Effectiveness of Structured Teaching Programme on Knowledge regarding Polycystic Ovarian Syndrome among Nursing Students

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Abstract: *There are number of adolescents are presenting with signs of PCOS and also there is an increased risk of cardiovascular, metabolic and depressive disorders. Mainly they face problems like disturbance in their body image because of certain PCOS related problems.So, early recognition prevention and treatment is important to prevent long term sequel and to develop a positive attitude and follow healthy life style. Lack of knowledge and lifestyle changes are considered to be the major factor leading to this phenomenon. The aim of this study was to assess the knowledge regarding polycystic ovarian syndrome among nursing students and to improve their knowledge regarding polycystic ovarian syndrome through structured teaching programme on PCOD. Objectives:- To assess the knowledge regarding polycystic ovarian syndrome among nursing students, To determine the effectiveness of structured teaching programme on knowledge regarding polycystic ovarian syndrome, To find out association of knowledge regarding polycystic ovarian syndrome with their selected demographic variables. The study samples were 3rd year GNM students. One group pre-test post-test design was used in this study. The tool used for this study was structured knowledge questionnaire. Major Findings: - Among the samples 50% samples were in the age group of 20 and above. Majority of samples (63.3%) were Christians. Most of the samples (63.3%) got information from books or articles. Majority of samples (76.6%) came from urban area. The findings show that in pre-test 33.3% subjects were having poor knowledge, 56.6% were having average knowledge and only 10% were having good knowledge. In post test scores 53.3% showed good knowledge, 46.6% showed average knowledge and none showed poor knowledge.Conclusion:-The findings of the present study show significant improvement of knowledge scores after the planned teaching. There is no significant association between knowledge score and source of information and area of residence.*

Keywords: Assess, Effectiveness, Structured Teaching Programme, Polycystic Ovarian Syndrome

1. Introduction

Polycystic Ovarian Syndrome, (PCOS) is the most common problem that encounter with fertility of women in reproductive age. The prevalence of polycystic ovaries in Indian subcontinent Asian women is very high. The prevalence of polycystic ovarian disease in general population has been estimated to be 5% to 10% of women of reproductive age[1] Adolescent period is a unique period where there is a change from childhood to adulthood, a time of physiological, psychological, social and emotional adaption. During this period individual attains physical and sexual maturity, whereas emotional maturity imbalanced. The changes in adolescent period important implications to understand the health risks associated with it. During this period the body changes and there will be development secondary sex characteristics. Any difference of secondary sex characteristic can inversely affect the physical and emotional adaptation of the adolescent.[2]

Polycystic ovarian syndrome (PCOS) is a condition that affects the women's hormonal level. Woman with PCOS produce higher than normal amount of male hormones .This hormone imbalance causes then to skip menstrual period and makes it harder to get pregnant. PCOS also causes hair growth on face and body and baldness and it can contribute to long term health problem like diabetes and heart disease. Birth control pills and diabetic drugs can help to fix hormone imbalance and improve symptoms.[4]

A study findings shows that obese girls with polycystic ovary morphology (PCOM) had a greater risk of developing of Polycystic Ovarian Disease (95%) than non-obese girls with polycystic ovary morphology. Obese girls with polycystic ovary morphology had a higher incidence of oligo menorrhea and biochemical hyperandrogenemia than non-obese adolescent girls with PCOM. Moreover, obese girls with PCOD had significantly higher serum total T levels and more prolonged menstrual intervals than non-obese women with polycystic ovarian disease.[16] Polycystic Ovarian Disease is not curable but treatment is available to alleviate the symptoms. This disease is so dreadable that such girls are unable to conceive and its pathology of spreading to other organ is far greater than that of infertility [5] The PCOS is the source of psychological morbidity and also can negatively affect the quality of life of adolescents. So, early recognition prevention and treatment is important to prevent long term sequel and to develop a positive attitude and follow healthy life style. Lack of knowledge and lifestyle changes are considered to be the major factor leading to this phenomenon. There is a need to increase awareness among women so as to avoid major cases of fertility problems in the future. A nurse holds a critical role in health care that goes beyond the day to day duties. Nurses are in a position to provide comprehensive care to adolescent afflicted with the syndrome. Hence, the researcher is interested to educate the adolescent girls regarding PCOS and assess the effectiveness of structured teaching program.

2. Review of Literature

Literature review is a critical summary of research on a topic of interest generally prepared to put a research problem in context or to identify gaps and weakness in prior studies so

as to justify a new investigation.[6]Studies reviewed have been arranged under the following headings:-

Studies related to polycystic ovarian syndrome among adolescent girl

Shazia R [2011]A study was conducted to investigate the prevalence of polycystic ovaries among patients with hirsutism and menstrual abnormalities and to correlate presence of hirsutism with BMI, polycystic ovaries, ovarian volume and biochemical markers. All patients who presented with oligohypomenorrhea or hirsutism either in outpatient clinic of Obstetrics and Gynaecology, Shalimar Hospital or a private laser clinic were enrolled in study. Patients who had hirsutism with normal menstrual cycle were excluded from study. Results revealed that prevalence of polycystic ovaries was 81.5% among patients with hirsutism and oligo/oligohypomenorrhea as compared to 44% in patients with oligo/oligohypomenorrhea without hirsutism. Ovarian volume >10ml and BMI were not statistically significant among both groups. [8] Moran L (2010)conducted study to assess the psychological features in young women with and without PCOS. Women with PCOS demonstrated worsened quality of life (p=0.033) and greater anxiety (p= 0.01) and depression (p=0.023) than women without PCOS related to BMI status [12].Anindya J. Mishra. (2017) conducted a study to assess socio-cultural impact of PCOS on Indian Women especially those belonging to Economically Weaker Section (EWS). Majority of the respondents belonged to EWS and did not know anything about PCOS. [15]

Studies related to incidence and prevalence of polycystic ovarian syndrome

Pembe AB, Abeid MS (2009) conducted study to determine prevalence of polycystic ovaries (PCO) and associated clinical and biochemical features among women with infertility attending gynaecological outpatients department (GOPD) at Muhimbili National Hospital (MNH) in Dar .The study found out that polycystic ovaries are common among women with infertility, however are not necessarily associated with polycystic ovary syndrome.[7]Sonika Malik (2011) conducted a study to find out the prevalence of depression in women with polycystic ovary syndrome (PCOS) is high; a study has shown it to be four times that of women without PCOS. Therefore, systematic evaluation of the effectiveness and safety of antidepressants for women with PCOS is important. [9]SwethaBalaji et al (2015) conducted study related to prevalence of Indian adolescent females aged 12 to 19 Years. The proportion of participants diagnosed with PCOS was higher among urban participants in comparison to rural participants. [13]

Studies related to knowledge of adolescent girl regarding polycystic ovarian syndrome

Barkha Devi (2013)conducted the study to explore the knowledge of nursing students regarding PCOS and to assess self-preventive measures adopted by the students .Researcher adopted the survey approach .Researcher selected 100 students studying in 3rd year BSC. The findings of the study shows that majority of the students were in the age group of 20 to21 years (78%) While the remaining girls who had good level of knowledge were in age group of 19 years almost all students had inadequate knowledge

regarding PCOS [18]. M Khushboo Bar (2016)conducted thestudy to assess the knowledge regarding PCOS among teenage girls. Data the findings of the study reveals that majority of girls who were having poor knowledge belonged to age group of 18 years and majority of girls who had fair level of knowledge were 17 years old.[14]

Studies related to effectiveness of structure teaching programme of polycystic ovarian syndrome

Sowmya M.A & Philomena Fernandes (2013) study conducted to assess the effectiveness of structured teaching programme on knowledge of polycystic ovarian syndrome among adolescent girls. The study findings showed that the structured teaching programme was effective in improving knowledge of adolescent girls regarding polycystic ovarian syndrome.[10] DeekshaKumari, Deepu Gupta (2017)were conducted the study to evaluate the effectiveness of STP on PCOS in the terms of knowledge and attitude among nursing students and Shimla nursing college. True experimental research approach pre-test post-test design was used. The result of the study shows that pre-test mean knowledge score of control group is 6.44 and post-test is 7.84. Pre-test mean knowledge score of experimental group is 7.44 and post-test is 12.6. [19]AtiqullaShariff, GulamSaidunnisa Begum (2017)study conducted to assess the effectiveness of structured education programme on the knowledge of PCOS among female university students. A validated questionnaire was administered to all the 244 participants to assess the baseline knowledge. The knowledge of participants was improved through structured education programme that can play a vital role in prevention and early diagnosis of PCOS.[17]

Problem Statement

"A pre experimental study to assess the effectiveness of structured teaching programme on knowledge regarding Polycystic Ovarian Syndrome in selected school of Nursing, Hoshangabad."

Objectives

- To assess the knowledge regarding polycystic ovarian syndrome among nursing students.
- To determine the effectiveness of structured teaching programme on knowledge regarding polycystic ovarian syndrome
- To find out association of knowledge regarding polycystic ovarian syndrome with their selected demographic variables.

3. Operational Definitions

- **Assess:** "Evaluate the value" Assess means the statistical measurement based on level of knowledge score of nursing students on polycystic ovarian syndrome through close ended questions.
- **Knowledge:** Knowledge refers to the information gained during study.
- **Effects**: Effects refers to the outcome in terms of knowledge enhancement after the teaching programme on PCOD.

- **Structured Teaching Programme:** In this study it refers to systematically organized information and developed strategies with AV aids prepared and delivered by the researcher for duration of one hour for giving information regarding different aspects of polycystic ovarian syndrome among nursing students.
- **Polycystic Ovarian Syndrome**: Polycystic Ovarian Syndrome [**PCOS**] is the condition in which women has an imbalance of female Sexhormone that may lead to changes in menstrual cycle, cyst in ovary, failure to conceive and other health problems**.**

Hypotheses

- **H$_1$**: The mean post-test knowledge score of nursing students who are exposed to structured teaching programme will be significantly higher than the mean pre-test knowledge scores.
- **H$_2$**: There is significant association between the pre-test knowledge regarding polycystic ovarian syndrome and selected demographic variables.

Assumptions

- The nursing students may have the basic knowledge regarding PCOS
- The knowledge of nursing students on Polycystic Ovarian Syndrome [**PCOS**] may improve after structured teaching programme.

Delimitations

- Study is limited to assess the knowledge of nursing students regarding poly cystic ovarian syndrome.
- Study is limited to students of G.N.M 3rd year
- Study is limited to students of selected School of Nursing Hoshangabad.

Ethical Aspect

- Prior information was obtained from the higher authorities
- Informed consent was obtained from the participants.
- The subjects were informed about the confidentiality of the data.

4. Research Methodology

Research methodology indicates the general pattern of organizing procedure of gathering valid and reliable data for the problems under investigations. It includes research approach, research design, setting, population, sample and sampling technique development and description of tool, development of teaching plan, procedure for data collection, and plan for data analysis.

Research Approach
Quantitative approach is used in this study

Research Design
One group pre-test post-test design.

Pre test	Intervention	Post test
Day1	Day1	Day 7
O1	X	O2

O1 = the knowledge score of Student nurses regarding PCOD before structured teaching
X = Treatment-Structured teaching.
O2 = the knowledge score of student nurses regarding PCOD after Structured teaching.

Setting of the Study
The setting is a place where the population is being studied and where is carried out. The study was conducted in St. Joseph's school of nursing.

Independent variable- Structured teaching programme on PCOS was the independent variable in this study.

Dependent variable- In this study variable the dependent variable is the knowledge of students regarding PCOS.

Population
Population is the entire aggregation of cases that meet a designated set of criteria in this study two sets of populations.
a) Target population: In the present study the target population was all the 3rd year GNM students in Hoshangabad.

b) Assessable population: It is the population, which is available at the time of study. In this study the assessable population was all the 3rd year GNM students in selected school of nursing at Hoshangabad.

Sample
Sample is the subset of population selected to participate in a study. In this study samples are the 3rd year students of selected nursing schools who fulfil the inclusion criteria

Sample Size
In the present study, sample size comprised of 30 students who fulfil the criteria of the study.

Sampling Technique
Sampling is the process of selecting a portion of the population to represent the entire population. Convenience sampling was used in the present study.

Criteria for Sample Selection
There are two criteria for the sample selection
- Inclusion criteria
- Exclusion criteria

Inclusion criteria
- Students who are willing to participate in the study.
- Students, who can read, write and understand Hindi or English

Exclusion criteria
- Students who are not present at the time of study.
- Students who are not willing to participate in the study.

Tools/ Instruments
- Data collection tools are the procedure or instruments used by the researcher to observe or measure the key

variable in the research problem. In this study following tool is used for collection of data.

Tool: structured knowledge questionnaire
- Part 1: Socio demographic proforma.
- Part 2: Knowledge Questionnaire

Grading of knowledge scores
- Poor   -   0-10
- Average   -   11-20
- Good   -   21-30

These grading are purely for this research study only.

Planned Teaching Programme on PCOD
The content of planned teaching programme is distributed under the following areas:-Introduction, definition, causes, risk Factors, clinical manifestation, investigation, treatment and preventive measures.

Reliability
Reliability is the degree of consistency or dependability with which an instrument measures the target attribute which it is designed to measure it is the major criterion for assessing quality and adequacy of an instrument. Split half method was used to test the reliability of the tool. The tool was administered to five 3rd year B.sc nursing students. The reliability coefficient 'r' was found to be 0.86. Hence the tool was found to be reliable.

Validity of the Tool
Content validity is the degree to which the items in the instrument adequately represent the universe of content for the concept being measured. It is relevant for both affective measures and cognitive measures. The proforma for selected demographic variables and structured knowledge questionnaire were content validated by 4 experts. Based on suggestions given by the experts they were incorporated and final tool was prepared.

Data Collection Process
The data collection period was from 28/06/2018 to 4/07/2018. Researcher selected St. Joseph's School of nursing as a setting andpermission was obtained from the college authority .Researcher selected 30 3rd year GNM students for sample. Samplingtechnique was non probability convenience sampling. Researcher met the participants and explained about the purpose of the study. They were assured that all the data would be kept confidential and would use only for the study purpose. Informed consent was obtained from the participants. Pre-test was conducted on 28/06/2018 by using structured Knowledge questionnaire. Structured teaching programme was administered on the day of administration of pre-test .Post test was conducted using the same questionnaire after 7 days from the administration of teaching programme. After the data gathering process, we thanked all the study samples as well as authorities for their cooperation.

Plan for Data Analysis
The analysis of the data describes the statistical test that were used to test the research hypothesis .The data obtained from the samples were analysed by the descriptive and inferential statistics.

Descriptive statistics
- Frequency and percentage were computed to analyse the demographic variables.
- Mean, median, range and standard deviation were computed for describing the knowledge scores of 3rd year GNM students.

Inferential statistics
Paired 't' test to analyse the significant difference between pre-test and post-test knowledge score.
- Chi square test used to find the association of pre-test knowledge score and selected demographic variables.

5. Major Findings

Table 1 shows that the distribution of nursing students according to their age in years reveals that 50 % were the age group of 20 years and 50 % were the age group of 21 years and above. Majority of the nursing students (63.3%) had exposure to information regarding poly cystic ovarian syndrome through the books, 20% of nursing students had information from friends and family and 16% had information from health personal. majority of the students (76.6%) came from urban area and remaining students (23.3%) from rural area. majority of the samples (63.3%) were Christians and 33.6% of the samples were Hindus.

S. No	Variables	Frequency (f)	Percentage (%)
1	**AGE**		
	a) 19 years	0	0%
	b) 20 years	15	50%
	c)21 years& Above	15	50%
2	**Source of Information**		
	a) Friends/family	6	20%
	b) Books and articles	19	63.3%
	c) Health Personnel	5	16.6%
	d) Mass Media	0	0%
3	**Areas of Residence**		
	a) Urban	23	76.6%
	b) Rural	7	23.3%
4	**Religion**		
	a) Christian	19	63.3%
	b) Hindu	11	36.6%
	c) Muslim	0	0%

Distribution of nursing students according to their demographic variables.

Mean, median, range & standard deviation of pre-test and post-test knowledge scores of 3rd year GNM students

Score	Mean	Median	Range	SD
Pretest	13.03	12	6-23	4.06
Postest	20.46	22	11-26	4.14

Data presented in above table shows that pre-test knowledge scores ranged from 6-23. The mean pre-test knowledge score is 13.03 with a standard deviation of 4.06. The median score is 12.

The post-test knowledge scores ranged from 11-26. The mean post-test knowledge score is 20.46 with a standard deviation of 4.14. The median score is 22.

Frequency and percentage distribution of sampleaccording to their knowledge level, n=30

Level of knowledge		Frequency	Percentage
Pretest	Poor	10	33.3%
	Average	17	56.6%
	Good	03	10%
Posttest	Poor	0	0%
	Average	14	46.6%
	Good	16	53.3%

Maximum score, mean, mean percentage, standard deviation and paired't' value of pretest and post-test knowledge scores. n=30

$t_{(29)}$:2.05, p<0.05, * - significant: p>0.05 (not significant)
The above table shows that , the pre-test means score is 23 and post-test mean score is 26.To find the significance difference between pre-test and post-test knowledge score paired 't' test was computed and obtained the value of $t_{(29)}$: 7.07 at 0.05 level of significance. The table value of t_{29}: 2.05. Hence the null hypothesis H01 is rejected and research hypothesis is accepted. So it is inferred that structured teaching programme was effective in gaining the knowledge regarding PCOS among 3rd year GNM students.

	Maximum score	Mean	Mean percentage	Standard deviation	t value
Pretest	23	13.03	56%	4.06	7.07*
Posttest	26	20.46	78.6%	4.14	

6. Summary of the Findings

Distribution of samples according to their demographic variables **.**It was found that50% of students were of age 20 and 50 % were of 21 years and above. 20% got the information from family and friends 63.3% got information from books and articles.16.6% got information from health personnel.76.6%peoples belong to urban and 23.3% belongs to rural. 63.3% were Christians and 36.6% were Hindus.

In pre-test majority of the samples (56.6%) had average level of knowledge, 33.3% of samples had poor knowledge and 10% had good knowledge. In post-test majority of the samples had (53.3%) had good knowledge and 46.6% had average knowledge.

The pre-test means score is 13.03 and post-test mean score is 20.46. To find the significance difference between pre-test and post-test knowledge score, paired't' test was computed and obtained the value of t(29): 7.07 at 0.05 level of significance. The value of t 29 is 2.05. Hence the null hypothesis H1 is rejected and research hypothesis is accepted. So, it is inferred that structured teaching programme was effective in gaining the knowledge regarding PCOS among 3rd year GNM students. These findings were similar to other studies which revealed that there is a significant difference between mean pre-test and post-test knowledge scores.

The computed chi square value for association between pre-test knowledge scores of 3rd year GNM students were found to be significant at 0.05 levels for age and religion. The chi square value for association between pre-test knowledge score was not found to be significant for source of information and residence. Hence it is inferred that students' pre-test knowledge is not influenced by source of information and residence.

7. Discussion

The present study focused to determine the effectiveness of structured teaching programme on knowledge regarding PCOS among 3rd year GNM students in selected nursing School.

In the present study pre-test finding showed that most of the samples have the average knowledge. The analysis of the findings revealed that there was a significant difference between pre-test and post-testknowledge scores. The result also reveals that there was association between pre-test knowledge score and selected demographic variable such as age and religion thus it was concluded that structured teaching programme is effective in gaining the knowledge regarding PCOS among nursing students.

The findings of the present study was supported by the findings of previous studies. Sonia Rawat, et all (2017) conducted a study *on*structured teaching programme on knowledge about polycystic ovarian syndrome among adolescent girls.The findings of the study revealed that STP was effective in enhancing the knowledge of adolescent girls on PCOS. Hence the study concluded that structuredteaching programme had a great potentiality to increase the awareness on PCOS Mrs.Merlin Rose.P (2012) conducted a study in bangalore to assess the effectiveness of structured teaching programme on knowledge regarding polycystic ovarian syndrome.

Deeksha Kumariet all (2017)conducted a study to evaluate the effectiveness of structured teaching programme on polycystic ovarian syndrome in terms of knowledge and attitude among nursing students of Shimla nursing college, Annandale, Shimla.it was found out that the STP was effective in enhancing the knowledge and changing the attitude of nursing students regarding polycystic ovarian syndrome.

8. Conclusion

After the detailed analysis this study leads to the following conclusions.

Student nurses were having average knowledge on PCOD before the structured Teaching programme. There was a significant difference between pre-test and post-test knowledge scores. The result also reveals that there was association between pre-test knowledge score and selected demographic variable such as age and religion thus it was concluded that structured teaching programme is effective in gaining the knowledge regarding PCOS among nursing students.

Nursing Implication

The finding of the study has several implications in various areas of nursing practice, nursing education, nursing administration and nursing research.

Nursing Practice

- The nurse can utilize the findings of the study as the guide lines to plan regular and periodic health education classes to patients and general public on causes, risk factors, management and prevention of PCOS.
- As a member of health care team the nurses can play an important role in identifying the risk factors and causes of PCOS and provide suggestions for treatment option.
- In the current scenario the emphasis is shifted from care oriented to health promotion approach. The nurses need to educate the young adults in practicing healthy life style and good health tips for the prevention of PCOS.

Nursing Education

- Nurse educator should prepare the student nurse to identify the areas where the public lacks knowledge about reproductive health.
- The nurse educator should train the students to educate the public regarding PCOS.

Nursing Administration

- Nursing administrators should plan and organize in-service education programme on PCOS and its management, prevention.
- Nursing administrator should motivate the nursing personnel to carry out small project work, workshop regarding new innovation in the field of reproductive health in different settings.

Nursing Research

- Many studies done in India and abroad reveal that there is lack of knowledge about PCOS, which indicates the need of more studies in such areas.
- The nurses should be motivated to conduct studies on various aspects of PCOS and to read more current research findings so as to improve care as per evidence.

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