➤ Description of the Tool 33 <li data-bbox="512 1411 1337 1440">➤ Scoring Procedure 34 <li data-bbox="512 1485 1337 1592">➤ Intervention on Information Education and Communication 34 <li data-bbox="512 1637 1337 1666">➤ Validity and Reliability 35 <li data-bbox="512 1711 1337 1740">➤ Pilot Study 35 <li data-bbox="512 1785 1337 1814">➤ Data Collection Procedure 36 	

(Cont.,)

CHAPTER NO.	CONTENTS	PAGE NO.
	➤ Plan for Data Analysis	36
	➤ Protection of Human Rights	36
IV	DATA ANALYSIS AND INTERPRETATION	37
V	DISCUSSION	55
VI	SUMMARY, CONCLUSION AND RECOMMENDATIONS	
	➤ Summary of the Study	59
	➤ Major Findings of the Study	61
	➤ Conclusion	61
	➤ Implications of the Study	
	• Nursing Practice	62
	• Nursing Education	62
	• Nursing Administration	63
	• Nursing Research	63
	➤ Limitation	63
	➤ Recommendations	63
	REFERENCES	
	APPENDICES	

LIST OF TABLES

TABLE NO.	TITLE	PAGE NO.
1	Frequency and Percentage Distribution of adolescent girls According to their Demographic Variables.	39
2	Frequency and Percentage Distribution of Pre-test and Post-test level of knowledge among adolescent girls.	44
3	Mean, Standard Deviation, Mean Difference and 't' Value of Pre-test and Post-test level of knowledge among Adolescent girls.	46
4	Frequency, Percentage Distribution and χ^2 Value of Post-test level of knowledge among Adolescent girls with their Selected Demographic Variables.	49

LIST OF FIGURES

TABLE NO.	TITLE	PAGE NO.
1	Conceptual Frame work based on Modified Ludwig Von Bertalanffy's open system theory (1968).	27
2	The Schematic Representation of Research Methodology.	30
3	Frequency and Percentage Distribution of Pre-test and Post-test Level of knowledge regarding polycystic ovarian syndrome among adolescent girls.	45
4	Mean, Standard deviation, Mean difference, and 't' value of Pre-test and Post-test Level of knowledge regarding polycystic ovarian syndrome among adolescent girls.	48

LIST OF APPENDICES

APPENDIX	TITLE
A	Letter Seeking and Granting Permission to Conduct the Study
B	Letter Requesting the Opinion of Experts on Content Validity of the Tool.
C	Certificate of tool Validation.
D	List of Experts Consulted for Content Validity.
E	Letter Seeking Consent of Subjects for Participation in the Study (English).
F	The structured multiple choice questionnaire (English) <div style="margin-left: 40px;">Section A: Demographic Variables.</div> <div style="margin-left: 40px;">Section B: Structured multiple choice questionnaires.</div>
G	Scoring key answer for knowledge questionnaires.
H	Evaluation Criteria Checklist for Validation of Tool. <ul style="list-style-type: none"> • Section A: Demographic Variables • Section B: Structured multiple choice questionnaire
I	Evaluation Criteria Checklist for Validation of Information Education Communication on Polycystic Ovarian Syndrome.
J	Information Education Communication (English).
K	Photos – Information Education Communication on Polycystic Ovarian Syndrome.

CHAPTER -I

INTRODUCTION

**“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”**

- Jim Rohn

Polycystic Ovarian Syndrome is the most common endocrine disorder among women between the age between 18-44. 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% (3) and about 50% are overweight.

The term Polycystic Ovarian Disease was first described by Irving stein and Micheal Leventhal as a Triad of ‘Amenorrhoea’, ‘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 ‘Hyper androgenic Anovulation’ and is the most common endocrine ovarian disorder affecting approximately 2-8% women of reproductive age. Now a day’s, it is also referred to as the ‘Syndrome O’ i.e. over nourishment, overproduction of insulin, ovarian confusion and ovulatory disscruption.

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 skin. Associated conditions include type 2 diabetes, obesity , obstructive sleep apnea, heart disease, mood disorders, endometrial cancer, hypertension, dyslipidemia, hyperinsulinaemia, 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.

The main 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 valproate has 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, weekend immune system, environmental factors, 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 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 effects 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 aetiology 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 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 anovulatory cycles, obesity, and acne are frequent in adolescent women. The incidence of PCOS among adolescents is estimated to be between 11 and 26% (3) 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

“Every human being is the author of his own health and disease”

Sri Buddha

Adolescents form a large section of population of India, about 22.5%. Adolescent girls have to be focused more as it is a period of rapid physical growth, sexual, physiological, and psychological changes. Habits and behaviour picked up during adolescence have life long impact.

Polycystic Ovarian Syndrome is common health problem which increase among adolescent girls and young women during their reproductive years. It is a problem in which a woman's hormones are out of balance leading to menstrual disturbance as well as multiple abnormal cysts in enlarged ovaries, so they do not produce the normal number of eggs and normal ovulation which leads to difficulty of getting pregnant. If it is not treated over time, it can lead to serious health problems such as diabetes and heart disease.

According to a study by PCOS 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.

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 teen 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 2007-08,

showing a severe fast increase of cases of PCOD among college girls in an alarming rate.

A study conducted by the department of endocrinology and metabolism, AIIMS, shows that about 20-25 per cent of Indian women of childbearing age are suffering from PCOS. While 60 per cent of women with PCOS are obese, 35-50 per cent have a fatty liver. About 70 per cent have insulin resistance, 60-70 per cent have high level of androgen and 40-60 per cent have glucose intolerance.

About 6 to 10% of girls gets affected by PCOD and are even not aware of their presence. In a prospective study of 400 women of reproductive age, 4% to 4.7% of white women and 3.4% of African American women had PCOS. A similar rate of 4% to 6% has been found in other populations.

A comprehensive community-based study among 3443 adolescent girls (15-18 years) done to find out the prevalence of PCOS from 10 schools, Trivandrum. Among them, 339 girls are with the symptoms of PCOS and they were under-nourished (37.6%), normal weight (51.2%), overweight (8.6%) and obese (2.6%). Lack of awareness and lifestyle changes are considered to be the major factor leading to this phenomena.

A retrospective study done in 58 preadolescent and adolescent girls to study the age at diagnosis of PCOS and to compare risk factors involved in causing PCOS highlighted that PCOS may occur at a younger age in girls who develop early

pubarche and thelarche. Therefore, the diagnosis and workup should be considered in young girls with risk factors suggestive of PCOS.

PCOS affects between 8% and 20% of reproductive-age women worldwide. Because there is no universal definition of PCOS, the exact number of women in the United States with PCOS is unknown, but is thought to be approximately 5 million. Most women are diagnosed during their twenties or thirties, but PCOS may affect girls as young as 11 who haven't even had their first period.

U.S. Scientists reported that the prevalence of Polycystic Ovarian Syndrome may be as high as 11.2% in girls of reproductive years. Among this group, adolescent girls make up a large part, perhaps as high as 50% of young girls suffer with polycystic ovarian disease (PCOD).

PCOS is the most common endocrinologic disorders during adolescence, so there is always a need to investigate all new relevant data. Early recognition and prompt treatment of PCOS in adolescents is important to prevent long term complications. From all the above studies the researcher found that adolescent girls have to obtain adequate knowledge regarding PCOS because they are future mothers and they are the one to make the new generation.

Lack of knowledge and the negative lifestyle attitude towards polycystic ovarian disease among college girls and not taking any measures to improve their lifestyles is observed by the investigator that these college girls can be helped by

assessing their knowledge and with a view to change their lifestyle by providing necessary information.

The researcher has a pivotal role in creating awareness among adolescent girls about how to identify the symptoms and modification to be brought in order to prevent further complications of PCOS. Hence the researcher felt that information education and communication package will be an effective teaching strategy to impart knowledge of adolescent girls regarding polycystic ovarian syndrome.

STATEMENT OF THE PROBLEM :

A study to assess the Effectiveness of Information Education Communication on knowledge regarding Polycystic Ovarian Syndrome among adolescent girls in a selected college at Theni.

OBJECTIVES :

The objectives of the study were

- To assess the level of knowledge regarding Polycystic Ovarian Syndrome among adolescent girls.
- To administer the Information Education and Communication regarding Polycystic Ovarian Syndrome.
- To determine the effectiveness of Information Education Communication on the level of knowledge regarding Polycystic Ovarian Syndrome among adolescent girls.

- To find out association between post test level of knowledge regarding Polycystic Ovarian Syndrome among adolescent girls and their selected demographic variables.

HYPOTHESIS

- H1 : There is a significant difference in the level of knowledge regarding polycystic ovarian syndrome between pre-test and post-test scores.
- H2: There is a significant association between post-test level of knowledge regarding polycystic ovarian syndrome among adolescent girls and their selected demographic variables.

OPERATIONAL DEFINITIONS

Assess

Evaluate the level of knowledge among adolescents girls of selected college, regarding PCOS before and after Information Education and Communication using structured knowledge questionnaire.

Effectiveness

Effectiveness refers to the knowledge scores after administration of Information Education Communication regarding Polycystic Ovarian Syndrome among adolescent girls.

Information Education Communication

Information Education Communication refers to administration of the planned instructional module to the adolescent girls regarding Polycystic Ovarian Syndrome.

Knowledge

It refers to the response of adolescent girls regarding Polycystic Ovarian Syndrome by structured multiple choice questionnaire in terms of knowledge scores.

Polycystic Ovarian Syndrome

It refers to the hormonal imbalance which causes irregular menstrual periods, obesity, unwanted or excess hair growth and acne.

Adolescent Girls

Girls with age group of 18 to 20 years and studying in Kammavar College of Arts and Science at Theni.

ASSUMPTIONS

- ❖ Adolescent girls possess some knowledge regarding Polycystic Ovarian Syndrome.
- ❖ Proper knowledge regarding polycystic ovarian reduces the risk of getting Polycystic Ovarian Syndrome among adolescent girls.
- ❖ Information Education and Communication will help to improve the level of knowledge regarding Polycystic Ovarian Syndrome.

DELIMITATIONS

- ❖ The study is delimited to a selected college at Theni.
- ❖ The data collection period was delimited to period of 6 weeks.
- ❖ The age group is limited to 18 -20 years of girls.

PROJECTED OUTCOMES

- ❖ The findings of the study will help the nurses to assess the level of knowledge regarding PCOS among adolescent girls using structured multiple choice questionnaire.
- ❖ The Information Education and Communication will help to increase the level of knowledge regarding Polycystic Ovarian Syndrome among adolescent girls to improve the quality of life.
- ❖ Gaining adequate knowledge will help to modify their life style.

CHAPTER II

REVIEW OF LITERATURE

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”**

[Polit 1978]

Literature was reviewed and organized under the following headings :

- Studies related to Polycystic Ovarian Syndrome.
- Studies related to knowledge of Polycystic Ovarian Syndrome among adolescent girls.
- Studies related to effectiveness of Education Programme on level of knowledge regarding Polycystic Ovarian Syndrome.
- Studies related to effectiveness of information education and communication package.

STUDIES RELATED TO POLYCYSTIC OVARIAN SYNDROME

Nitin Joseph, Aditya G.R.Reddy, Divya Joy, Vishakha patel, (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.

Dr. Kalavathi, D. Biradar, Dr. Amrita N Shanmanrwadi (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.

Beena Joshi, Srabani 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.

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, Tamilnadu. The study revealed that 18% of the participants were confirmed of having PCOS. The study concluded that participants diagnosed with PCOS was higher among urban participants in comparison to rural participants.

Pratik Kumar Chatterjee, P. Prasanna Mithra, Raghul Pal (2014) conducted a cross sectional study to find out the epidemiological correlation among 100 patients with PCOS women in Karnataka. The study revealed that there was significant differences in blood groups along with their age and BMI, diabetes family history were also considered. The study concluded that early screening help for better management prevention of further complications.

Samar Musmar, Asma Afanch, Hafsa Moalla, (2013) conducted a cross sectional study to assess the prevalence of polycystic ovarian syndrome among 137 female age group between 18-24 years in Nablus city in the north of west Bank. The study revealed that prevalence of PCOS was 7.3%, Acne was the only studied risk factor among other to be statistically related PCOS patients. Clinical hirsutism was found in 27% of participants, 70% of whom had idiopathic hirsutism. The study concluded that prevalence of PCOS in Palestine seems to be relatively high but similar to other Mediterranean statistics.

Shawna B Christensen, MS, Mary Helen Black, MS, PhD, Ning Smith, MS, PhD, Maryia M, (2013) conducted a cross sectional study to assess the

prevalence of polycystic ovarian syndrome in adolescents in Southern California. The study revealed that the prevalence of a confirmed diagnosis of PCOS was 0.5% and increased to 1.14% when undiagnosed cases. The study concluded that overweight and obesity were associated with higher odds of PCOS in adolescents.

Renoto pasquali, Elisabet stener-victorin Bulent o, Yildiz, Antoni J, (2011) conducted to summarize promising areas of investigation into polycystic ovary syndrome and to stimulate further research in this area. The study revealed that potential areas of further research activity include the analysis of predisposing conditions that increase the risk of PCOS, particularly genetic background and environmental factors such as endocrine disruptors and lifestyle. The study concluded that there are several intriguing areas for future research in PCOS. A potential limitation of our reviews is that we focused selectively on areas we viewed as the most controversial.

STUDIES RELATED TO KNOWLEDGE REGARDING POLYCYSTIC OVARIAN SYNDROME AMONG ADOLESCENT GIRLS

Amal Alessa, Dalal Alied, Sara Almutairi, etc.all (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 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.

Sunanada 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 were recruited through purposive

sampling method with the sample size of 100 who were visited gynaecological 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 intensity 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.

Manita Dalal , Dr. Mrs. Molly Babu, Mrs. Sharda Rastogi, (2014), conducted a exploratory survey design to assess the knowledge and practice of women with polycystic ovarian syndrome among 275 women of 12-14 years age group women in New Delhi. The study revealed that prevalence of PCOS among women attended gynec OPD of Safdarjung Hospital was found to be 10.09%. The knowledge of the women with PCOS regarding PCOS and its management was found to be inadequate with mean score of 12.1 out of 33. The study concluded that was developed for women with Polycystic Ovarian Syndrome.

STUDIES RELATED TO EFFECTIVENESS OF EDUCATIONAL PROGRAMME ON LEVEL OF KNOWLEDGE REGARDING POLYCYSTIC OVARIAN SYNDROME

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 programme 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 programme 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 programme 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 programme. The study concluded that planned teaching programme is effective in improving the knowledge and attitude of adolescent girls.

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.

Sr.Anto Suji, Mrs. Reeta Jeba kumara, Dr. Nalini Jeyavanth santh(2016), conducted a pre experimental non equivalent control group pretest-posttest design to assess the effectiveness of video assisted teaching programme related to PCOS among 100 adolescent girls age group between 15-18 yrs in Madurai, Tamilnadu. The study revealed that 78% of adolescent girls in experimental group and 76% of adolescent girls in control group had inadequate level of knowledge in pretest. After having video assisted teaching programme in posttest 60% of adolescent girls gained adequate knowledge in experimental group. So out of 39 adolescent girls who had inadequate knowledge in pretest were reduced into only four girls in posttest. The study concluded that video teaching programme had an effect in improving the knowledge of adolescent girls related to PCOS.

B.Tamilarasi, V.Vathana, (2016) conducted a pre experimental one group pre-test post-test design done to assess the effectiveness of structured teaching programme on knowledge regarding polycystic ovarian syndrome among 30 adolescent girls in Chennai, Tamilnadu. The study revealed that the mean level of knowledge was 11 with standard deviation of 3.549 in pretest and 17.5 with standard deviation of 4.88 in post test there was a statistically high significant difference with paried 't' value of 8.45. The study concluded that there was an increase in the level of knowledge after providing structured teaching programme based on statistical findings.

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 different 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.

Nimo Biam, Bhuvaneshwari.P, (2015), conducted a quasi experimental design to find out the pretest and posttest knowledge of engineering students regarding PCOS among 50 engineering students design in Mumbai. The study revealed that the knowledge improvement mean score was 12-64 and standard deviation is 2.48 and paired 't' test value is 24.3. There is a significant effectiveness of self instructional module of knowledge on PCOS. The study concluded that planned teaching programme on knowledge regarding PCOS was found to be effective.

Mrs.Sinmayee Kumari Devi, Ms.kalpana Badhei, (2015), a quasi experimental study to assess the knowledge among 50 mothers of newborn at capital hospital, Bhubaneswar, Odisha. The study revealed that the mother had poor knowledge regarding care of newborn on prevention of hypothermia in pre test. In post test mother had excellent knowledge. The study concluded that STP was the best teaching strategy in imparting knowledge on prevention of neonatal hypothermia.

Hadayat, A Amasha, Manar F Heeba (2014) conducted a quasi experimental study on evaluation of effectiveness of educating programme regarding PCOS among 50 nurses in port said city. The study revealed that the nurses lack of knowledge about PCOS and there is a statistically significant difference in the pre-test and post-test score. The study also recommended the need for the staff development program to increase maternity nurses at level of knowledge related to PCOS.

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

Atiqulla Shariff, Gulam saidunnisa Begum, Ghufran Ayman, Bana Mohammed, Ragha Housam, Neura Khaled, (2013) conducted a quasi experimental study to assess the effectiveness of structured education programme among 244 students. The study revealed that the knowledge of participants was improved through structured education programme that can play a vital role in prevention and early diagnosis of PCOS.

STUDIES RELATED TO EFFECTIVENESS OF INFORMATION EDUCATION AND COMMUNICATION PACKAGE

Hepsiba Beula Rajam. T (2016) conducted a quantitative study to evaluate effectiveness of Information Education and Communication on knowledge regarding management of dialysis among 60 patients with chronic renal failure at Theni. The

study revealed that 25 had inadequate knowledge and 5 had moderately adequate in pre-test. In post-test 28 had adequate knowledge and 2 had moderately adequate knowledge. The study concluded that information education and communication was effective in improving knowledge.

Joslin Jose, (2015), conducted a quantitative study to evaluate the effectiveness of IEC on knowledge regarding assertive behavior for child abuse among 60 children in Thrissur. The study revealed that the pre-test knowledge lower than the post-test knowledge. The study concluded that IEC was effective in improving the knowledge of children regarding assertive behavior for child abuse.

Benila G.T. (2014) conducted a pre experimental study to evaluate the effectiveness of information education and communication on knowledge regarding vasectomy among 60 young adults in Coimbatore. The study revealed that, in pre-test 34 of young adults had inadequate knowledge and 16 had moderately adequate knowledge 10 had adequate knowledge. In post-test 9 had moderately adequate kind 51 had adequate knowledge. In post test score level of knowledge score was 16.4, standard deviation was 2.2, mean difference was 7.7. The obtained 't' value is 18.4. It was significant that $p < 0.05$ level. The study concluded that IEC was effective in improving knowledge regarding vasectomy.

Jenila, P (2013) conducted a quantitative pre experimental study to evaluate the effectiveness of IEC on awareness regarding child abuse among 60 mothers in Coimbatore. The study revealed that the post-test awareness higher than the pre-test. In post test mean score were 32, standard deviation 2.76. The calculated

mean difference was 21.2. The paired 't' value was 37.45, which was statistically significant at $p < 0.01$ level. The study concluded that IEC was effective in improving the mother's awareness regarding child abuse.

CONCEPTUAL FRAME WORK

GENERAL SYSTEMS THEORY LUDWIG VON BERTALANFFY (1968)

Polit and Hungler (1995) states that a “conceptual frame work is the interrelated concepts or abstractions that are assembled together in the relevance to the common theme. It is a device that helps to stimulate research and extension of knowledge by providing both directions and impetus”.

The present study aims to assess the effectiveness of Information Education and Communication on knowledge regarding Polycystic Ovarian Syndrome among adolescent girls. The conceptual frame work for this study was based on Modified Ludwig Von Bertalanffy’s open system theory (1968).

A system is set of interacting parts or components with in a boundary that interact among various components to achieve the goal. A system can be individual, families, communities. The fundamental component of system are matter, energy and communication without any one of these component, system does not exist. The system continuously monitors self and the environment for information to guide its own operation.

There are two types of system

A closed system

A closed system does no exchange energy, matter or information with its environment. It receives no input from environment and gives no output to the environment.

A open system

Energy, matter and information move into and out of the system through the system boundary. All living systems such as plants, animals, people, families, and communities are open system, since their survival depends on a continuous exchange of energy. They are therefore, in a constant state of change. For its functioning an open system depends on the quality and the quantity of its input, output and feedback.

In the present study the concepts can be interpreted as follows,

Open system

In the present study individual is considered as open system.

Input

The information that enters into the system from the environment through its boundaries.

In this present study input is the assessment of knowledge regarding Polycystic Ovarian Syndrome among adolescent girls by using multiple choice questionnaire with a effect of demographic variables and the Information Education and Communication.

Through put

It is the operation phase. It is the process that allows the input to be changed as output in such a way that it can be readily used by the system.

In this study during the activity phase the investigator administer Information Education and Communication.

Output

It is any information continuously processed through the system and enters the environment through system boundaries.

Output is improvement in level of knowledge, which is reassessed by using same multiple choice questionnaire, after 7days of IEC.

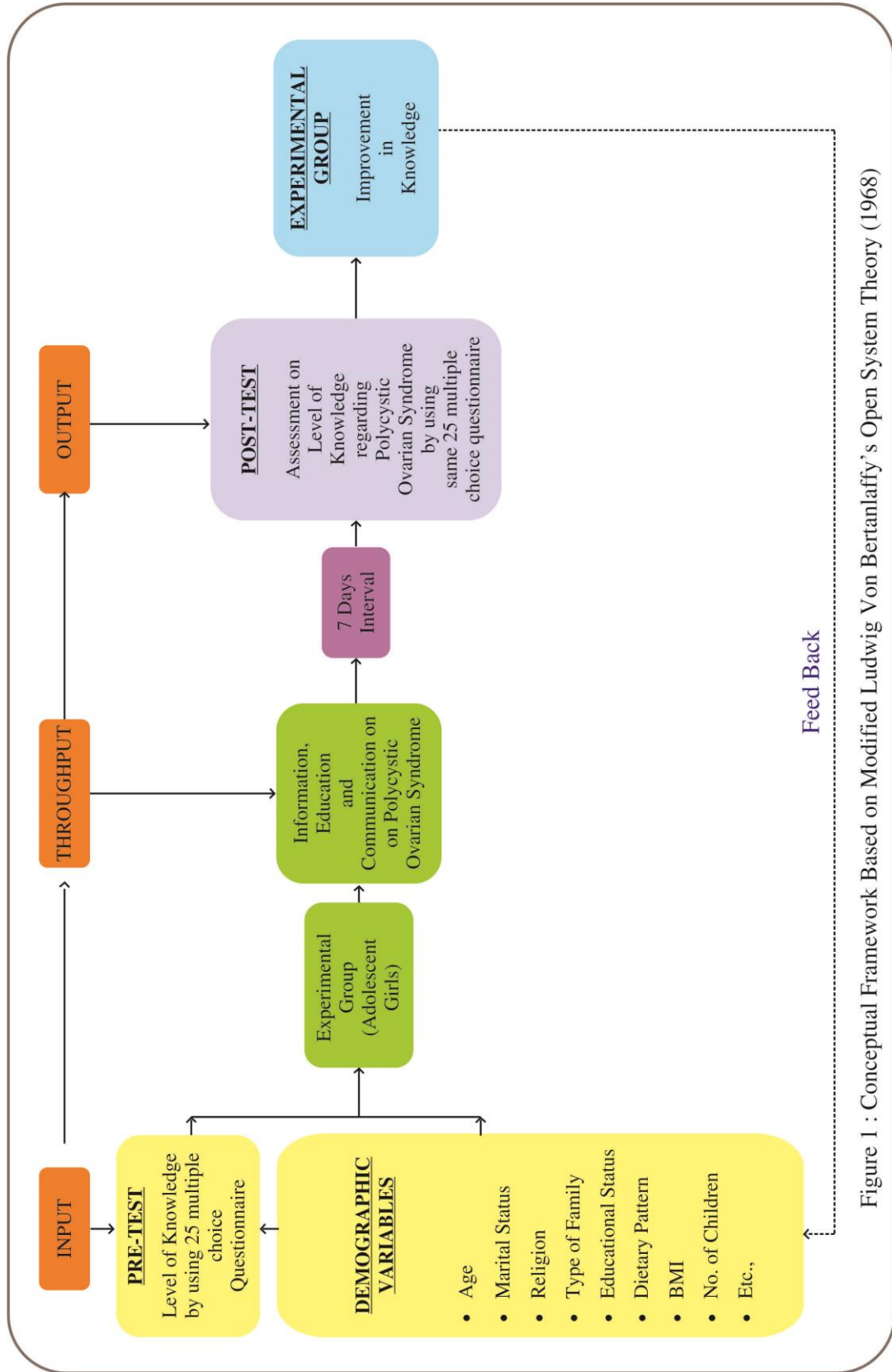


Figure 1 : Conceptual Framework Based on Modified Ludwig Von Bertalanffy's Open System Theory (1968)

CHAPTER III

METHODOLOGY

According to Sharma research methodology involves the systematic procedure by which the researcher starts from initial identification of the problem to its final conclusion. The role of methodology consists of procedures and techniques for conducting the study.

This chapter deals with the research approach, research design, setting of the study population, criteria for the selection of sample, sample size, sampling techniques instrument, data collection and data analysis. This also describes the pilot study.

Research Approach

Polit and Hungler (2004) defined the as “a general set of orderly discipline procedures used to acquire information”.

In this study quantitative evaluative research approach was used to assess the effectiveness of Information Education Communication on level of knowledge regarding Polycystic Ovarian Syndrome among adolescent girls.

Research Design

Nancy burns, Susan.K.Groove (2005), defined research design as “a blue print for conducting the study that maximizes control over the validity of the findings.

The research design guides the researcher in planning and implementing the study in a way that is most likely to achieve the intended goal.

Pre-experimental one group pretest post test design without control group was selected for the pretest study to assess the effectiveness of Information Education Communication of Polycystic Ovarian Syndrome on level of knowledge among adolescent girls.

The diagrammatic representation of research design is given below

Group	Day 1	Day 7
Experimental	01 X	02

Keys:

01 = Pre test knowledge regarding Polycystic

Ovarian Syndrome.

X =Intervention Information Education Communication regarding Polycystic Ovarian Syndrome.

02 = Post test knowledge regarding Polycystic Ovarian Syndrome on 7th day.

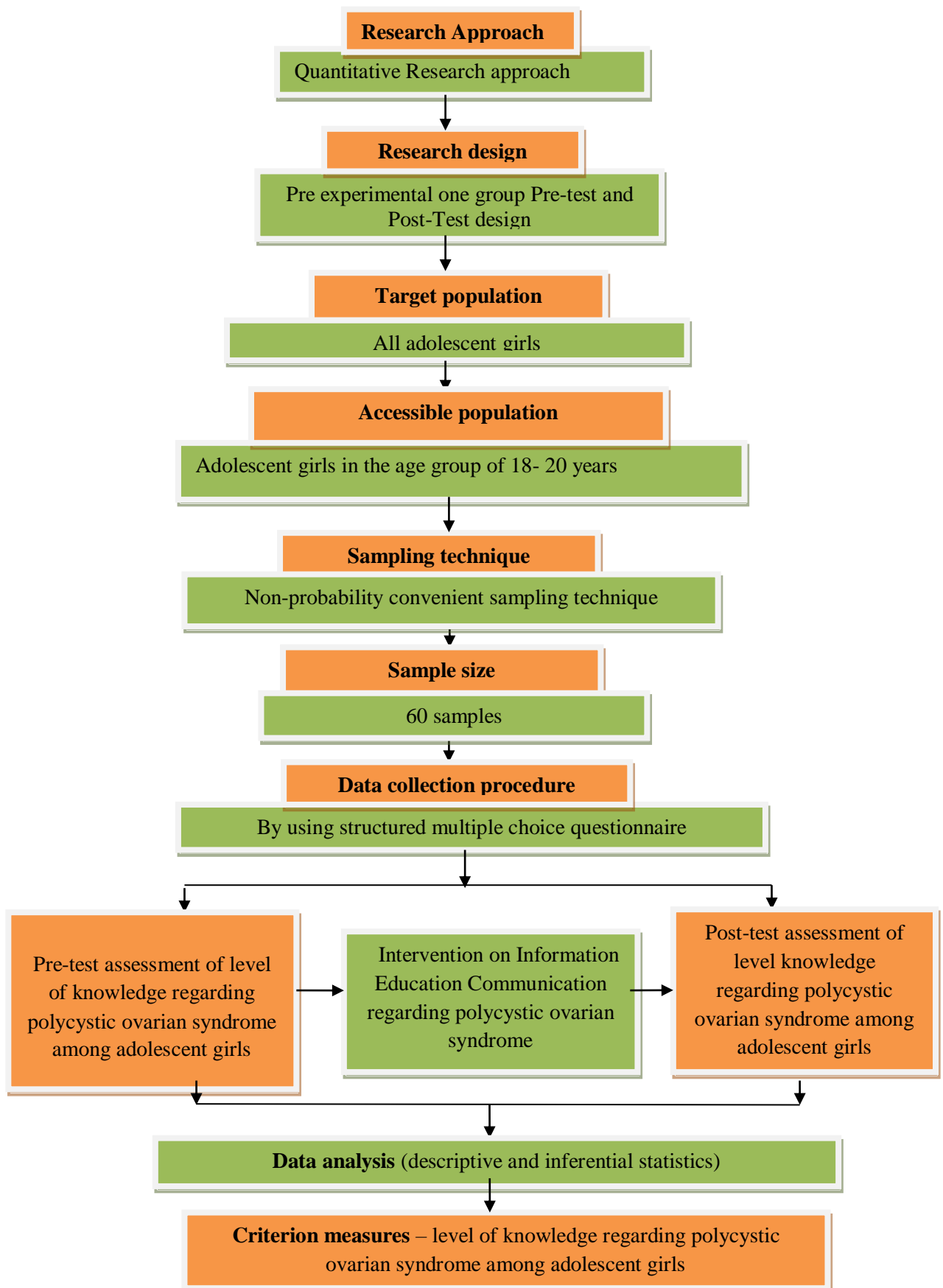


Figure 1: The Schematic Representation of Research Methodology.

Variables

Polit and Hungler (2013) defined the variables as “an attribute of a person or object that varies, that is, taken on different values”.

Dependent Variables : Level of knowledge regarding Polycystic Ovarian Syndrome:

Independent Variables: Information Education and Communication (IEC) regarding Polycystic Ovarian Syndrome.

Extraneous Variables : Age, Religion, Marital status, Types of family, Educational status, Dietary pattern, Menstrual cycle, BMI, Number of children, any associated disease, History of taking junk foods, Amount of water intake per day, Prevalence of menstrual disorder, Source of information regarding PCOS, Intake of non vegetarian foods.

Setting of the Study

The study was conducted in Kamavar College of Arts and Sciences at Theni, which is located at Theni district in Tamilnadu.

Population

According to Polit and Hungler(2005), “A population is the entire aggregation of cases in which a researcher is interested”.

Target population selected for this study was all the adolescent girls aged between the age group of 18-20 years. Accessible population selected for this study includes adolescent girls in Kamavar College of Arts and Sciences at Theni.

Sample and sample size

Polit and Hungler,(2005) stated that “sample consists of a subset of population selected to participate in a research study.

The sample of this study was 60 adolescent girls between the age group of 18-20 years.

Criteria for sample selection

Inclusion criteria

- Adolescent girls who are aged between 18-20 years.
- Adolescent girls who are willing to participate in the study.
- Adolescent girls who are present during the data collection period.
- Adolescent girls who can able to read and write English.

Exclusion criteria

- The study is delimited to selected college in Theni.
- The study is delimited to the adolescent girls.

Sampling technique

Polit and Hungler(1991) stated that “sampling technique is a process of selecting the portion of the population”.

Non- probability convenient sampling technique was used in this study

Development of Tool

Treece and Treece (1960), emphasized that “the instrument selected in research should be as far as possible be the vehicle that would best obtain data for drawing conclusion”.

The investigator developed the tool after an extensive review of literature and experts opinion. The structured multiple choice questionnaire were developed to assess the level of knowledge regarding Polycystic Ovarian Syndrome.

Description of the Tool

It consists of two sections.

Section A

It contains data related to demographic variables of adolescent girls such as age in years, marital status, religion, types of family, educational status, dietary pattern, menstrual cycle, BMI, number of children, etc.,

Section B

It consists of structured multiple choice knowledge questionnaire to assess the level of knowledge regarding Polycystic Ovarian syndrome among adolescent girls. which includes 25 multiple choice questions to assess knowledge regarding anatomy and function of ovary, definition, risk factors, signs and symptoms, diagnosis, management, prevention, complication, effects of polycystic ovarian syndrome in pregnancy.

Scoring Procedure

Section II

Each correct answer carried out 'one' mark and wrong answer carried out 'zero' mark. The total maximum score was '25' and minimum score was '0'. The scores are categorized as following

SCORE	LEVEL OF KNOWLEDGE
0-10	Inadequate knowledge
11-20	Moderately adequate knowledge
21-25	Adequately knowledge

Information Education Communication Package

Information Education Communication package was developed by investigator after an extensive review of literature and experts opinion. The Information Education Communication (IEC) package held for 40 minutes duration comprised of overall objectives, content, teacher-learner activities, summary, conclusion. The content of the Information Education and Communication which include anatomy and function of ovary, definition, risk factors, signs and symptoms, diagnostic method, management, prevention, complication, effects of polycystic ovarian syndrome in pregnancy. The method of teaching adopted was lecture cum discussion in English Medium, Liquid Crystal Display (LCD) Projector was used as Audio Visual Aid.

Content Validity

According to Burns and Grave,(2005) “the validity of an instruments is the determination of the extent to which the instrument reflect the abstract content that is being examined.

The content validity of the tools was evaluated by five nursing experts and two medical experts. Nursing experts were from obstetrical gyneacological nursing and medical experts were from gyneacologist. Based on their suggestion, all modification were carried out accordingly on the clarity of the sentence and the relevance of the content.

Reliability

According to Polit and Hungler,(2005), reliability is defined as “the degree of consistency or dependability with which an instrument measures the attribute it is designed to measure”.

The reliability of the tools was tested by test-retest method. The result was 0.88, which indicate an acceptable reliability of the tools.

Pilot Study

Polit and Beck (2004) denote that “Pilot study is a small scale version or trial run done in preparation of a major study”.

Pilot study was conducted on 10 adolescent girls in order to test the present study tools for its validity, clarity, applicability, and it was found to be feasible.

Data Collection Procedure

Prior to data collection permission was obtained from vice principal, Kammavar college of Arts and Sciences at Theni. In this study 60 adolescent girls were involved. On day 1, before giving structured multiple choice questionnaire, the purpose of the study was explained to the adolescent girls with self introduction. Pre test questionnaire were given to the sample and they took 15-20 minutes for answering it. On day 3 Information Education and Communication Package on Polycystic Ovarian Syndrome was given for 45 minutes through LCD. On 7th day the same questionnaire was provided to the samples and were asked them to answer, they took 10-15 minutes to complete the questionnaire.

Plan for Data Analysis

The demographic variables were analyzed by using descriptive measures (frequency and percentage). The effectiveness of IEC on level of knowledge among adolescent girls was analyzed by using paired 't' test. The association between level of knowledge and the selected demographic variables were assessed by chi-square test.

Protection of Human Rights

All official permissions to carry out the study were secured from pertinent authorities. All students were informed about the important and aim of this study. Oral consent was obtained from all the participants. All students were informed that their participation is voluntary and their rights to withdraw at any time, and confidentiality of the information obtained. Also the students were informed that the collected data would be used only for the purpose of the present study, as well as for their benefit.

CHAPTER IV

DATA ANALYSIS AND INTERPRETATION

This chapter deals with the analysis and interpretation of the collected data from 60 adolescent girls to assess the effectiveness of Information Education Communication on level of level of knowledge regarding Polycystic Ovarian Syndrome among adolescent girls. The purpose of analysis was to reduce the data to a manageable and interpretable form, so that the research problem can be studied and tested.

Kerlinger (1986) has defined analysis as “the categorizing, reducing, manipulating and summarizing of data to obtain assures to research hypothesis questions”.

The analysis and interpretation of data of this study are based on data collected by using through structured interview method from the elderly with insomnia. The results were computed by using descriptive and inferential statistics.

John Tukey (1961) has defined interpretation as “examining the results from data analysis, forming conclusions, considering implication for nursing, exploring significance of the finding and suggesting the study”.

The study findings are presented in sections as follows:

- Section I : Data on demographic variables of adolescent girls.
- Section II : Data on assessment of level of knowledge among adolescent girls.
- Section III : Data on effectiveness of Information Education Communication on level of knowledge regarding Polycystic Ovarian Syndrome among adolescent girls.
- Section IV : Data on association between the post-test level of knowledge among adolescent girls with their selected demographic variables.

SECTION I : DATA ON DEMOGRAPHIC VARIABLES OF
ADOLESCENT GIRLS.

Table: 1

Frequency and Percentage Distribution of adolescent girls in according to their
Demographic variables.

N=60

S. No.	Demographic Variables	Frequency (f)	Percentage (%)
1	Age (in years)		
	a)18-19	36	60
	b)20-21	24	40
	c)Above 20	0	0
2	Marital status		
	a)Unmarried	48	80
	b)Married	12	20
	c)widow	0	0
	d)Divorced	0	0
3	Religion		
	a)Hindu	32	53
	b)Christian	12	20
	c)Muslim	16	27
	d)Others	0	0
4	Types of family		
	a)Joint family	17	29
	b)Nuclear family	43	71

(Cont.,)

S. No.	Demographic Variables	Frequency (f)	Percentage (%)
5	Educational status		
	a)No formal education	0	0
	b)Primary	0	0
	c)Secondary	0	0
	d)Higher education	0	0
	e)Graduate	60	100
6	Dietary pattern		
	a)Vegetarian	21	35
	b)Non vegetarian	39	65
7	Menstrual cycle		
	a)Regular cycle	41	68
	b)Irregular cycle	19	32
8	BMI		
	a)18-21	27	45
	b)22-25	11	18
	c)26-29	12	20
	d)Above 30	10	17
9	Number of Children		
	a)One	6	10
	b)Two	0	0
	c)None	54	90
10	Do you have any associated disease		
	a)Yes	21	35
	b)No	39	65

S. No.	Demographic Variables	Frequency (f)	Percentage (%)
11	Do you like junk food		
	a)Yes	51	85
	b)No	9	15
12	Amount of water intake per day		
	a)500 – 1000ml	6	10
	b)1000 – 2000ml	41	68
	c)> 2000ml	13	22
13	Do you have any menstrual disorder		
	a)Yes	29	48
	b)No	31	52
14	Source of Information		
	a)Health Personal	12	20
	b)Parents	0	0
	c)Teacher	5	8
	d)Mass media	32	54
	e)No information	11	18
15	How many times you have taken non vegetarian		
	a)Weekly once	29	48
	b)Weekly twice	20	34
	c)> twice in a week	11	18

Table 1.1 reveals that regarding age, majority of adolescent girls 36 (60%) were in the age group of 18-19 years, 24(40%) were in the age group of 20-21 years , 0(0%) were in the age group of above 21 years.

With regard to marital status, majority of adolescent girls 48 (80%) were unmarried, 12(20%) married, 0(0%) were widow, 0(0%) were divorced.

Regarding religion, majority of adolescent girls 32 (53%) were Hindu and 12 (20%) were Muslim and 16(27%) were Christian.

Regarding types of family, majority of adolescent girls 17 (29%) were joint family, 43(71%) were nuclear family.

With regards to educational status, all this adolescent girls 60(100%) are Graduate.

Regarding dietary pattern, majority of adolescent girls 21(35%) are vegetarian, 39(65%) are non vegetarian.

With regards to menstrual cycle, majority of adolescent girls 41(68%) had regular cycle, 19(32%) had irregular cycle.

Regarding BMI, majority of adolescent girls 27(45%) were 18-21, 11(18%) were 22-25, 12(20%) were 26-29, 10(17%) were above 30.

With regards to number of children, majority of adolescent girls 6(10%) had one child, 54 (90%) were not having children.

Regarding presence of any associated disease related to menstrual problem, majority of adolescent girls 21(35%) had associated disease, 39 (65%) of girls did not have any associated disease.

With regards to junk food, majority of adolescent girls like junk foods 51(85%), 9(15%) of girls do not like junk foods.

Regarding amount of water intake per day, Majority of adolescent girls 6(10%) drink 500-1000ml, 41(68%) drink 1000-2000ml, 13(22%) drink >2000ml.

With regards to presence of any menstrual disorders of adolescent girls 29(48%) has menstrual disorder, 31(52%) do not have any menstrual disorder.

Regarding source information about Polycystic Ovarian Syndrome, majority of adolescent girls 12(20%) got health personal, 5(8%) from teacher, 32(54%), from mass media, 11(18%) do not had any information regarding Polycystic Ovarian Syndrome.

With regards to frequency of intake of non vegetarian foods, majority of adolescent girls 29(48%) had weekly one, 20(34%) had weekly twice, 11(18%) had more than twice in a week.

SECTION II : DATA ON ASSESSMENT OF LEVEL OF
KNOWLEDGE AMONG ADOLESCENT GIRLS

Table 2
Frequency and Percentage Distribution of
Pre-Test and Post-Test Level of knowledge Among Adolescent Girls

N=60

SNO	Level of knowledge	Pre-test		Post-test	
		Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
1	Inadequate knowledge	52	86.6	1	1.7
2	Moderate knowledge	8	13.3	7	11.7
3	Adequate knowledge	0	0	52	86.7
	Total	60	100	60	100

Table 2.1: reveals that among 60 adolescent girls, most of them 52 (86.7%) had inadequate knowledge, 8 (13.3%) had moderate knowledge, no one had adequate knowledge in pre-test and 52(86.7%) had adequate knowledge, 7(11.7%) had moderate knowledge, 1(1.7%) had inadequate knowledge in post-test.

It was inferred that, most of the adolescent girls had inadequate and moderate knowledge in pre-test and most of the adolescent girls had adequate knowledge in post-test.

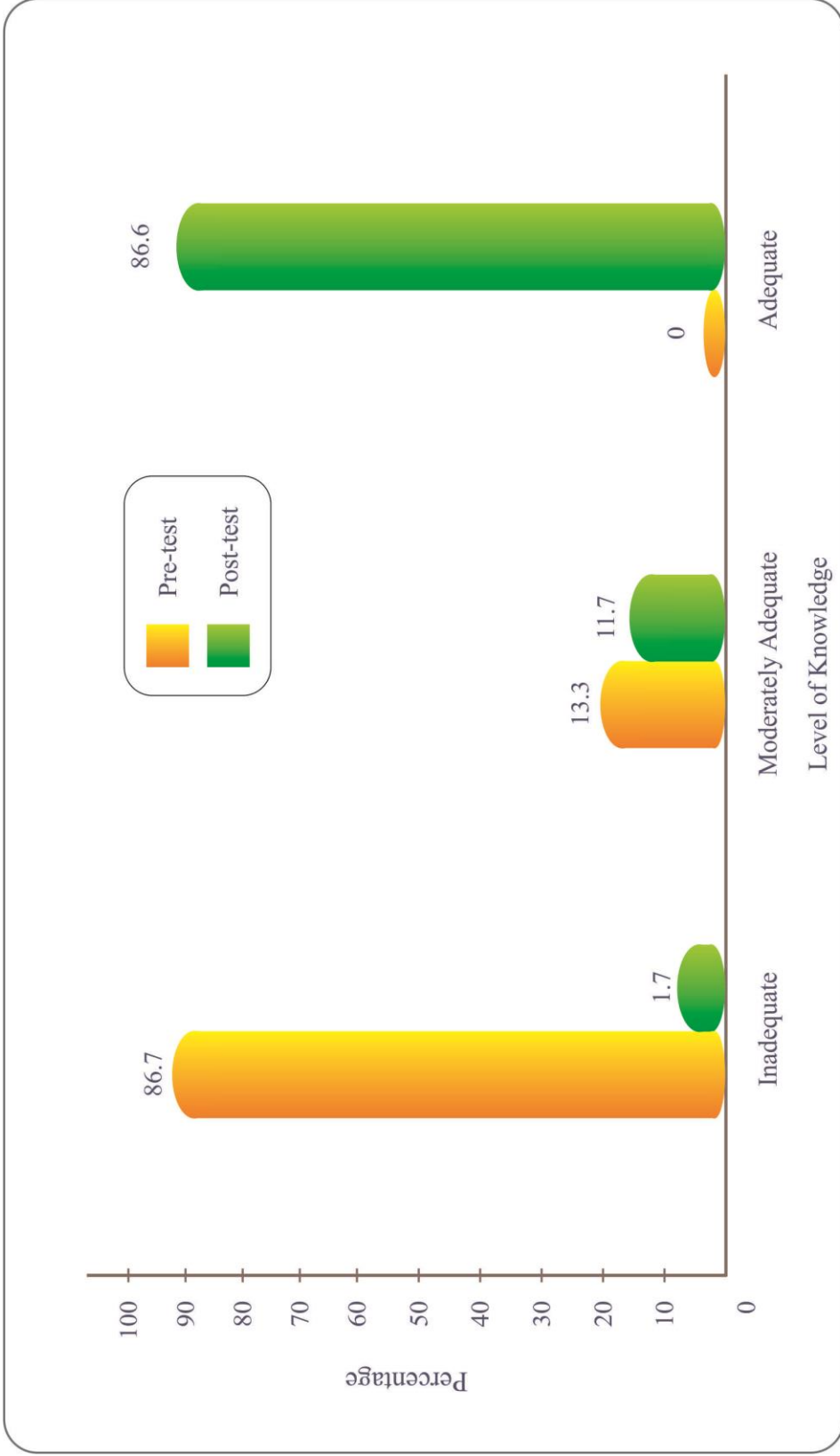


Fig 3 : Frequency and Percentage Distribution of Pre-Test and Post-Test Level of knowledge Among Adolescent Girls.

SECTION III: DATA ON EFFECTIVENESS OF INFORMATION
EDCATION COMMUNICATION ON LEVEL OF
KNOWLEDGE REGARDING POLYCYSTIC
OVARIAN SYNDROME AMONG
ADOLESCENT GIRLS

Table 3

Mean, Standard Deviation, Mean Difference and 't' Value of Pre-Test and Post-Test
Level of Knowledge among Adolescent Girls.

N=60

S. No.	Level of Knowledge	Mean	Standard Deviation	Mean Difference	't' Value
1	Pre-test	6.8	3.4	14.8	56.5*
2	Post-test	21.3	3		

* - Significant at P < 0.05 level

Table: 3 reveals that among adolescent girls, the mean pre-test score was 6.8 with the standard deviation 3.4 and post-test score was 21.3 with the standard deviation 3. The mean difference was 14.8. The obtained 't' value 56.5 was statistically significant at p<0.05 level.

Hence the stated hypothesis (H₁) was accepted. It was inferred that the mean post-test level of knowledge score was more than the pre-test level of knowledge

score. There is a significant difference between the mean pre and post-test level of knowledge among adolescent girls. Thus Information Education Communication regarding polycystic ovarian syndrome was proven to be effective on the level of knowledge among adolescent girls.

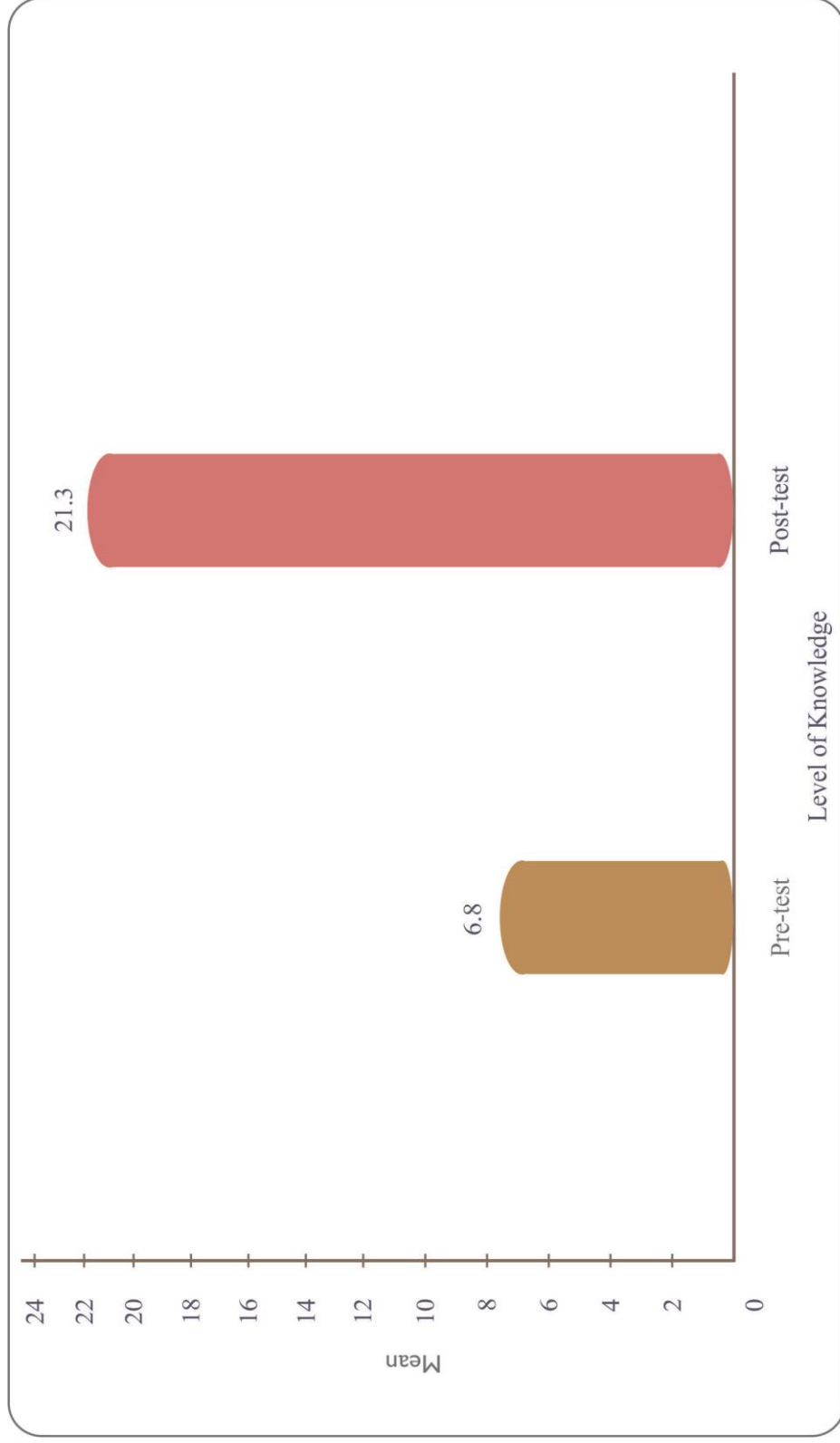


Fig 4 : Mean, Standard Deviation, Mean Difference and 't' Value of Pre-Test and Post-Test Level of Knowledge among Adolescent Girls.

SECTION IV: DATA ON ASSOCIATION BETWEEN THE POST-TEST LEVEL OF KNOWLEDE AMONG ADOLESCENT GIRLS WITH THEIR SELECTED DEMOGRAPHIC VARIABLES.

Table 4

Frequency, Percentage Distribution and χ^2 Value of Post-test Level of knowledge Among Adolescent girls with their Selected Demographic Variables

N = 60

S. No.	Demographic Variables	Level of knowledge						χ^2 Value
		Inadequate		Moderate		Adequate		
		f	%	f	%	f	%	
1	Age (in years)							
	a)18-19	1	2	3	5	32	53	1.55 ^{NS}
	b)20-21	0	0	4	7	20	33	Df-4
	c)Above 20	0	0	0	0	0	0	
2	Marital status							
	a)Unmarried	0	0	5	9	43	71	4.6 ^{NS}
	b)Married	1	2	2	3	9	15	Df-6
	c)widow	0	0	0	0	0	0	
	d)Divorced	0	0	0	0	0	0	
3	Religion							
	a)Hindu	1	2	7	12	24	40	8.25 ^{NS}
	b)Christian	0	0	0	0	12	20	Df-6
	c)Muslim	0	0	0	0	16	26	
	d)Others	0	0	0	0	0	0	

(Cont.,)

S. No	Demographic Variables	Level of knowledge						χ^2 Value
		Inadequate		Moderate		Adequate		
		f	%	f	%	f	%	
4	Types of family							4.16 ^{NS} Df-2
	a)Joint family		0	3	5	14	23	
	b)Nuclear family		2	4	7	38	63	
5	Dietary pattern							1.68 ^{NS} Df-4
	a)Vegetarian	1	2	2	3	18	30	
	b)Non vegetarian	0	0	0	0	0	0	
	c)Mixed	0	0	5	9	34	56	
6	Menstrual cycle							3.26 ^{NS} Df-2
	a)Regular cycle	0	0	6	10	35	58	
	b)Irregular cycle	1	2	1	2	17	28	
7	BMI							16.72* Df-6
	a)18-21	0	0	1	2	26	43	
	b)22-25	0	0	3	5	8	13	
	c)26-29	0	0	2	3	10	16	
	d)Above 30	1	2	1	2	8	14	

(Cont.,)

S. No	Demographic Variables	Level of knowledge						X ² Value
		Inadequate		Moderate		Adequate		
		f	%	f	%	f	%	
8	Number of Children							
	a)One	0	0	4	7	2	3	20.5*
	b)Two	0	0	0	0	0	0	Df-4
	c)None	1	2	3	5	50	83	
9	Do you have any associated disease							
	a)Yes	1	2	6	10	14	23	10.6*
	b)No	0	0	1	2	38	63	Df-2
10	Do you like junk food							
	a)Yes	0	0	4	7	47	78	9.83*
	b)No	1	2	3	5	5	8	Df-2
11	Amount of water intake per day							
	a)500 – 1000ml	0	0	2	3	4	7	6.54 ^{NS}
	b)1000 – 2000ml	1	2	2	4	38	63	Df-4
	c)> 2000ml	0	0	3	5	10	16	
12	Do you have any menstrual disorder							
	a)Yes	0	0	6	10	23	38	5.18 ^{NS}
	b)No	1	2	1	2	29	48	Df-2

(Cont.,)

S. No	Demographic Variables	Level of Knowledge						X2 Value
		Inadequate		Moderate		Adequate		
		F	%	F	%	F	%	
13	Source of Information							
	a)Health Person	1	2	2	3	9	15	9.08 ^{NS}
	b) Parents	0	0	0	0	0	0	Df-8
	c)Teacher	0	0	2	3	3	5	
	d)Mass media	0	0	2	4	30	50	
	e)No information	0	0	1	2	10	16	
14	How many times you have taken non vegetarian							
	a)Weekly once	0	0	3	5	26	43	2.8 ^{NS}
	b)Weekly twice	1	2	3	5	16	27	Df-4
	c)> twice in a week	0	0	1	2	10	16	

Table: 4 reveals that, with regard to age group, the obtained χ^2 value 1.55 at the level of df (4) which was not statistically significant at $p < 0.05$ level.

It also shows that, with regard to marital status, the obtained χ^2 value 4.6 at the level of df (6) was not statistically significant at $p < 0.05$ level.

It also reveals that, with regard to religion, the obtained χ^2 value 8.25 at the level of df (6) which was statistically significant at $p < 0.05$ level.

It also reveals that, with regard to types of family, the obtained χ^2 value 4.16 at the level of df (2) which was not statistically significant at $p < 0.05$ level.

It also reveals that, with regard to dietary pattern, the obtained χ^2 value 1.68 at the level of df (4) which was not statistically significant at $p < 0.05$ level.

It also reveals that, with regard to duration menstrual cycle, the obtained χ^2 value 3.26 at the level of df (2) which was not statistically significant at $p < 0.05$ level.

It also reveals that, with regard to BMI, the obtained χ^2 value 16.72 at the level of df (6) which was statistically significant at $p < 0.05$ level.

It also reveals that, with regard to number of children, the obtained χ^2 value 20.5 at the level of df (4) which was statistically significant at $p < 0.05$ level.

It also reveals that, with regard to presence associated disease, the obtained χ^2 value 10.6 at the level of df (2) which was statistically significant at $p < 0.05$ level.

It also shows that, with regard junk food, the obtained χ^2 value 9.83 at the level of df (2) which was statistically significant at $p < 0.05$ level.

It also reveals that, with regard to amount of water intake per day, the obtained χ^2 value 6.54 at the level of df (4) which was not statistically significant at $p < 0.05$ level.

It also reveals that, with regard to do you have any menstrual disorder, the obtained χ^2 value 5.18 at the level of df (2) which was not statistically significant at $p < 0.05$ level.

It also reveals that, with regard to source of information, the obtained χ^2 value 9.08 at the level of df (8) which was not statistically significant at $p < 0.05$ level.

It also reveals that, with regard to intake of non vegetarian, the obtained χ^2 value 2.8 at the level of df (4) which was not statistically significant at $p < 0.05$ level.

CHAPTER - V

DISCUSSION

PCOS is a condition leading to enormous health problems and affects the reproductive health if it not treated well. Increase awareness of girls about PCOS can helps them to gain knowledge, early detect and prevent the PCOS. The aim of the present study was to assess the effectiveness of Information Education and Communication on level of knowledge regarding Polycystic Ovarian Syndrome among adolescent girls. The study was conducted by using pre-experimental one group pre-test post-test design. The subjects were selected for the study from Kamavar College of Arts and Science at Theni. The total sample size were 60 .

The first objective of the study was to assess the pre-test and post-test level of knowledge regarding Polycystic Ovarian Syndrome among adolescent girls. The study findings revealed that among 60 adolescent girls 8(13.3%) had moderate knowledge, 52 (86.7%) had inadequate knowledge, and no one had adequate knowledge in pre-test and 52 (86.7%) had adequate knowledge, 7(11.7%) had moderate knowledge and 1(1.7%) had inadequate knowledge in post-test. It was inferred that, most of the adolescent had moderate and inadequate knowledge in pre-test and most of the had adequate knowledge in post-test.

This result is supported by, Sunanada 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.

This result is supported by, 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.

The second objective was to assess the effectiveness of Information Education Communication on level of knowledge regarding Polycystic Ovarian Syndrome among adolescent girls. The study findings revealed that among adolescent girls , the mean pre-test score was 6.8 with the standard deviation 3.4 and post-test score was 21.3 with the standard deviation 3. The mean difference was 14.8. The obtained 't' value 56.5 was statistically significant at $p < 0.05$ level.

Hence the stated hypothesis (H_1) was accepted. It was inferred that the mean post-test level of knowledge score was more than the pre-test level of knowledge score. There is a significant difference between the mean pre and post-test level of knowledge among adolescent girls. Thus Information Education and Communication

was proven effective on the level of knowledge regarding PCOS among adolescent girls.

This result is supported by, 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 different 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.

This result is supported by, Hadayat, A Amasha, Manar F Heeba (2014) conducted a quasi experimental study on evaluation of effectiveness of educating programme among 50 nurses in port said city. The study revealed that the nurses lack of knowledge about PCOS and there is a statistically significant difference in the pre-test and post-test score. The study concluded that need for the staff development program to increase maternity nurses level of knowledge related to PCOS.

This result is supported by, B.Tamilarasi, V.Vathana, (2016) conducted a pre experimental one group pre-test post-test design done in Chennai Tamilnadu to assess the effectiveness of structured teaching programme on knowledge regarding polycystic ovarian syndrome among 30 adolescent girls. The study revealed that the mean level of knowledge was 11 with standard deviation of 3.549 in pretest and 17.5

with standard deviation of 4.88 in post test there was a statistically high significant difference with paired 't' value of 8.45. The study concluded that there was an increase in the level of knowledge after providing structured teaching programme based on statistical findings.

The third objective was to determine the association between the post-test level of knowledge among adolescent girls with their selected demographic variables.

The present study revealed that there is a significant association between post-test level of knowledge among adolescent girls their BMI, No of children, Presence of associated disorder, Intake of junk food. Hence the stated hypothesis (H₃) was accepted.

The results of the current study showed that there was highly statistically significant relationship between age of the students, family history and their mother education with level of knowledge at pre-test. These results were congruent with Sowmya and Philomena (2013) who showed that there was relation between the age in years with pre-test knowledge scores. While results of a study done by Kalpana (2013) were incongruent with the results of the present study, that indicated that there is no relation between pre-test knowledge scores and age of students.

CHAPTER – VI

SUMMARY, CONCLUSION AND RECOMMENDATIONS

This chapter presents a brief account of the present study. Conclusions are drawn from the findings and the implications of the result are stated. It also includes recommendations and implications for the nursing practice, nursing education, nursing administration and nursing research.

Summary of the Study

The aim of the study is to assess the effectiveness of Information Education Communication on knowledge among adolescent girls in a selected college at Theni.

The Objectives of the Study were

- To assess the level of knowledge regarding Polycystic Ovarian Syndrome among adolescent girls.
- To administer the Information Education and Communication regarding Polycystic Ovarian Syndrome.
- To determine the effectiveness of Information Education Communication on the level of knowledge regarding Polycystic Ovarian Syndrome among adolescent girls.
- To find out association of between post test level of knowledge regarding Polycystic Ovarian Syndrome among adolescent girls and their selected demographic variables.

Pre experimental one group pre-test and post-test design was used to assess the effectiveness of Information Education Communication on knowledge regarding polycystic ovarian syndrome among adolescent girls in selected college at Theni. The 60 samples were selected by non-probability convenient sampling technique with inclusion criteria.

The data collection tool consisted of 2 parts.

Part 1

Demographic variables.

Part 2

Structured multiple choice questionnaires to assess the level of knowledge regarding Polycystic Ovarian Syndrome among adolescent girls.

Prior to data collection permission was obtained from vice principal, Kammavar college of Arts and Sciences at Theni. In this study 60 adolescent girls were involved. On day 1, before giving structured multiple choice questionnaire, the purpose of the study was explained to the adolescent girls with self introduction. Pre test questionnaire were given to the sample and they took 15-20 minutes for answering it. On day 3 Information Education and Communication Package on Polycystic Ovarian Syndrome was given for 45 minutes through LCD. On 7th day the same questionnaire was provided to the samples and were asked them to answer, they took 10-15 minutes to complete the questionnaire.

The collected data were analyzed by using both descriptive statistics and inferential statistics paired 't' test and Chi-square.

Major Study Findings

The major study findings were,

- With regard to the knowledge most of them had inadequate knowledge in pre-test and most of them had adequate knowledge in post-test.
- With regard to the effectiveness of Information Education Communication on knowledge regarding Polycystic Ovarian Syndrome among adolescent girls, the mean post-test knowledge score was 21.3 more than the mean pre-test knowledge score was 6.8. The obtained 't' value was highly significant. The study revealed that Information Education and Communication 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 adolescent girls and their BMI, no of children, presence of any associated disorder, intake of junk food.

Conclusion

The main conclusion drawn in this present study was majority of the adolescent girls had moderate, inadequate level of knowledge. After Information Education Communication regarding Polycystic Ovarian Syndrome the level of knowledge was increased significantly.

Implication of the Study

According to Tolsma (1995), the section of the research report that focuses on nursing implication usually includes specific suggestions for nursing practice, nursing education, nursing administration and nursing research.

Nursing Practice

The nurses can

- Learn accurate assessment of level of knowledge by using Self administered questionnaire.
- The Information Education Communication can be incorporated in nursing as specific health education measures to teach about Polycystic Ovarian Syndrome among adolescent girls.
- 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 Information Education Communication can be taught to all the nursing students to upgrade their knowledge on Polycystic Ovarian Syndrome among adolescent girls.
- The Information Education Communication can be taught to nursing students posted in gyneacological 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 Information Education Communication 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.

Limitations

- The study was limited to 6 weeks.
- The study was limited to students in Kammavar College of Arts and Science at Theni.

Recommendations

- The same study can be replicated on large sample to generalize the findings.
- 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 girls.

REFERENCES

BOOK REFERENCE :

- Dutta.D.C: Text book of gynecology: 4th edition. New Central Book agency publication. 2007, sep; 268-282.
- Hacker Neville F: Hacker and moore's Essentials of Obstetrics and Gynecology: 5th edition. 2012, China: Elsevier.
- Carmina E: Diagnosis of Polycystic Ovary Syndrome: from NIH Criteria to ESHRE-ASRM guidelines. Minerva Ginecol. 2004, 56: 1-6.
- Ann Mariner Tomey, (2006), Nursing Theories and Their Work. (6th Ed.) Missouri: Mosby Publications.
- Bharat Pareek. (2005). Text Book of Nursing Research and statistics. (3rd ed.) Jalandhar: S. Vikas and Company publication.
- Bhaskara Rao. T. (2001). Methods of Biostatistics. (2nd ed.) Andra Pradesh: Paras Publication.
- Elakkuvana.D. (2010). Text Book of Nursing Research and Statistics. (1st ed.) Bangalore: Emmess Publication.
- Nancy Burns. 2005. The Practice of Nursing Research.(5th ed.) Missouri: Elsevier sounders Publication.
- Polit and Beck. (2004). Nursing Research Principles and Methods. (7th ed.) Philadelphia : Lippincott Williams and Wilkins Company Publication.
- Polit. F. Denise Hungler. (2001). Nursing Research Principle and Methods. (5th ed.) Philadelphia: Lippincott Publication.

- Mahajan. B. K. (1991). Methods in Biostatistics (5th ed.) New Delhi; Jaypee Brothers Medical Publication.
- Wesley, L. Ruby. (1992). Nursing Theories and Models. (2nd ed.) Pennsylvania: Spring House Publication.
- LEWIS, "A Textbook of Medical Surgical Nursing", I edition, Elsevier publication, Page no 567-578.
- JOYCE .M .BLACK, "Medical Surgical Nursing", II edition, Elsevier Publication, Page no 430-464
- Brunner & Suddarth's ,Medical Surgical Nursing ,13 edition publication .wolters kluwer (india) pvt.ltd,new delhi page no.1124-1234
- NISHA CLEMENT, " Text book of nursing research and statistics ", EMMESS publication , I edition.

JOURNAL REFERENCE

1. Hollinrake E, Abreu A, Maifeld M, Van Voorhis BJ, Dokras A (2007) [Increased risk of depressive disorders in women with polycystic ovary syndrome. Fertil Steril 87: 1369-76.](#)
2. Herbert DL, Lucke JC, Dobson AJ (2010) [Depression: an emotional obstacle to seeking medical advice for infertility. Fertil Steril 94: 1817-1821.](#)
3. Cedars MI (2012) [PCOS: key issues and remaining Questions. Fertil Steril 97: 1.](#)
4. Franks S, Berga SL (2012) [Does PCOS have developmental origins? Fertil Steril 97: 2-6.](#)
5. Fauser BC, Tarlatzis BC, Rebar RW, Legro RS, Balen AH, et al. (2012) [Consensus on women's health aspects of polycystic ovary syndrome \(PCOS\): the Amsterdam ESHRE/ASRM-Sponsored 3rd PCOS Consensus Workshop Group. Fertil Steril 97: 28-38.](#)
6. Li Y, Li Y, Yu Ng EH, Stener-Victorin E, Hou L, et al. (2011) [Polycystic ovary syndrome is associated with negatively variable impacts on domains of health-related quality of life: evidence from a meta-analysis. Fertil Steril 96: 452-458.](#)
7. Hassan MA, Killick SR (2003) [Ultrasound diagnosis of polycystic ovaries in women who have no symptoms of polycystic ovary syndrome is not associated with subfecundity or subfertility. Fertil Steril 80: 966-975.](#)
8. Palomba S, Falbo A, Orio F Jr, Zullo F (2009) [Effect of preconceptional metformin on abortion risk in polycystic ovary syndrome: a systematic review and meta-analysis of randomized controlled trials. Fertil Steril 92: 1646-1658.](#)

9. Eyvazzadeh AD, Pennington KP, Pop-Busui R, Sowers M, Zubieta JK, et al. (2009) [The role of the endogenous opioid system in polycystic ovary syndrome. Fertil Steril 92: 1-12.](#)
10. Farrell K, Antoni MH (2010) [Insulin resistance, obesity, inflammation, and depression in polycystic ovary syndrome: biobehavioral mechanisms and interventions. Fertil Steril 94: 1565-1574.](#)
11. Mansfield R, Galea R, Brincat M, Hole D, Mason H (2003) [Metformin has direct effects on human ovarian steroidogenesis. Fertil Steril 79: 956-962.](#)
12. Farrell K, Antoni MH (2010) Insulin resistance, obesity, inflammation, and depression in polycystic ovary syndrome: biobehavioral mechanisms and interventions. Fertil Steril 79: 956-962.
13. Lambrinoudaki I (2011) [Cardiovascular risk in postmenopausal women with the polycystic ovary syndrome. Maturitas 68: 13-16.](#)
14. Morgan JF, McCluskey SE, Brunton JN, Hubert Lacey J (2002) [Polycystic ovarian morphology and bulimia nervosa: a 9-year follow-up study. Fertil Steril 77: 928-931.](#)
15. Roepke S, Ziegenhorn A, Kronsbein J, Merkl A, Bahri S, et al. (2010) [Incidence of polycystic ovaries and androgen serum levels in women with borderline personality disorder. J Psychiatr Res 44: 847-852.](#)

NET REFERENCE

- www.ijbamr.com
- www.mja.com
- <http://women.webmed.com>
- <http://tac.sagepub.com>
- [http:// innovationjournal.in/ijnd/litex.php](http://innovationjournal.in/ijnd/litex.php)
- www.ncbi.nlm.nih.gov
- www.worldwidejournal.com
- www.Jspui.com
- www.ijrcog.org
- <http://m.indiatimes.com>
- <http://ijanm.com>
- www.iosrjournal.org
- www.jolnt.com
- <http://ajner.com>
- www.ijird.com
- <http://rbej.biomedcentral.com>
- www.tiprc.org
- www.ijneronline.com
- <http://www.ijcrar.com>
- <http://www.hindawi.com>

APPENDIX - A

Letter Seeking and Granting Permission to Conduct the Study

ANNAI MEENAKSHI COLLEGE OF NURSING

Affiliated with the Tamil Nadu Dr. M.G.R Medical University, Chennai.

Approved by the Indian Nursing Council, New Delhi &

Tamil Nadu Nurses and Midwives Council, Chennai.

Madukkarai Market Road,
P.B. No. 4431
Industrial Estate Post,
COIMBATORE - 641 021.
Cell : 94421 75641, 98435 24219

Phone : 0422 - 6562705, 2675641, 2672705,
Fax : 0422 - 2676016
Email : ceandct@gmail.com
Website : www.annaimeenakshi.in

March 28, 2017

Ref. No. From

Date :

Mrs. Anjanadevi.G
II - Year M.Sc.,(N),
Annai Meenakshi College of Nursing,
Coimbatore - 21.

To
The Co-ordinator,
Kammavar College of Arts & Science,
Theni.


Through Principal of Annai Meenakshi College of Nursing,

Respected Sir/Madam,

Sub: Conduct study - Permission - Request - Regarding

I am Mrs. Anjanadevi.G doing M.Sc., Nursing II - year of Annai Meenakshi College of Nursing, Coimbatore, as a part of requirement given by The Tamilnadu Dr.M.G.R. Medical University, Chennai. I need to conduct Pilot study on "A study to assess the effectiveness of Information Education Communication on knowledge regarding Polycystic ovarian disease among adolescent girls in selected college at Theni". I would like to carry out this study in your esteemed institution. Hence I request you to kindly permit me to collect data in your college.

Thanking you,


Yours faithfully,


DURAIKANNAN, M.Sc., M.Phil.
VICE PRINCIPAL
HEAD, DEPARTMENT OF MATHEMATICS
THENI KAMMAVAR SANGAM COLLEGE OF
ARTS AND SCIENCE
KOGUNLAPPATTI, THENI (DQ-685 554)

Forwarded



PRINCIPAL
Annai Meenakshi College of Nursing
COIMBATORE-641 021.

Managed by : CHEMISTS EDUCATIONAL & CHARITABLE TRUST
Administrative Office : College Campus, Madukkarai Market Road, Coimbatore - 641 021.

APPENDIX - B

Letter Requesting the Opinion of Experts on Content Validity of the Tool.

ANNAI MEENAKSHI COLLEGE OF NURSING

Affiliated with the Tamil Nadu Dr. M.G.R. Medical University, Chennai.
Approved by the Indian Nursing Council, New Delhi &
Tamil Nadu Nurses and Midwives Council, Chennai.

Madukkarai Market Road,
P.B. No. 4431
Industrial Estate Post,
COIMBATORE - 641 021.
Cell : 94421 75641, 98435 24219

Phone : 0422 - 6562705, 2675641, 2672705,
Fax : 0422 - 2676016
Email : ceandct@gmail.com
Website : www.annaimeenakshi.in

Ref. No. From

Requisition for Content Validity

Date :

Mrs. Anjanadevi.G
II - Year M.Sc.,(N)
Annai Meenakshi College of Nursing,
Coimbatore - 21.

Through
The Principal,
Annai Meenakshi College of Nursing,
Coimbatore - 21.

To

Respected Sir/Madam,

Sub: Requisition for expert opinion and suggestion for content
validity of the tool - Reg.

I am a student of M.Sc., Nursing II year in Annai Meenakshi College of Nursing, Coimbatore, affiliated to The Tamil Nadu Dr. M.G.R. Medical University, Chennai. As a partial fulfillment of the M.Sc., Nursing programme, I am conducting a research titled as entitled "A study to assess the effectiveness of Information Education Communication on knowledge regarding Polycystic ovarian disease among adolescent girls in selected college at Theni".

I am hereby enclosing the following:

1. Statement and objectives of the study
2. Hypothesis
3. Methodology
4. Tool
5. Intervention
6. Content Validity certificate.

Herewith I am submitting the developed tool for content validity and for your opinion and possible suggestion. I will be grateful to you and request you to return the same to the undersigned at the earliest possible.

Thanking you,

Place: Coimbatore
Date:

Yours faithfully,

Forwarded
Principal

Annai Meenakshi College of Nursing

Managed by : CHEMISTS EDUCATIONAL & CHARITABLE TRUST
Administrative Office : College Campus, Madukkarai Market Road, Coimbatore - 641 021.

APPENDIX - C
Certificate of Validation

ANNAI MEENAKSHI COLLEGE OF NURSING

Affiliated with the Tamil Nadu Dr. M.G.R. Medical University, Chennai.
Approved by the Indian Nursing Council, New Delhi &
Tamil Nadu Nurses and Midwives Council, Chennai.

Madukkarai Market Road,
P.B. No. 4431
Industrial Estate Post,
COIMBATORE - 641 021.
Cell : 94421 75641, 98435 24219

Phone : 0422 - 6562705, 2675641, 2672705,
Fax : 0422 - 2676016
Email : ceandct@gmail.com
Website : www.annaimeenakshi.in

Ref. No.

Date :

Certificate of Validation

This is to certify that the tools developed by Mrs. Anjanadevi.G M.Sc (N) II - Year student of Annai Meenakshi College of Nursing, Coimbatore, Tamil Nadu (Affiliated to The Tamil Nadu Dr. M.G.R. Medical University, Chennai) is validated by undersigned and can proceed with this tool and conduct the main study for dissertation entitled "A study to assess the effectiveness of Information Education Communication on knowledge regarding Polycystic ovarian disease among adolescent girls in selected college at Theni".

Place: Coimbatore

Signature

Date:

APPENDIX-D
LIST OF EXPETS
CONSULTED FOR CONTENT VALIDITY

DR. R. THILAGAVATHY, M. B. B. S., D. G. O.,
Senior Civil Surgeon,
Government Head Quarters Hospital,
Periyakulam,
Theni.

DR. V. ANUPAMA, D. G. O.,
Assistant surgeon,
Government Head Quarters Hospital,
Periyakulam,
Theni.

Prof. Mrs. S. RENUKA M.Sc.,(N)
HOD of OBG Department,
KMCH College of Nursing,
Coimbatore.

Prof. Mrs. LATHA M.Sc.,(N)
Professor,
KMCH College of Nursing,
Coimbatore.

Prof. Mrs. P. PADMA M.Sc.,(N)
Associate Professor,
KMCH College of Nursing,
Coimbatore.

APPENDIX-E

Consent Form

Respected Sir/Madam,

I am G.Anjanadevi, I am doing M.Sc (N) II year in Annai Meenakshi College of Nursing. I am doing a research on “A Study to Assess the Effectiveness of Information Education Communication on level of knowledge regarding Polycystic Ovarian Syndrome among adolescent girls in a selected college at theni”. I request your cooperation to complete my research. I assure you that you won't get any harm due to my research.

I am Mr. /Mrs. ----- . I heard about the Effectiveness of Information Education Communication regarding Polycystic Ovarian Syndrome on level of knowledge adolescent girls from G.Anjanadevi. She explained me about the benefits of this intervention. I agree with this intervention of Polycystic Ovarian syndrome and this study project whole heartedly.

Place:

Yours Sincerely,

Date:

APPENDIX-F

QUESTIONNAIRE

(To Assess Knowledge Regarding PCOD among The College Girls)

Provide Tick Mark in the Appropriate Response

SECTION-A: DEMOGRAPHIC VARIABLES

1. Age in years

- a. 18-19 years ()
- b. 20-21years ()
- c. Above 21 years ()

2. Marital Status

- a. Unmarried ()
- b. Married ()
- c. Widow ()
- d. Divorced ()

3. Religion

- a. Hindu ()
- b. Muslim ()
- c. Christian ()
- d. Others ()

4. Types of Family

- a. Joint Family ()
- b. Nuclear Family ()

5. Educational Status

- a. No Formal Education ()
- b. Primary Education ()
- c. Secondary Education ()
- d. Higher Education ()
- e. Graduate ()

6. Dietary Pattern

- a. Vegetarian ()
- b. Non-Vegetarian ()

7. Menstrual Cycle

- a. Regular Cycle ()
- b. Irregular Cycle ()

8. BMI

- a. 18-21 ()
- b. 22-25 ()
- c. 26-29 ()
- d. Above 30 ()

9. Number of Children

- a. One ()
- b. Two ()
- c. Above Two ()

10. Do you have any associated disease

- a. Yes ()
- b. No ()

11. Do you like junk foods
- a. Yes ()
 - b. No ()
12. Amount of water intake per day
- a. 500 – 1000 ml ()
 - b. 1000 – 2000 ml ()
 - c. > 2000 ml ()
13. Do you have any menstrual disorder
- a. Yes ()
 - b. No ()
14. Source of Information
- a. Health Personal ()
 - b. Parents ()
 - c. Teacher ()
 - d. Mass Media ()
 - e. No information ()
15. How many times you have taken on vegetarian
- a. Weekly once ()
 - b. Weekly twice ()
 - c. > twice in a week ()

SECTION-B

QUESTIONNAIRE ON KNOWLEDGE REGARDING POLYCYSTIC OVARIAN SYNDROME

1. The shape of the normal ovary
 - a. Small almond ()
 - b. Oval ()
 - c. Round ()
 - d. Apple ()

2. The female reproductive hormones are
 - a. Androgen ()
 - b. Estrogen and progesterone ()
 - c. GNRH ()
 - d. Cortisol ()

3. Polycystic Ovarian Syndrome is
 - a. Cardiovascular disorder ()
 - b. Musculoskeletal disorder ()
 - c. Hormonal disorder ()
 - d. Cerebrovascular disorder ()

4. In pcos which of the following is formed in the ovaries
 - a. Cysts ()
 - b. Eggs ()
 - c. Fibres ()
 - d. Sperm ()

5. The percentage of women affected by pcos
- a. About 1% ()
 - b. 5% to 15% ()
 - c. 15% to 45% ()
 - d. Above 50% ()
6. Women's are affected by pcos during the age group of
- a. 12-18 years ()
 - b. 18-44 years ()
 - c. 40-60 years ()
 - d. Above 70 years ()
7. The common features for patient's with PCOS
- a. Malnourished ()
 - b. Obease ()
 - c. Very tall ()
 - d. Very short ()
8. The following are the common signs and symptoms of PCOS
- a. Menstrual disorder ()
 - b. Infertility ()
 - c. Hormonal Imbalance ()
 - d. All the above ()
9. A women with polycystic ovarian disease may have these symptoms
- a. Hirsutism ()
 - b. Ovarian cysts ()
 - c. Irregular menses ()
 - d. All the above ()
10. A specialist in treating women related disorder in usually a
- a. Endocrinologist ()
 - b. Hemtologist ()
 - c. Gynaecologist ()
 - d. psychiatrist ()

11. PCOS can be confirmed by

- a. Surgery ()
- b. X-ray ()
- c. Vaginal Ultrasound ()
- d. Palpation ()

12. Patients with PCOS have elevated levels of

- a. Androgen ()
- b. Hydrogen ()
- c. Nitrogen ()
- d. Amonia ()

13. The appearance of polycystic ovarian follicles is

- a. Oval in appearance ()
- b. White pearls like appearance ()
- c. Round in appearance ()
- d. Almond appearance ()

14. Upon ultrasound evaluation a women with PCOS

- a. Usually have many ovarian cysts ()
- b. Always have many ovarian cysts ()
- c. Never have many ovarian cysts ()
- d. Usually have an ovarian tumours ()

15. The food to avoid for PCOS women's

- a. High glyceic diet ()
- b. Refined carbohydrate ()
- c. Surgery food items ()
- d. All the above ()

16. The recommended food items women's with PCOS

- a. High fiber vegetables and lean proteins ()
- b. High glycemic food ()
- c. High in refined carbohydrate ()
- d. Sweats ()

17. The first drug of choice for women with PCOS

- a. Met formin ()
- b. Rantac ()
- c. Methergin ()
- d. Folic Acid ()

18. Polycystic ovarian disease causes

- a. Fertility ()
- b. Infertility ()
- c. Regular Menarche ()
- d. Bleeding ()

19. The following is not linked with PCOS

- a. High blood level of androgen ()
- b. Acanthisis Nigricans ()
- c. Low blood level of thyroid hormones ()
- d. Irregular menstrual period ()

20. Women with PCOS have higher rate of

- a. Miscarriage ()
- b. GDM ()
- c. Preelampsia ()
- d. All the above ()

21. Women with PCOS have a high risk of which one of the following
- a. Impaired glucose tolerance ()
 - b. Sexual Dysfunction ()
 - c. Ovaries malignancy ()
 - d. Adrenal hyperplasia ()
22. The treatment for PCOS include which of the following
- a. Encourage weight loss ()
 - b. Induce Ovulation ()
 - c. Absentisam ()
 - d. None of these ()
23. In women with PCOS the hormonal imbalance interferes with the
- a. Growth of release of egg from of ovaries ()
 - b. Affect the sexual activity ()
 - c. Affect the regular activity ()
 - d. Affect the sleeping activity ()
24. PCOS may causes secondary amenorrhea due to
- a. Excessive production of estrogen ()
 - b. Excessive production of FSH ()
 - c. Excessive production of androgen ()
 - d. All ()
25. Main complications of polycystic ovaries syndrome
- a. Endometrial cancer ()
 - b. Sleep apnea ()
 - c. High cholesterol ()
 - d. Anxiety and depression ()

APPENDIX-G

Scoring Key

Answer key for knowledge questionnaire

Question number	Answers	Score
1	A	1
2	B	1
3	C	1
4	A	1
5	C	1
6	B	1
7	B	1
8	A	1
9	D	1
10	C	1
11	C	1
12	A	1
13	B	1
14	A	1
15	D	1
16	A	1
17	A	1
18	B	1
19	C	1
20	A	1
21	A	1
22	A	1
23	A	1
24	C	1
25	A	1

Scoring

Section B contains 25 questions, in that each answer carries score like

Correct answer – 1

Wrong answer – 0

The total maximum score is about 25 marks and minimum score is 0 marks

INTERPRETATION OF SCORE:

The total score is interpreted as

Score	Level of knowledge
0-10	Inadequate Knowledge
11-20	Moderately adequate Knowledge
21-25	Adequate Knowledge

APPENDIX - H

Evaluation criteria rating for validating the tool

Section A: Demographic variables

S.No.	Item	Relevant	Needs modification	Not relevant	Remarks
1	Age				
2	Marital Status				
3	Religion				
4	Type of Family				
5	Educational Status				
6	Diatery Pattern				
7	Menstrual Cycle				
8	BMI				
9	Number of Children				
10	Do you have any associated disease?				
11	Do you like junk food?				
12	Amount of water in take per day				
13	Do you have any menstrual disorder?				
14	Source of Information				
15	How many times you have taken on vegetarian?				

Section B: Structured knowledge questionnaire

S. No.	Relevant	Needs modification	Not relevant	Remarks
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				

Suggestions if any

Section-C: Methodology

Item	Relevant	Needs modification	Not relevant	Remarks
Methodology				

APPENDIX I

EVALUATION CRITERIA CHECKLIST FOR VALIDATION OF INFORMATION EDUCATION AND COMMUNICATION (IEC) ON KNOWLEDGE REGARDING POLYCYSTIC OVARIAN SYNDROME

INSTRUCTION

The expert is requested to go through following evaluation criteria checklist prepared for validating the intervention on INFORMATION EDUCATION AND COMMUNICATION (IEC) ON KNOWLEDGE REGARDING MEMORY LOSS

There are three columns given for responses and a column and facilitate your remarks in the remarks column given

INTERPRETATION COLUMNS

- Meets the criteria - Column I
- Partially meets the criteria - Column II
- Does not meet the criteria - Column III

SL.NO	CRITERIA	I	II	III	REMARKS
I.	CONTENT				
1.	SELECTION OF CONTENT				
1.1	content reflects the objectives				
1.2	content has up to date knowledge				
1.3	content is comprehensive for the knowledge of adolescent girls regarding polycystic ovarian syndrome.				

1.4	content provides correct and accurate information				
1.5	content coverage				
2	ORGANIZATION OF CONTENT				
2.1	logical sequence				
2.2	continuity				
2.3	integration				
3	LANGUAGE				
3.1	local language is used in simple and in understandable dialogues				
3.2	technical terms are explained at the level of learner ability				
4	FEASIBILITY/PRACTICABILITY				
4.1	Is the suitable to the clients				
4.2	Permit self learning				
4.3	Acceptable to middle adults				
4.4	Interesting and useful to the adolescent girls				
4.5	Suitable for setting				

If any suggestion.....

APPENDIX J

INFORMATION

EDUCATION

COMMUNICATION

POLYCYSTIC OVARIAN SYNDROME

LESSON PLAN

CONTENT OF TEACHING OUTLINE

Name of the Student : **Mrs. G.ANJANA DEVI**

Subject : **Obstetrical Gyneacological Nursing**

Topic : **Polycystic Ovarian Syndrome**

Group : **College Girls**

Place : **Art and Science College, Theni**

Duration : **45 minutes**

Method of Teaching : **Lecture cum discussion**

Avoids : **LCD**


Control objectives

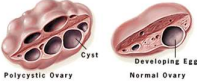
The individual will gain adequate knowledge regarding polycystic ovarian syndrome and also apply this knowledge into prevention of polycystic ovarian syndrome.


Specific Objectives


The individual will able to



- **Explain the anatomy and functions of ovary**
- **Description the polycystic ovarian syndrome.**
- **State the incidence of polycystic ovarian syndrome.**
- **List down the risk factors and causes of polycystic ovarian syndrome.**
- **Explain the signs and symptoms of polycystic ovarian syndrome.**
- **Elicit the diagnosis of polycystic ovarian syndrome.**
- **Explain the management of polycystic ovarian syndrome.**
- **List down the complication of polycystic ovarian syndrome.**
- **Monitor the effects of polycystic ovarian syndrome on pregnancy**




S.No.	Time	Specific Objectives	Content	AV Aids	Teaching Learning Activity	Evaluation
1	5 mts	<p>The individual will able to Explain Anatomy and consents of Ovary</p>	<p><u>ANATOMY AND FUNCTIONS OF OVARY:</u></p> <p>The female reproductive organ is one of the vital organ of human reproductive.</p> <p><u>OVARY:</u> Shape- The ovaries are small almond shaped organ. Size- oval solid structure, 1.5 cm in thickness, 2.5 cm in wide, 3.5 cm in length. Location- ovary is located on each side of the uterus, below and behind of the uterine tube. Functions: The major functions of the ovaries to secrete the female reproductive hormones like estrogen and progesterone which is helps to maintain normal menstrual cycle and to maintain normal fertility function. To produce the ova (egg).</p>		Explaining & Listening	Explaining the anatomy and functions of ovary


S.No.	Time	Specific Objectives	Content	AV Aids	Teaching Learning Activity	Evaluation
2	5 mts.	The Individual will able to Describe the polycystic ovarian syndrome.	<p>DESCRIPTION:</p> <p>Polycystic ovarian syndrome is a health problem that affects one in ten women of child bearing age. women with PCOS have a hormonal imbalance and metabolic problems that may affects their overall health and appearance. The ovaries make the egg that is released each month as part of a healthy menstrual cycle. With PCOS, the egg may not to released. PCOS ma cause missed or irregular menstrual cycle, and it can be leads to</p> <ul style="list-style-type: none"> • Infertility • Menstrual disorders • Development of cyst <p>INCIDENCE:</p> <p>Poly cystic ovarian syndrome is affects the common age group between 18 and 44 years.</p>		Explaining & Listening	What is polycystic ovarian syndrome?

S.No.	Time	Specific Objectives	Content	AV Aids	Teaching Learning Activity	Evaluation
3	3 mts.	The Individual will able to state the incidence of polycystic ovarian syndrome	<ul style="list-style-type: none"> • The world wide 10 million womens are affected with PCOS. • In India 30-36% womens are affected with PCOS. • In UK 1 in 5 womens are affected with PCOS. <p>RISK FACTORS AND CAUSES:</p> <p>Genetic factors: Genes have a strong influence on a persons. A family history of diabetes may increase the risk for poly cystic ovarian syndrome because of the strong relationship between diabetes and PCOS.</p> <p>Environmental factors: Due to poor environmental sectors like pollution can lead to PCOS.</p> <p>Drug (Medicine): Long term use of the seizure medicine like valporate has been linked to an increased risk of PCOS.</p> <p>Endocrine disorders: Due to any endocrine disease or problem can leads to getting the PCOS.</p>		Explaining & Listening	How many people affected with polycystic ovarian syndrome?



S.No.	Time	Specific Objectives	Content	AV Aids	Teaching Learning Activity	Evaluation
4	5 mts.	The Individual will able to list down the risk factors and causes of polycystic ovarian syndrome	<p>Insulin resistance:</p> <p>Insulin is a hormone that allows the body to absorb glucose into the cells for energy. In PCOS the body is not as responsive to insulin. This can lead to elevated blood glucose level and cause the body to make more insulin. Having too much insulin can cause the body to make more androgen.</p> <p>Excess Androgen:</p> <p>Androgens are sometimes called “male hormones”, although all women make small amounts of androgens. Women with polycystic ovarian syndrome have more androgens than estrogens. Estrogens are “female hormones”. Higher than the normal estrogens level in women can prevent the ovaries from releasing the egg during menstrual cycle, can cause extra hair growth, acne etc.</p>		Explaining & Listening	What are the factors to pass the polycystic ovarian syndrome?




S.No.	Time	Specific Objectives	Content	AV Aids	Teaching Learning Activity	Evaluation
5	5 mts.	The Individual will able to explain the signs and symptoms of polycystic ovarian syndrome	<p>SIGNS ANG SYMPTOMS:</p> <p>Common signs and symptoms of polycystic ovarian syndrome include,</p> <p>Menstrual problems:</p> <ul style="list-style-type: none"> • Irregular menses • Missed period • Oligomenorrhea • No menstrual periods • Heavy menstrual periods <p>Infertility:</p> <ul style="list-style-type: none"> • Lack of ovulation can cause infertility. <p>Hormonal imbalances:</p> <ul style="list-style-type: none"> • Acne (pimples over the face) • (Thining of hair (androgenic alopecia). • Excessive hair growth over the face, chest, thighs, abdomen, legs, arms, back, chin, toes. • Flanking skin (oily skin). 	 	Explaining & Listening	How will you find out the polycystic ovarian syndrome?




S.No.	Time	Specific Objectives	Content	AV Aids	Teaching Learning Activity	Evaluation
			<p>Obesity</p> <ul style="list-style-type: none"> • Over weight gain. • Apple shaped figure. • Waist size may increased <p>Other symptoms:</p> <ul style="list-style-type: none"> • Fatigue • Depression • Stress • Lack of sleep • Headache • Increased weight gain • Breathing difficulties • Anxiety • Hair loss <p>DIAGNOSIS:</p> <p>1 History collection: During history collection the women having symptoms like</p> <ul style="list-style-type: none"> • Menstrual problems • Sleeping disturbance 	  	<p>Explaining & Listening</p>	



S.No.	Time	Specific Objectives	Content	AV Aids	Teaching Learning Activity	Evaluation
6	5 mts	The individual will be able to elicit the diagnosis of polycystic ovarian syndrome	<ul style="list-style-type: none"> • Pimple over the face • Male pattern of hair growth • Oily skin • Women having any family history, previous endocrine disease, poor immune system, effects of drugs like velporate. • Exposure of radiation • Women having enlarged thyroid gland, and hair loss <p>2. Physical examination:</p> <ul style="list-style-type: none"> • On head to foot assessment the women having problems like • Pimple over the face • Excessive hair growth • Dark patches over the neck, breast, arms, chin, in between the thighs, knuckles. • In vital signs the women have increased blood pressure and increased respiration rate. • Increased body mass index and waist and hip ratio • Waist measurement greater than 35 inches or waist bigger than the hips 		Explaining & Listening	What are the investigation for PCOS?


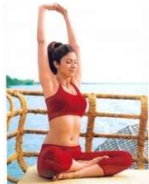
S.No.	Time	Specific Objectives	Content	AV Aids	Teaching Learning Activity	Evaluation
			<p>3. Pelvic examination: During pelvic examination the women have,</p> <ul style="list-style-type: none"> • Enlarged ovaries or swollen. <p>4. Blood tests: Blood tests that can be useful in identifying high androgen levels include,</p> <ul style="list-style-type: none"> • Sex hormone binding-globulin • Dehydroepiandrosterone sulphate <p>Blood test may also be done to assess the level of other reproductive hormones in our body as these may affect the menstruation. This may include testing levels of</p> <ul style="list-style-type: none"> • Estrogen • Follicle stimulating hormone • Luteinizing hormone • Thyroid stimulating hormone • Prolactine • Cholesterol • Glucose tolerance test • Lipid profile 		<p>Explaining & Listening</p>	

S.No.	Time	Specific Objectives	Content	AV Aids	Teaching Learning Activity	Evaluation
7	10 mts	The individual will be able to explain the management of polycystic ovarian syndrome	<p>Ultrasound Examination: An ultrasound of the uterus, ovaries and the pelvis can be carried out to identify whether there are having cyst on the ovaries, and whether the ovaries are enlarged.</p> <ul style="list-style-type: none"> • The ovaries appear like white pearls, thickened, and fluid filled cysts. • Small follicles seen in the ovaries, which contain 12 follicles. <p>MANAGEMENT: Polycystic ovarian syndrome can be treated, but there is no cure. Treatment focuses on controlling symptoms and managing the condition to prevent further complications. The treatment will vary from women to women depending on specific symptoms. Tips for controlling symptoms may include,</p> <p>DIETARY MANAGEMENT: The recommended food to intake for Polycystic Ovarian Syndrome High fiber vegetables such as,</p> <ul style="list-style-type: none"> • Cauliflower and green leafy vegetables • Beans 	 	Explaining & Listening	How will you manage the polycystic ovarian syndrome?

S.No.	Time	Specific Objectives	Content	AV Aids	Teaching Learning Activity	Evaluation
			<ul style="list-style-type: none"> • Almonds • Pumpkin • Sweet potatoes • Berries • Dried fruits <p>Lean protein such as</p> <ul style="list-style-type: none"> ▪ Fish ▪ Chicken ▪ Milk ▪ Eggs ▪ Tote <p>Anti inflammatory foods such as</p> <ul style="list-style-type: none"> • Tomatoes • Spinach • Almond • Fatty fish • Straw berries <p>Non recommended diet for Polycystic Ovarian Syndrome include,</p> <p>Refined Carbohydrates such as</p> <ul style="list-style-type: none"> • White bread • Muffins • Milk products 	  	<p>Explaining & Listening</p>	

S.No.	Time	Specific Objectives	Content	AV Aids	Teaching Learning Activity	Evaluation
			<ul style="list-style-type: none"> ● Soya beans ▪ White rice ▪ White potatoes <p>Sugary snacks and drinks</p> <ul style="list-style-type: none"> ▪ Soda ▪ Chocolate drinks ▪ Cookies ▪ Cakes <p>High glycemic foods to avoid such as</p> <ul style="list-style-type: none"> ▪ Bear ▪ Soft drinks ▪ Wheat ▪ Bread/Rice ▪ Cakes <p>MEDICAL MANAGEMENT: METFORMIN : This is commonly used drug which will helps to reduce androgen level. Metformin is a medicine that makes the body more sensitive to insulin. This can help lower elevated blood glucose level, insulin level, androgen level. People who use metformin may lose some weight as well as. Metformin can improve menstrual patterns. It is often used to treat type 2 DM and may help some women with polycystic ovarian syndrome.</p>	  <p>High GI (Glycemic Index) Foods</p> 	<p>Explaining & Listening</p>	

S.No.	Time	Specific Objectives	Content	AV Aids	Teaching Learning Activity	Evaluation
			<p>CLOMIPHENE CITRATE It is an oral medication that is the most common treatment used to induce ovulation.</p> <p>SPIRONOLACTONE Spironolactone is the anti androgen drug. These medicine block the effect of androgen and can help reduce scalp hair loss, facial and body hair growth, and acne.</p> <p>ORAL CONTRACEPTIVES To maintain the regular menses, and to effective in treating acne, hirsutism.</p> <p>SURGICAL MANAGEMENT:</p> <p>Ovarian Wedge Resection</p> <ul style="list-style-type: none">• It is the surgical removal of part of ovary.• This is done to help regular menstrual cycle. <p>Laprosopic Ovarian Drilling</p> <ul style="list-style-type: none">• It is a surgical treat that can trigger ovulation is women. <p>LIFE STYLE MODIFICATION:</p> <ul style="list-style-type: none">• Eat less refined carbohydrates foods• Eat more fiber diet and protein	 	Explaining & Listening	

S.No.	Time	Specific Objectives	Content	AV Aids	Teaching Learning Activity	Evaluation
8	5 mts	The individual will be able to list down the complications of PCOS	<ul style="list-style-type: none"> • Eat more vegetables and fruits • Avoid to eat spicy foods • Cook with coconut oil • Drink lot of water. Atleast 2-2.5 litres of water per day • Do not drink too much alcohol • Do not drink soda, chocolate drinks • To reduce the stress level • To maintain good sleeping pattern for day time 1-2 hours, in night 6-8 hours. • Regular exercise to help to lose weight, and improve insulin sensitivity, and regular menstrual cycle. Exercise like running, skipping, swimming, jogging. • To due some household activities like sweeping, cooking, cleaning, gardening, etc. • Yoga helps women to relief from the stress. • Meditation can improve good sleeping pattern. <p>COMPLICATION: Hypertension: Women with polycystic ovarian syndrome are at greater risk to having high blood pressure compared with women of the same age without polycystic ovarian syndrome. High blood pressure is a leading cause of heart disease and stroke.</p>	 	Explaining & Listening	What are the complications of PCOS?

S.No.	Time	Specific Objectives	Content	AV Aids	Teaching Learning Activity	Evaluation
			<p>High cholesterol: Women with polycystic ovarian syndrome often have higher levels of LDL cholesterol and low levels OF HDL cholesterol.</p> <p>Depression and Anxiety: Depression and anxiety are common among women with Polycystic Ovarian Syndrome.</p> <p>Sleep apnea: This is when momentary and repeated stops in breathing interrupt sleep. Many women with polycystic ovarian syndrome are overweight or obese, which can cause sleep apnea.</p> <p>Endometrial cancer: Problem with ovulation, obesity, insulin resistance, and diabetes to increase the risk of developing the endometrium cancer.</p> <p>Diabetes: Problem with insulin resistance, and increased androgen levels can leads to the diabetes. More than half of the women with polycystic ovarian syndrome will have diabetes.</p>		<p>Explaining & Listening</p>	

S.No.	Time	Specific Objectives	Content	AV Aids	Teaching Learning Activity	Evaluation
9	5 mts	The individual will be able to monitor the effects of PCOS	<p>EFFECTS OF POLYCYSTIC OVARIAN SYNDROME ON PREGNANCY: Women with PCOS are at higher risk for certain problems or complications during pregnancy. In addition, infants born to mothers with PCOD are at a high risk of spending time in the neonatal intensive care unit. PCOS like metabolic syndrome and increased androgens may increase the risks affecting infants.</p> <p>Pregnancy complication related to PCOS include :</p> <p>Abortion Women with PCOS are three times as likely to miscarry in the early months of pregnancy as are women without PCOS.</p> <p>Gestational Diabetes : This is a type of diabetes that only pregnant women get. It is treatable.</p> <p>Preeclampsia : Preeclampsia, a sudden increase in blood pressure after 20th week of pregnancy.</p>		Explaining & Listening	What are the effects of PCOS on pregnancy?

S.No.	Time	Specific Objectives	Content	AV Aids	Teaching Learning Activity	Evaluation
			<p>Pregnancy induced hypertension : This condition is due to an increase in blood pressure that may occur in the second half of pregnancy. This type of high blood pressure can also affect delivery of the baby.</p> <p>Preterm Birth : Pre term infants are at risk for many health problems, both right after birth and later in life.</p> <p>Cesarean Section : Pregnant women with PCOS are more likely to have cesarean sections because of the pregnancy complications associated with PCOS.</p>		<p>Explaining & Listening</p>	

SUMMARY

Till now we have discussed about polycystic Ovarian Syndrome, Anatomy and functions of ovary, description, incidence, risk factors and causes, signs and symptoms, diagnosis, management, complications, effects of PCOS on pregnancy.

CONCLUSION

I hope you have gained some knowledge regarding polycystic ovarian syndrome and you will be able to apply it in practical life.

APPENDIX - K

