

Assess The Effectiveness Of Structured Teaching Programme On Knowledge Regarding Polycystic Ovarian Syndrome Among B.Sc Nursing Students In Hi-Tech College Of Nursing, Rourkela.

Sravanthi Mettu¹

¹Principal, Community Health Nursing , HI-Tech College of Nursing, Rourkela, Odisha

*Corresponding author:

Sravanthi Mettu,

Email ID : sravanthikarna352@gmail.com:

Cite this paper as: Sravanthi Mettu, (2025) Assess The Effectiveness Of Structured Teaching Programme On Knowledge Regarding Polycystic Ovarian Syndrome Among B.Sc Nursing Students In Hi-Tech College Of Nursing, Rourkela. *Journal of Neonatal Surgery*, 14 (2s), 386-394.

ABSTRACT

Introduction: Poly cystic ovarian syndrome or PCOS is condition in which women's level of sex hormones estrogens & progesterone are out of balance. This leads to growth of ovarian cysts. It causes problems with women's menstrual cycle, cardiac function & appearance. PCOS is the common female disorder Globally. prevalence estimates of PCOS are highly variable ranging from 2.2-2.6%

Techniques: 40 Students From Hi-tech College Of Nursing ,Rourkela ,Odisha ,Who Were Chosen Using A Convenient Sampling Technique, Participated In The Study Using A Pre-Experimental Design. A Self-Structured Questionnaire Was Chosen As The Study's Instrument. Tool Validity Using The Test-Retest Technique With Expert Opinion. After Some Days After The Pre-Test Structured Education Program Was Delivered, a post-test was administered, Both descriptive and Inferential statistics were used to analyse the data.

Result: In pre -test 75% subjects had inadequate knowledge, 25% had moderate knowledge, none of them had adequate knowledge, whereas in post-test 32.5% of subjects had inadequate knowledge, 42.5% had moderate knowledge ,25% had adequate knowledge. There is an increase in post-test knowledge score of the subjects.

Conclusion: Health education is one of the generalities widely adopted health promotion strategy to improve knowledge on condition which helps in early detection to prevent its long-term complications. In India 40% of women are affected by PCOS but among them 60% come to hospitals for treatment when they recognize that they have got infertility. Though the prevalence rate of pcos is rapidly increasing have, the adolescents' girls & women have inadequate knowledge regarding PCOS Hence, the knowledge level of female have key role in early detection of PCOS. Early diagnosis & appropriate treatment is very important to prevent the long-term Complication associated with Polycystic Ovarian Disease.

1. INTRODUCTION

Polycystic Ovary Syndrome (PCOS) Is A Common Hormonal Disorder That Affects Women Of Reproductive Age. It's Characterized By Irregular Periods, Excess Androgen Levels, And/Or Small Cysts On The Ovaries. PCOS Can Lead To Various Health Issues, Including Infertility, And Is A Significant Public Health Concern.

Poly Cystic Ovarian Syndrome Or PCOS is Condition In Which Women's Level Sex Hormones Estrogens & Progesterone Are Out Of Balance. This Leads To Growth Of Ovarian Cysts. It Causes Problems With Women's Menstrual Cycle, Cardiac Function & Appearance. PCOS Is The Common Female Disorder Globally. Prevalence Estimates Of PCOS Are Highly Variable Ranging From 2.2-2.6%.

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 Endocrine Disease And Which Affects One In 15 Women In Worldwide. The Incidence Of PCOS Among Adolescents In Estimated To Be Between 11 And 26% (3) And About 50% Are Overweight.

The Main Risk Factor For PCOS Is A Family History Of It. A Family History Of Diabetes May Increase The Risk Of PCOS Because Of The Strong Relationship Between Diabetes And 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, Toxin Effect Are At Risk For Developing PCOS. 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 Of Having Sense Of Identity And The Sense Of Intimacy. 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 Leads To Illness Or Premature Death Including HIV

Epidemiology

(PCOS) Prevalence Worldwide Is Estimated To Be Between 6% And 13% Of Women Of Reproductive Age. However, Up To 70% Of Affected Women May Remain Undiagnosed.

The Prevalence Of Polycystic Ovary Syndrome (PCOS) In India Ranges From 3.7% To 22.5%, With Variations Depending On The Diagnostic Criteria And Population Studied.

In Odisha, A Study In Sambalpur Found A 12% Prevalence Of Clinical PCOS Among Adolescent Girls In Bhubaneswar Polycystic Ovarian Syndrome (PCOS) Affects Around 2 Out Of 5 Obese Girls. According To Doctors Here Who Get 2-3 Patients Every Day Who Are Struggling To Conceive Because Of the Disease.

Causes and risk factors of PCOS

It is difficult to identify the causative factors of this multifactorial condition due to its complex interlinked pathophysiology. The origin, prevalence, and modulation of the PCOS phenotype may be affected by environmental pollutants, diet and lifestyle choices, genetic factors, obesity, and gut dysbiosis . These factors might lead to the cause of excessive androgen secretion from the ovaries, the onset of insulin resistance, partial folliculogenesis arrest, and the chronic low-grade release of inflammatory mediators from white blood cells, up surging metabolic syndrome.

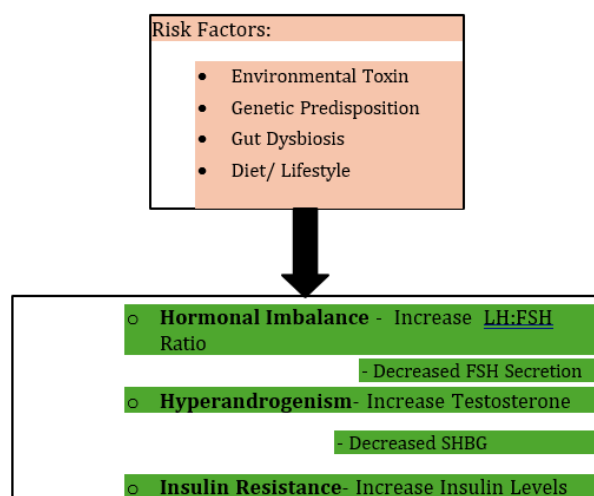
Environmental Pollutants

Environmental pollutants, such as heavy metals, insecticides, and endocrine-disrupting chemicals (EDCs), significantly affect human health and reproduction. Indeed, there is mounting evidence that environmental pollutants contribute to the development of PCOS. Takeuchi and Kandarakis et al. discovered that serum BPA levels in hyper androgenic women with PCOS were greater than in non-hyper androgenic women with PCOS and healthy controls.

PCOS Is The Most Common Endocrinology Disorders During Adolescence, So There Is Always A Need To Investigate All New Relevant Data. Early Recognition And Promote Treatment Of PCOS In Adolescents Is Important To Prevent Long Term Complications. From All The Above Studies The Researcher Found That Adolescent Girls Must Obtain Adequate Knowledge Regarding PCOS Because They Are Future And They Are The One To Make The New Generation. Lack Of Knowledge, And The Negative Lifestyle. Attitude Towards Poly Cystic Ovarian Syndrome 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 Information.

Disease Pathophysiology

Across the globe, PCOS affects between 8% and 20% of women of reproductive age annually, according to the diagnostic criteria. This pathophysiology and features of PCOS and subsequent development of clinical and metabolic response.



PATHOPHYSIOLOGY & CLINICAL FEATURES OF PCOS:-

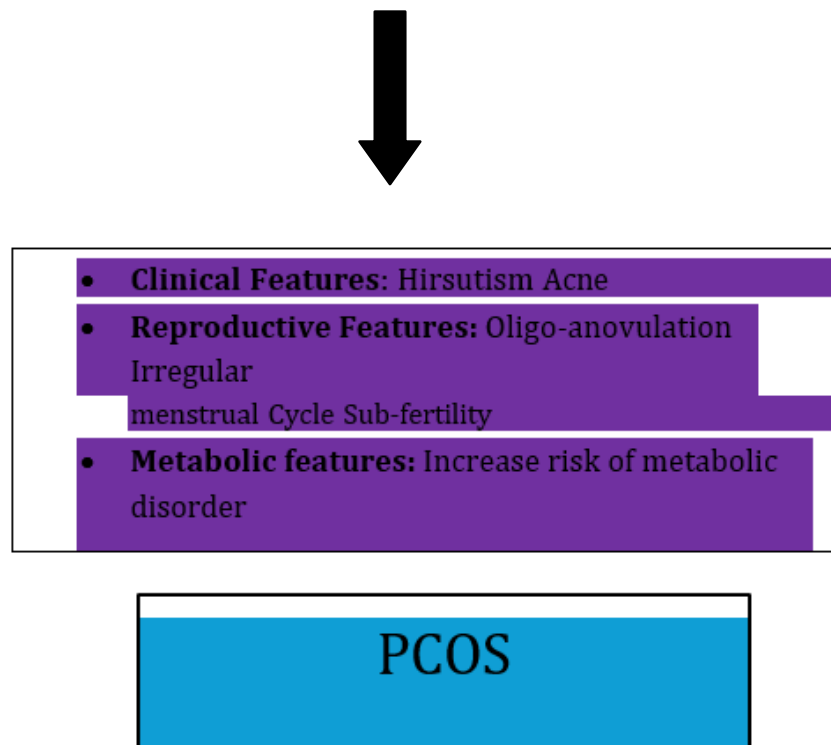


Figure 1: Pathophysiology and features of PCOS

Need for the study

Polycystic Ovarian syndrome is common health Problem which increase among adolescents' girls and young women during their reproductive years. It is a Problem on which 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, a common endocrinal system disorder. among women of reproductive age. And out of 10 Women Diagnosed With PCOS Six Are Teenage Girls. The Pooled Prevalence Of PCOS Was Close To 10%. Using Rotterdam's Criteria and AES Criteria, While It Was 5.8% Using NIH Criteria.

Objectives

1. Assess the Pre-Test Knowledge Regarding Polycystic Ovarian Syndrome Among B.Sc. Nursing Students of Hi-Tech College Of Nursing Rourkela, Odisha.
2. Evaluate The Effectiveness Of Structure Teaching Programme Regarding Polycystic Ovarian Syndrome Among BSC Nursing Student In Hi-Tech College Of Nursing, Rourkela through post-test.
3. Find out The Association With Knowledge Score Regarding PCOS Among Bsc Nursing Students With Selected Demographic Variables.

OPERATIONAL DEFINITION

Effectiveness: Effectiveness is the capability of producing a asked result or the capability to produce asked affair. When commodity is supposed effective, it means it has an intended or anticipated outgrowth or produces a deep pictorial print. In this study it refers to asked change brought by structured tutoring programme by post-test score as assessed by semi-structured questionnaires.

Knowledge: Data, information and chops acquired through experience or education, the theoretical or practical understanding of subjects. In this study knowledge is the capability of the couple to understand the data and information about gravidity and their causes.

PCOS: Polycystic ovarian syndrome, is the most common endocrine disorder in women of reproductive age. The name is a misnomer, as not all women with this condition develop cysts on their ovaries.

Preventative Measures: It means any action taken to keep people healthy and well and preventative or avoid threat of poor health illness injury and early death. **Structured Teaching Programme:** It refers to a totally developed educational programme using educational aid, designed to give information. In this study it refers to system of educational tutoring to give knowledge regarding gravidity and their causes.

Hypothesis

- H1 : There is significant association between association between knowledge regarding PCOS among students with selected demographic variables.

2. MATERIALS AND METHODS

Pre-experimental research design was adopted to quantify the student's knowledge regarding polycystic ovarian syndrome. The research was conducted in Hi-Tech College of Nursing. Convenient sampling technique was used were 40 students studying in BSc nursing students at Hi-tech College of Nursing were selected and were explained about the study and the related purposes and their informed consents were obtained, available at the time of data collection and willing to participate were enrolled.

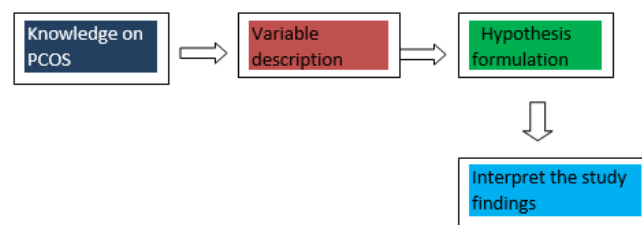


Fig 2: Schematic representation of research design

Pilot study

Pilot study was conducted on 1/10th of total sample size in the month of July at hitech college of nursing ,Rourkela.

Validity and reliability

In order to determine the content validity of the instrument, expert opinion was obtained from five experts were performed, modification were performed according to the expert suggestions and opinion. Reliability of the measuring instrument is a major criterion for assessing quality , adequacy ,accuracy and consistency.in order to calculate the assessed by Cronbach's reliability of tool .it was administered to 4 students other than the study sample .the reliability coefficient was calculated by Cronbach's alpha. The reliability was found to be $r = 0.78$,thus the research tool was found to be reliable.

Data collection Procedure:-

Permission was obtained from the higher authorities and also obtain the written consent from the students. The participants were selected by convenient sampling method. A brief introduction was given about the purpose of the study and explained to the participants to get their co-operation and written consent. All participants maintained confidentiality and anonymity. Participants are encouraged to fill out demographic data forms, including pre-test questionnaires. Pre-test was conducted by using questionnaire to assess the pre-test level of knowledge of polycystic ovarian syndrome about 15-20 minutes. Then the planned teaching programme was implemented through the lecture method. The post test was conducted by using same questionnaire to reassess the knowledge, data collection process was terminated by thanking the respondent for their patient and cooperation. **Instrument:** The data was collected through structured knowledge questionnaire on polycystic ovarian syndrome adopted by students to prevent further complication of polycystic ovarian syndrome. Written consent was taken from the respondent prior to the administration of the questionnaire. The finding was presented for both descriptive and inferential statistics. The study was carried out by using a structured knowledge questionnaire.

Section-I, Part A: This consists of socio-demographic data such as students age, year of study, religion, marital status, diet, previous knowledge, source of information on polycystic ovarian syndrome.

Part B: This consists of question on Self structured questionnaire regarding knowledge of PCOS among Bsc Nursing students.

3. RESEARCH METHODOLOGY:

Research Approach: The Research Approach Adopted For This Study Is Quantitative Research Approach

Research Design: The Research Design adopted For The Study Is Pre-Experimental With One Group Pre-Test Post- Test.

Research Setting- In This Study, Setting Of The Study Is Selected Hitech College Of Nursing Rourkela.

Sampling Size- For The Present Study Compromised Of 40 BSC Nursing Students Are Selected.

Sampling Technique-The Sampling Technique Used For This Study Is Convenient Sampling Technique.

Variables:

Independent Variables: The Independent Variables In This Study Structure Teaching Programme Regarding PCOS.

Dependent Variables: The Dependent Variable In This Study It Refers To The Level Of Knowledge Of Nursing Students Regarding PCOS.

Criteria For Sample Selection

Inclusion Criteria: -All 4 years BSC Nursing students are eligible to participate in the study.

Exclusion Criteria:

- Students of BSC Nursing who are diagnosed with PCOS
- The Students Who Are –Not Interested To Participate
- Not Available During Data Collection.

Description and interpretation of the tool :

Section-I: Finding related to demographic data among students

Table 1:Frequency And Percentage Distribution Of Students Based On Socio Demographic Variables

N=40

S.no	Demographic variables	Sample characteristics	Frequency (f)	Percentage (%)
1.	BSc Nursing Year	1st year	05	12.5%
		2nd year	09	22.5%
		3rd year	24	60%
		4th year	02	5%
2.	Religion	Christian	09	22.5%
		Hindu	23	57.5%
		Muslim	05	12.5%
		Others	03	7.5%
3.	Marital status	Married	02	5%
		Unmarried	38	95%
4.	Diet	Vegetarian	05	12.5%
		Non-vegetarian	02	5%
		Mixed	33	82.5%
5.	Previous knowledge	Yes	16	40%
		No	24	60%

6.	Source information	Family	02	5%
		Media	05	12.5%
		Workshop	09	22.5%
		No information	24	60%
7.	Age	18-22	08	20%
		23-25	20	50%
		26-30	09	22.5%
		>30	03	7.5%

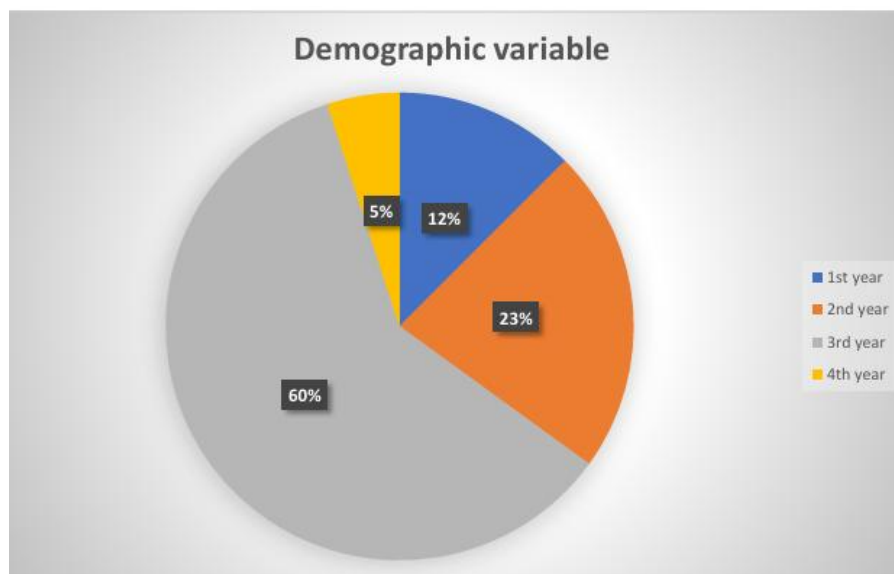


Figure 3 : Distribution of students in year of the study

The data represented in Figure 3 shows that 35% of the subjects were in the students of 1st year, 32% were in the students of students of 2nd year, and 33% were in the students of 3rd year.

Table 2: Over All Knowledge Score Regarding Prevention And Management Of Pcos Among Bsc Nursing Students.

N=40

Grade	Pre Test		Post Test	
	Frequency (F)	Percentage (%)	Frequency (F)	Percentage (%)
Inadequate	30	75	13	32.5
Moderate	10	25	17	42.5
Adequate	0	0	10	25
Total	40	100	40	100

Section – III

Effectiveness of semi-structured teaching programme regarding prevention and management of PCOS among BSc Nursing students.

Table No 3: Overall mean, mean difference, mean percentage, standard deviation and “t” value between pretest and post-test knowledge score.

Knowledge Score	Mean	Mean Percentage	Mean difference	SD	“t” value at p<0.05	“t” test
Pre-test	8.5	28.33%	34.5	2.02	2.02	19.71
Post -test	18.85	62.83%		2.99		

Section -IV

Association With Knowledge Regarding Prevention And Management Of PCOS Among Students And Socio Demographic Variables.

Table No.4: Chi-Square Test Showing Association With Pre-Test Knowledge Score And Demographic Variables.

N=40

Sociodemographic Variable	Chi- Square	Df	Table Value Result	Result
Year Of Bsc Nursing Students	12.59	6	16.1	S
Religion	12.59	6	16.3	S
Marital Status	5.99	2	0.72	NS
Diet	9.49	4	2.61	NS
Previous Knowledge	5.99	2	8.99	S
SourceOf Information	12.59	6	16.1	S
Age	12.59	6	14.37	S

4. DISCUSSION

In this study BSc Nursing 35% of the subjects were in the students of 1st year, 32% were in the students of students of 2nd year, 33% were in the students of 3rd year and 5% were in the students of 4th year. Regarding religion 57.5% of the subjects were Hindu,22.5% of the subjects were Christian and 12.5% subjects were Muslim & 7.5% of the subjects were others. Regarding marital status 5% of the subjects were married of the students and 95% of the subjects were unmarried of the students. Regarding diet the 12.5% of the subjects were vegetarian,5% of the students were non vegetarian and 82.5% of the subjects were mixed.

Regarding previous knowledge that 40% of the subjects were YES and 60% of the subjects were NO. Regarding source of information that 5% of the subjects were got information from the family members, 12.5% of the students were got information from the media, 22.5% of the subjects were got information from workshop and 60% of the subjects were not got information from anyone/ anywhere. Regarding age that 20% of the subjects were in the age group of 18-22 years, 50% of the subjects were in the age group of 23-25 years ,22.5% of the subjects were in the age group of 26-30years & 7.5% of the subjects were in the age group >30 years.

Current study shows that in pre -test 75% subjects had inadequate knowledge, 25% had moderate knowledge, none of them had adequate knowledge, whereas in post-test 32.5% of subjects had inadequate knowledge, 42.5% had moderate knowledge ,25% had adequate knowledge. There is an increase in post-test knowledge score of the subjects.

The current study findings are also supported by the research studies done by Chinani E. (2024), who studied the effectiveness of a structured program on PCOS. In their study, they proven that after the teaching program of PCOS, the post-level of knowledge was increased. In the posttest, results show that 62 (95.38%) of students have adequate knowledge, 2 (3.08%) have adequate knowledge, and 1 (1.54%) have inadequate knowledge

5. CONCLUSION

The Finding of The Study Concluded That, The Structured Teaching Was Effective In Terms of Bettered Post Test That's 32.5% of Subjects Had Inadequate Knowledge, 42.5% Had Moderate Knowledge ,25% Had Adequate Knowledge Had Acceptable Position Knowledge While 75% Subjects Had Inadequate Knowledge, 25% Had Moderate Knowledge, None of Them Had Adequate Knowledge. This Study Revealed That after Administration of Structured Teaching Programme There Was Significant Enhancement in the Position of Knowledge of Gravidity Among BSC Nursing Students. Thus it was concluded that structured teaching on study related polycystic ovarian syndrome was found effective as a teaching strategy.

Recommendation:

- Similar study can be conducted to assess the prevalence of PCOS among nursing students
- A survey to identify the adolescents with high risk for Polycystic Ovarian Syndrome (PCOS) can be conducted.
- A similar study can be replicated with a experimental and control group
- A similar study can be conducted to the group of adult women.
- The study can be replicated on a larger sample for generalizing the findings.
- A experimental study can be conducted to find out the effectiveness of awareness programme.

Declarations

Funding: No funding sources

Conflict of interest: None declared

REFERENCES

ARTICLES

1. Kashar Miller Nixon C.BootLr,Gorc.Azziz R. Journal on fertility sterility.2011 jan.75(1).53-58.
2. Anery, J.C., Mayor, A.J.B. The information needs of women diagnosed with PCOS implication for treatment and health outcomes ; BMC women's health(9);2007;p.7-8.
3. zziz R, Sanchez L, Knochenhauer ES, Androgen excess in women: experience with over 1000 consecutive patients. J ClinEndocrinolMetab. 2004;89(2):453–462.
4. Kashar Miller Nixon C.BootLr,Gorc.Azziz R. Journal on fertility sterility.2011 jan.75(1).53-58.
5. Rahman, S., Parvez, A. K., Sabur, A., & Ali, S. (2012). Study of the Effect of Food Habit, Lifestyle and Daily Trip on Physical and Mental Status of Subjects at Islamic University in Kushtia, Bangladesh. Open Journal of Statistics, 2(02), 219.
6. SreepoornaPramodh Exploration of Lifestyle Choices, Reproductive Health Knowledge, and Polycystic Ovary Syndrome (PCOS) Awareness Among Female Emirati University Students.Int J women health. 2020.12:927-38.
7. Kaewnin J, Vallibhakara O, Arj-Ong VS, Wattanakrai P, Butsripoom B, Somsook E., Sophonsritsuk A. Prevalence of polycystic ovary syndrome in Thai university adolescents. Gynecol. Endocrinol.,2017 ;34: 476–80.
8. Mary KVA. Adolescence and its problems [Internet]. Slideshare. net. 2022 [cited 4 June 2022]. Accessed November 10, 2022, at: <https://www.slideshare.net/ashimamary/adolescence-and-its-problems>
9. Sunanda B, Nayak S. A study to assess the knowledge regarding PCOS (polycystic ovarian syndrome) among nursing students at NUINS. NUJHS 2016;6(03):2
10. Padma K, Arumugam I, Reddy VRS. A study to assess the knowledge regarding PCOD among nursing students in NNI,Nellore.IntJAppl Res 2019;5(01):10–12
11. Sehar S. Assessment of knowledge regarding polycystic ovary syndrome (PCOS) among nursing students. Int J NursMidwif Res 2020;7(03):42–45.

12. Chainani, E. (2019) Awareness of polycystic ovarian syndrome among young women in Western India, International Journal of Reproduction, Contraception, Obstetrics and Gynecology, 8(12), 4716-4720.

BOOKS

1. Annamma Jacob (2012),'' A comprehensive x Text book of Min/wifery'' and edition, Jaypee Publication, New Delhi, Pp-610-611.
2. Waugh Allison grant (2007), Ross and Wilson Anatomy & physiology in health and illness,10th edition, Churchill living stone publication pp-442-448.
3. Ashalatha PR, G006),'' Text book of Ananta my and physiology for nurses'' 1st edition, Jaypee publication New Delhi, pp-223-235.
4. HiralalKonare of gynecology, Jaypee publication 7th edition pp-xvil, 563 379 881,475, 507.
5. Jonathan & Berek & Novak s gynecology, Wolters Kluwer. India, pvt.ltd,15th edition, pp- 392.
6. John A. Rock, Howard w. Jones, TeLinde's operative gynecology, published by Wolters Kluwer (India) pvt. Ltd, tenth edition, pp-589.
7. Asha k Varughese, veenaGreettaTauro, International –journal of Nursing education and Research 2018, ISSN 2454-2660 (Online), 2347-8640 (print), volume -6, Issue - 9.
8. ChoragudiSrujana, rayapurVasundharaJonnalagaddaMinyani, international journal of Advance in Nursing management, ISSN 2454-2652 (Online), 2347 -8632 (print) volume 6, Issue – 3.