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RESEARCH OF POLYCYSTIC OVARIAN SYNDROME(PCOS)

Hemlata Gajbe Lecturer*, Dr. Aparna Sankhe, Ajinkya Ghargine, Nayan Dange, Raghavendra Deshmukh, Sonu Das, Sudam Bhavari, Tintu Abraham, Tushar Bhosale, Vishaka Chaudadwar, Samyak Gadling, Shrikrishna Deokar

India.

***Corresponding Author: Hemlata Gajbe Lecturer**

India.

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ABSTRACT

Introduction: Polycystic ovarian syndrome (PCOS) is the most common endocrine disorder among women between the ages of 18 -44 years. It affects approximately 2% to 20% of this age group. It is one of the leading endocrine diseases which affect one in 15 women's worldwide. The main objective of the study was to evaluate effect of structured teaching programme on knowledge regarding polycystic ovarian syndrome among nursing student. **Statement of The Problem:** A Study To Assess The Effect Of Structured Teaching Programme On Knowledge Regarding Polycystic Ovarian Syndrome Among Nursing Students In Selected Nursing Colleges Of Metropolitan City.

Objectives

1. To assess the level of knowledge regarding polycystic ovarian syndrome (PCOS) among nursing students.
2. To administer structured teaching programme of knowledge regarding polycystic ovarian syndrome (PCOS) among nursing students.
3. To determine the effectiveness of structured teaching programme on knowledge regarding polycystic ovarian syndrome (PCOS) among nursing students.
4. To find out association between post test level of knowledge regarding polycystic ovarian syndrome (PCOS) among nursing students with their selected demographic variables. **Design:** A quantitative approach by using pre experimental one group pre test post test research design. **Participants:** The sample consisted of 40 nursing students. **Tool:** Structured multiple choice questionnaire of demographic variables and knowledge questionnaire regarding polycystic ovarian syndrome are used foe data collection. **Intervention:** Structured teaching programme of polycystic ovarian syndrome (PCOS). **Result:** Majority of nursing students had adequate knowledge after structured teaching programme of PCOS, Analysis used paired t test found significant value at $p< 0.01$ level. **Conclusion:** Structured teaching programme was effective in improving level of knowledge regarding polycystic ovarian syndrome (PCOS) among nursing students.

KEYWORDS: Assess, effectiveness, structured teaching programme, knowledge, Polycystic Ovarian Syndrome.

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"

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 'Amenorrhea', 'Obesity', and 'Hirsutism' in 1935 when they observed the relation between obesity and reproductive disorders. It is hence also known as the 'Stein- Leventhal Syndrome' or 'Hyper androgenic An ovulation' 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 disruption.

Polycystic Ovary Syndrome is a set of symptoms due to elevated androgens in women. Signs and Symptoms of Polycystic Ovarian Syndrome include irregular or no menstrual periods, heavy periods, excess body and facial hair, acne pelvic pain, difficulty getting pregnant, and patches of thick darker, Velvety 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 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

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 teenage girls and college girls in several colleges around India was found to show a higher percentage of college girls with PCOD and there was around 36 % of increase in cases of PCOD compared from a period of 2007-08, 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 these 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 puberties. 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 endocrinology 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 nursing students about how to identify the symptoms and modification to be brought in order to prevent further complications of PCOS. Hence the researcher felt that structured teaching programme will be an effective teaching strategy to impart knowledge of polycystic ovarian syndrome. Among the nursing students and it helps to disseminate knowledge of polycystic ovarian syndrome in community.

STATEMENT

A study to assess the effect of structured planned teaching on knowledge regarding polycystic ovarian syndrome (PCOS) among nursing students in selected nursing colleges of metropolitan city.

OBJECTIVES

1. To assess the level of knowledge regarding Polycystic Ovarian Syndrome among nursing students.
2. To administer the Information Education and Communication regarding Polycystic Ovarian Syndrome.
3. To determine the effectiveness of Information Education Communication on the level of knowledge regarding Polycystic Ovarian Syndrome among nursing students.
4. To find out association between post test level of knowledge regarding Polycystic Ovarian Syndrome among nursing students 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 nursing students and their selected demographic variables.

OPERATIONAL DEFINITIONS

Assess

Evaluate the level of knowledge among nursing students of nursing college, Regarding PCOS before and after using structured knowledge questionnaire.

Effectiveness

Effectiveness refers to the knowledge scores after administration of structured teaching programme regarding Polycystic Ovarian Syndrome among nursing students.

Structured planned teaching
Structure planned teaching refers to administration of the relevant study material to the nursing students regarding Polycystic Ovarian Syndrome.

Knowledge
It refers to the response of nursing students 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.

ASSUMPTIONS
Nursing students possess some knowledge regarding Polycystic Ovarian Syndrome.
Proper knowledge regarding polycystic ovarian reduces the risk of getting Polycystic Ovarian Syndrome among **Nursing students.**
Structured teaching programme will helps to improve the level Of knowledge regarding Polycystic Ovarian Syndrome.

DELIMITATIONS
The study is delimited to a selected college at Mumbai city
The data collection period was delimited to period of 6 weeks
The age group is limited to 18 -21years of girls.

PROJECTED OUTCOMES
The findings of the study will help the nurses to assess the level of knowledge regarding PCOS among nursing students using structured multiple choice questionnaire.

SCOPE OF STUDY
Data gathering through this study will help to reveal existing knowledge with regards to Polycystic ovarian syndrome. Health care providers have vital role in assessing knowledge of student nurses about polycystic ovarian syndrome will help in the planning of in service education program on polycystic ovarian syndrome.

The finding may form the base for further studies in the field and thus may be used in future reference. It will motivate student nurse to update their knowledge regarding prevention of polycystic ovarian syndrome.

REVIEW OF LITERATURE

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

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

A. Studies related to knowledge of Polycystic Ovarian Syndrome among adolescent girls
B. Studies related to effectiveness of Education Programme on level of knowledge regarding Polycystic Ovarian Syndrome
C. Studies related to effectiveness of structured planned teaching on Knowledge regarding PCOS

A) 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 universitystudents with PCOSamong 480 participants in Mangalore city in Karnataka state. The study revealed that 39were already diagnosed with PCOS, 40 were at highrisk 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 were 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 PCOSwas 7.3%, Acne was the only studied risk factor among other to be statistically related PCOSpatients. Clinical hirsutism was found in 27% of participants,70% of whom had idiopathic hirsutism. The study concluded that prevalence of PCOSin Palestine seems to be relatively high but similar to other Mediterranean statisticsShawna 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 prevalenceof a confirmed diagnosis of PCOSwas 0.5% and increased to 1.14% when undiagnosed cases. The study concluded that overweight and obesity were associated with higher odds of PCOSin 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.

B) Studies Related To Knowledge Regarding Polycystic Ovarian Syndromeamong Adolescent Girls

Amal Alessa, Dalal Alied, Sara Almutairi, etc.all (2017), conducted a cross-sectional study to assess the level of knowledge of PCOSamong 2000 women of age group (18-50) in Saudi Arabia. The study revealed that the level of knowledge of PCOSwas significantly related higher educational level and woman with health college qualification. The study concludedthat there is ahigh level of awareness of PCOSamong Saudi Arabia.

Jayshree J. Upadhye, Chaitanya A. Shembekar, (2017), the study was conductedto assess the knowledge on POCS 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 studyconcluded 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 syndromeafter educational intervention. The study concluded that different educational programs should be doneto 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.

C) Studies Related To Effectiveness Of Educational Programmeon 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 progarmme regarding the knowledge on PCOS among 60 adolescent girls in Chennai. The study revealed that 52 of the adolescent girls had inadequateknowledge 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 controlgroup 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.

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 impartingknowledgeon 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 nursesat level of knowledge relatedto 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.

CONCEPTUAL FRAME WORK

General Systems Theory

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 structured teaching programme on knowledge regarding Polycystic Ovarian Syndrome among nursing students. 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 is 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

In this present study input is the assessment of knowledge regarding Polycystic Ovarian Syndrome among nursing students by structured planned teaching using multiple choice questionnaire with a effect of demographic variables.

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 structured planned teaching.

DATA ANALYSIS AND INTERPRETATION

This chapter deals with the analysis and interpretation of the collected data from 40 nursing students to assess the effectiveness of structured planned teaching on level of knowledge regarding Polycystic Ovarian Syndrome among nursing students.

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 nursing students
Section II: Data on assessment of level of knowledge among nursing students
Section III: Data on effectiveness of structured planned teaching programme on level of knowledge regarding Polycystic Ovarian Syndrome among nursing students
Section IV: Data on association between the post-test level of knowledge among nursing students with their selected demographic variables.
Section I: Data on Demographic Variables of Nursing Students.

Table 1.1: Frequency and Percentage Distribution of nursing students in according to their Demographic variables.

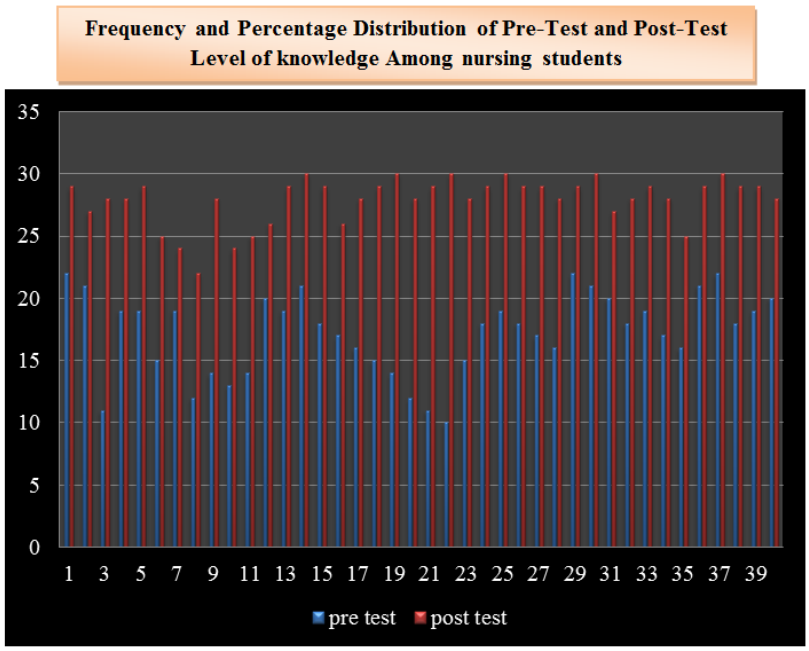
N = 40

Sr no	Demographical variables	Frequency	Percentage
1	**Age**		
	a) Below 19 years	4	10
	b) 19 years	22	55
	c) 20 years	12	30
	d) Above 21 years	2	5
2	**Weight**		
	a) Below 45kg	3	7.5
	b) 45 to 50 kg	22	55
	c) 50 to 59 kg	11	27.5
	d) Above 60 kg	4	10
3	**Height**		
	a) Below 140 cm	3	7.5
	b) 140 to 145 cm	19	47.5
	c) 145 to 150 cm	11	27.5
	d) Above 150 cm	7	17.5
4	**BMI**		
	a) 18 to 21	0	0
	b) 22 to 25	28	70
	c) 26 to 29	8	20
	d) Above 30	4	10
5	**Eating habits**		
	a) Street food	23	57.5
	b) Home made food	10	25
	c) Organic food	2	5
	d) As per availability	15	37.5
6	**Menstrual cycle**	18	45
	a) Irregular	6	15
	b) 20 to 25 days	7	17.5
	c) 25 to 30 days	9	22.5
	d) 30 to 35 days		
7	**Family income**		
	a) Less than 10,000 per month	14	35
	b) 10,000to 30,000per month	16	40
	c) Greater than 30,000per month	10	25
8	**Mother's education**		
	a) Literate	33	82.5
	b) Illiterate	7	17.5
9	**Do you consume junk food**		
	a) Yes	38	95
	b) No	2	5
10	**Source of information**		
	a) Health personnel	22	55
	b) Parent	4	10
	c) Mass media	12	30
	d) Text book	2	5
	e) No information	0	0
11	**Menarche**		
	a) 10 to 12 years	1	2.5
	b) 12 to 14 year	26	65
	c) 14 to 16 years	14	35
	d) Below 10 years	0	0
12	**Number of Menstruating days**		
	a) 4 to 5 days	26	65
	b) Less than 4 days	10	25
	c) More than 5 days	4	10

13	**Does anyone in family have PCOS** a) Yes b) No	 17 23	 42.5 57.5
14	**Do you experience menstrual cramps** a) Yes b) No	 34 6	 85 15
15	**If yes, what do you do to relieve the pain** a) Take pain killers b) Use heat compressions c) Use ayurvedic herbal supplements d) None of the above	 11 21 5 3	 27.5 52.5 12.5 7.5

Table 1.1 suggests that according to the analysis made based on the demographical variables,

- Most of the age of nursing students were 19 years (10 %) and less were of above 21 years (5%)
- Most of weight of nursing students was 45 to 50kgs and less were of the above and below 45 to 50kgs.
- Most of height of nursing students were 140 to 145cm and less were of the above and below 140 and 145cm.
- Most of BMI of the nursing students were 22 to 25and less were of the above the 25.
- Most of eating habits of nursing students were eat street food and rest were eat the other foods.
- Most of menstrual cycle of nursing students was irregular and rest were repeat after fix time period.
- Most of family income of nursing students were less than 10000/month and rest were above 10000/month.
- Most of mothers of the nursing students were illiterate and less was literate.
- Most of nursing students eat the junk foods and some not take the junk food.
- Most of nursing student's source of information is the health personnel.
- Most of menarche of nursing students were start between 12-14 years and rest above and below the 12 and 14 age.
- Most of the menstruating days of the nursing students were 4-5days and rest will menstruate for more or less than 4 and 5days.
- Most of the family member was not having the PCOS and rest the family member have the history of PCOS.
- Most of nursing students were experience the menstrual cramps during the menstrual cycle and rest will not experience menstrual cramps.
- Most of nursing students use heat compressing relieve menstrual pain other use other pain relieving options.



TOTAL QUESTIONS = 30
TOTAL SAMPLES = 40(N)

Figure 1.1: reveals that among 40 nursing students, most of them 32 (80%) had inadequate knowledge, 8 (20%) had moderate knowledge; no one had adequate knowledge in pre-test. 32(80%) had adequate knowledge, 7(17-5%) had moderate knowledge, 1(2.5%) had inadequate knowledge in post-test.

SECTION II: DATA ON ASSESSMENT OF LEVEL OF KNOWLEDGE AMONG NURSING STUDENTS

Table 2: Frequency and Percentage Distribution of Pre-Test and Post-Test Level of knowledge Among Nursing Students.

N=40

SR NO	Level Of Knowledge	PRE TEST		POST TEST	
		Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
1	Inadequate knowledge	32	80	1	2.5
2	Moderate knowledge	8	20	7	17.5
3	Adequate knowledge	0	0	32	80
	Total	40	100	40	100

Table 2.1: reveals that among 40 nursing students, most of them 32 (80%) had inadequate knowledge, 8 (20%) had moderate knowledge; no one had adequate knowledge in pre-test. 32(80%) had adequate knowledge, 7(17-5%) had moderate knowledge, 1(2.5%) had inadequate knowledge in post-test.

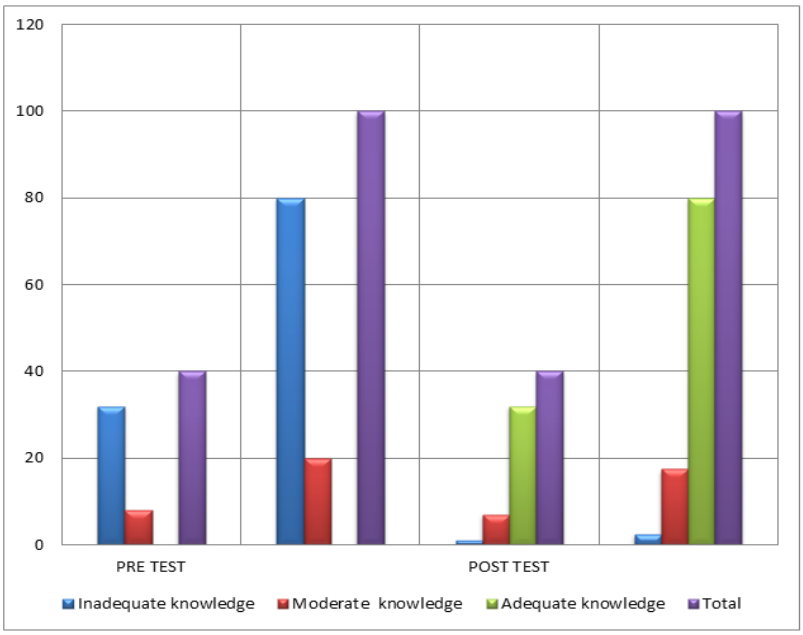


Figure 3: Frequency and Percentage Distribution of Pre-Test and Post-Test Level of knowledge Among Nursing Students.

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 nursing students. Thus structured planned teaching regarding polycystic ovarian syndrome was proven to be effective on the level of knowledge among nursing students.

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 structured planned teaching.

The Objectives of the Study were

- To assess the level of knowledge regarding Polycystic Ovarian Syndrome among nursing students.
- To administer the Structured planned teaching regarding Polycystic Ovarian Syndrome.
- To determine the effectiveness of structured planned teaching on the level of knowledge regarding Polycystic Ovarian Syndrome among nursing students.
- To find out association of between post test level of knowledge regarding Polycystic Ovarian Syndrome among nursing students and their selected demographic variables.

Pre experimental one group pre-test and post-test design was used to assess the effectiveness of structured planned teaching on knowledge regarding polycystic ovarian syndrome among nursing students in selected college of nursing in metropolititan city Mumbai

The 40 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 the Principal of C.O.N SIR J J hospital Mumbai. In this study 40 nursing students were involved.

On day 1, before giving structured multiple choice questionnaire, the purpose of the study was explained to nursing students with self introduction.

Pre test questionnaire were given to the sample and they took 15-20 minutes for answering it.

On day 1 after surveying with pre test, structured teaching programme on Polycystic Ovarian Syndrome was given for 45 minutes through LCD projector.

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.

Major Study Findings The major study findings were,

- With regard to the knowledge most of them had inadequate knowledge in pretest and most of them had adequate knowledge in post-test.
- With regard to the effectiveness of structured planned teaching on knowledge regarding Polycystic Ovarian Syndrome among nursing students, 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 structured planned teaching was effective in improving the level of knowledge regarding Polycystic Ovarian Syndrome.

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

CONCLUSION

The main conclusion drawn in this present study was majority of the nursing students had moderate, inadequate level of knowledge. After structured planned teaching 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.
- Structured planned teaching can be incorporated in nursing as specific health education measures to teach about Polycystic Ovarian Syndrome among nursing students
- The nursing personnel can be able to develop specific knowledge and skill in providing health education regarding Polycystic Ovarian Syndrome among adolescent girls.

Nursing Education

- The Structured planned teaching can be taught to all the nursing students to upgrade their knowledge on Polycystic Ovarian Syndrome among adolescent girls.
- The Structured planned teaching can be taught to nursing students posted in gynecological department to provide health education.
- Nursing Administration
- In service education program can be organized for the nurses on polycystic ovarian syndrome.
- The nurse can become an effective coordinator and leader by arranging the health education program at various settings.

Nursing Research

- Findings of the study can be added to the research review regarding the effectiveness of Structured planned teaching regarding Polycystic Ovarian Syndrome to increased knowledge among adolescent girls.
- The study findings can be used as the baseline data and further studies can be conducted and expand the study in various fields. Limitations
- The study was limited to 6 weeks.
- The study was limited to student nurses in selected nursing college in mumbai.

Recommendations

- The same study can be replicated on large sample to generalize the findings among the nursing students and adolescents’ girls.
- The same study can be conducted in different settings.

- Nursing curriculum should be updated to include comprehensive information about PCOS to improve the awareness of other women once in practice.
- A similar study can be conducted by assessing the knowledge and attitude regarding Polycystic Ovarian Syndrome among nursing students with large sample.

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