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A Quasi Experimental Study to assess the Effectiveness of structured Teaching Program Regarding PCOS in B.Sc. Nursing students

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ABSTRACT

Background: Polycystic ovary syndrome (PCOS) is a problem with hormones that happens during the reproductive years. Polycystic ovary syndrome (PCOS) is a combination of signs and symptoms of androgen excess and ovarian dysfunction in the absence of other specific diagnosis.

Aims:

- To assess the pre test and post test knowledge score of experimental and control group of B.Sc. Nursing students regarding prevention and early detection of polycystic ovarian syndrome.
- To compare the pre test and post test knowledge score of experimental and control group of B.Sc. Nursing students regarding prevention and early detection of polycystic ovarian syndrome.
- To associate the pre test knowledge score of experimental and control group of B.Sc. Nursing students regarding prevention and early detection of polycystic ovarian syndrome with selected socio demographic variables.

Material and Method: In this study effectiveness of structured teaching program on knowledge regarding prevention and early detection of polycystic ovarian syndrome (PCOS) among B.Sc. Nursing students was studied using structured questionnaire on knowledge regarding prevention and early detection of polycystic ovarian syndrome (PCOS). The research design used in the study was one group pretest and post test with control group quasi experimental design. The knowledge regarding prevention and early detection of polycystic ovarian syndrome (PCOS) was assessed before and after the Structured teaching for experiment group and no teaching for control group. The conceptual frame work of the study was based on J.W. Kinny's open system model. The study was conducted among 60 B.Sc. Nursing students in which 30 were in experiment group and 30 were in control

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group by Non-probability purposive sampling technique. The data was collected and analyzed based on objectives of the study using descriptive and inferential statistics.

Results: Mean value of pre-test was 8.6 which increased to 24.16 in post-test for experimental group and Mean value of pre-test was 8.1 which increased to 8.9 in post-test for control group. The study revealed that the structured teaching increased the knowledge on prevention and early detection of polycystic ovarian syndrome (PCOS) among B.Sc. Nursing students in experiment group when compared with control group. The effectiveness of structured teaching was independent of the selected demographic data and baseline data.

Conclusion: The study concluded that structured teaching program can play a vital role in imparting knowledge to B.Sc. Nursing Students.

KEYWORDS

• Structured Teaching • Knowledge • Prevention • Early Detection • Polycystic Ovarian Syndrome (Pcos) • B.sc. Nursing Students

INTRODUCTION

Polycystic ovary syndrome (PCOS) is a problem with hormones that happens during the reproductive years. In PCOS, periods are absent very often or may have periods that last many days and have too much of a hormone called androgen in your body. With PCOS, many small sacs of fluid develop along the outer edge of the ovary. These are called cysts. The small fluid-filled cysts contain immature eggs. These are called follicles. The follicles fail to regularly release eggs. The exact cause of PCOS is unknown. Early diagnosis and treatment along with weight loss may lower the risk of long-term complications such as type 2 diabetes and heart disease.

Incidence Between 1 in 80 and 1 in 300 pregnancies are com-plicated by the presence of ovarian cysts (Singer 1989). The majority of these will be benign, the commonest being functional ovarian cysts (follicular cysts, corpus luteum). The commonest solid, benign ovarian cysts found in pregnancy are mature cystic teratomas (dermoid cysts). Most cystic neoplasms are epithelial (serous or mucinous cystadenomas). Between 2% and 5% of ovarian cysts in pregnancy will be malignant with an overall incidence of between 1 in 8000 and 1 in 20 000 pregnancies.[1]

Objectives

- To assess the pre test and post test knowledge score of experimental and control group of B.Sc. Nursing students regarding prevention and early detection of polycystic ovarian syndrome.
- To compare the pre test and post test knowledge score of experimental and control group of B.Sc. Nursing students regarding prevention and early detection of polycystic ovarian syndrome.
- To associate the pre test knowledge score of experimental and control group of B.Sc. Nursing students regarding prevention and early detection of polycystic ovarian syndrome with selected socio demographic variables.

Research Hypothesis

A hypothesis is a statement of the researcher's expectation or prediction about relationship among study variables. The research process begins and ends with the hypothesis.[2]

- **H_1:** There will be significant difference between pretest knowledge scores of B.Sc. Nursing students as measured by knowledge questionnaire at P≥0.05 level.
- **H_2:** There is a significant association between pretest level of knowledge regarding polycystic ovarian syndrome with their selected demographic variables in experimental and control group.

METHODS AND PROCEDURE

In this study effectiveness of structured teaching program on knowledge regarding prevention and early detection of polycystic ovarian syndrome among B.Sc. Nursing students were studied using structured questionnaire. The research design used in the study was one group pre-test and post-test

with control group Quasi-experimental design. Level of knowledge was assessed before and after the implementation of structured teaching in both experiment and control group. The conceptual framework of the study was based on J.W. Kinny's open system model. Study was conducted among 60 B.Sc. Nursing students. The data was collected and analyzed based on objectives of the study using descriptive and inferential statistics.

Description of the Tools

The tool used for the research study was structured questionnaire regarding prevention and early identification of polycystic ovarian syndrome which consists of two section.

SECTION A: Demographic variables

It is an individual characteristic or base line information of study participants such as age, Gender, education, occupation and residence etc.[3]

It includes information regarding Age, education of father, education of mother, occupation of father, occupation of mother, monthly income of family, source of information about polycystic ovarian syndrome

Section B: Self Structured knowledge questionnaire

It consist of 30 multiple choice question each question has got four options, it prepared the various aspects regarding knowledge of prevention and early identification of polycystic ovarian syndrome.

SCORING PROCEDURE:

The multiple choice question was used to assess the knowledge of B.Sc. nursing students regarding prevention and early identification of polycystic ovarian syndrome. A score of one (1) was given to each correct response. A score of zero (0) was given to each correct response. The total score was 40.

Scoring criteria:

Minimum-0, Maximum-40

Grade	Percentage (%)	Marks
Poor	0-25	0-10
Average	26-50	11-20
Good	51-75	21-30
Excellent	76-100	31-40

Validity in Research

Validity refers to whether a measurement instrument accurately measures what it is supposed to measure. When an instrument is valid, it truly reflects the concept, it is supposed to measure. There are three kinds of validity.[4]

- Content validity
- Criterion validity
- Construct validity

The content validity of the tool was previously established as it was standardized tool. The final tool was prepared as per the suggestions and advices given by the experts.

Reliability

Reliability is the consistency of measurement of an instrument.

Reliability is the degree to which an instrument measures the same way each time it is used under the same condition with the same subjects.

Reliability also refers to the dependability, consistency, and stability of a test.[5]

The reliability was tested using Karl Pearson method and co-relation co-efficient of knowledge questionnaire was r= 0.94 which found to be high. The tool was reliable. Structured teaching program was implemented.

RESULT AND DISCUSSION

Data analysis is the process of summarizing, presenting. and describing the data collected from research in such a way that relationships can be established and inferences could be drawn.

The descriptive statistics are methods which facilitate the researcher and analyst to describe the data or facts of research work.

It is a statistical measure which enables the researchers analyst to draw Inferential statistics are primarily based on the laws the concerned population's given data/ observations. inferential statistic are primarily based on the laws of probability.[6]

The data was analyzed by descriptive and inferential statistics in terms of mean, standard deviation.

The Karl Pearson test is more applicable as inferential statistics. In this test we are not only identifying the magnitude and direction

of relationship, but one can also test whether the correlation is significant or not (testing of hypothesis).[7]

Karl Pearson's co-relation co-efficient t-test and chi-square test.

The analysis of the data revealed the following findings:

1. Findings related to sample characteristics:

- From the collected data related to age of students reveals that in experimental group maximum 43.30% (13) belong to the age group 18-20 year of age and in control group maximum 36.70% (11) belong to the age group 18-20 year of age.
- Regarding education of father in experimental group maximum 36.70% (11) were undergraduate and in control group maximum 30% (09) were undergraduate
- Regarding education of mother in experimental group maximum 30% (09) were undergraduate, and In control group maximum 36.70% (11) were undergraduate.
- Regarding occupation of father in experimental group maximum 43.30% (13) are farmer and in control group maximum 46.70% (14) are farmer.
- Regarding occupation of mother in experimental group maximum 70% (21) are housewife and In control group maximum76.70% (23) are house wife.
- Regarding monthly income of family in experimental group maximum 43.30% (13) belong to the 5000 Rs to 15000 Rs. and in control group maximum 40% (12) belong to the 5000 Rs to 15000 Rs.
- Regarding source of information in experimental group maximum 30% (09) belong to the mass media and In control group maximum 30% (09) belong to the mass media.

2. Findings related to pre-test and post test knowledge score of experimental group and control group.

- In pre-test of experimental group 83.34% (25) B.Sc. nursing students have poor knowledge, 16.66% (05) B.Sc. nursing students have average knowledge In post test 70% (21) B.Sc. nursing students have good knowledge, 16.66% (05) B.Sc. nursing students have average knowledge & 13.34% (04) B.Sc. nursing students have excellent knowledge.
- In pre-test of control group 93.33% (28) B.Sc. nursing students have poor knowledge, 6.67% (02) B.Sc. nursing students have average knowledge. In post test 80% (24) B.Sc. nursing students have poor knowledge, 20% (06) B.Sc. nursing students have average knowledge.
- In experimental group pre-test knowledge mean score is (8.6), mean% is (21.50%), standard deviation is (1.85), and the post test knowledge mean score is (24.16), mean% is (60.40%), standard deviation is (4.90)
- In Control group pre-test knowledge mean score is (8.1), means is (20.25%), standard deviation is (1.60), and the post test knowledge mean score is (8.9), mean% is (22.25%), standard deviation is (2.09).
- In pre-test each domain wise of experimental group they were having more knowledge in Causes and sign, symptoms (9%) & minimum knowledge in Prevention & complication (0.57%), overall they are having 21.50% of knowledge score. And In post-test they were having more knowledge in Causes and sign, symptoms (20.57%) & minimum knowledge in Prevention & complication (11.57%), overall they are having 60.40% of knowledge score.
- In pre-test each domain wise of control group they were having more knowledge in Causes and sign, symptoms (9.07%) & minimum knowledge in Diagnostic evaluation & treatment (1%), overall they are having 20.25% of knowledge score. And In post-test they were having more knowledge in Causes and sign, symptoms (9.32%) & minimum knowledge in Prevention & complication (1.7%), overall they are having 22.25% of knowledge score.

3. Findings related to Comparison pre test and post test knowledge score of Experimental and Control group

- In pre-test knowledge level of experimental group 8.6 is mean score, 21.50% is mean percentage. 1.85 is standard deviation. And In pre-test knowledge level of control group 8.1 is

mean score. 20.25% is mean percentage, 1.60 is standard deviation.

- In post test knowledge level of experimental group 24.16 is mean score, 60.40% is mean percentage, 4.90 is standard deviation. In post test knowledge level of control group 8.9 is mean score, 22.25% is mean percentage, 2.01 is standard deviation.
- For comparing pre-test between overall knowledge of experimental group & control group, the mean difference was 0.500 with 't' value of 1.168 which is not statistically significant at 0.05 level.
- For comparing post test between overall knowledge of experimental group & control group, the mean difference was 15.30 with 't' value of 16.176 which was statistically highly significant at P>0.05 level.
- Finding reveal that, the intervention was only given to the experimental group which improved the level of knowledge, when compared to the control group

4. Findings related to association between post-test knowledge score with selected socio-demographic variables:

- Calculated value of chi square in age group was χ^2 = 4.22 which is less than the tabulated value at P > 0.05 level of significance and df = 2 there was no significant association between post-test level of knowledge and age of adolescents.
- Regarding education of father the calculated value of chi square was χ^2= 3.29, which is less than the tabulated value at P > 0.05 level of significance and df = 4 there was no significant association between post-test level of knowledge and education of father.
- Regarding education of mother the calculated value of chi square was x^2= 3.25, which is less than the tabulated value at P > 0.05 level of significance and df = 4 there was no significant association between post-test level of knowledge and education of mother.
- Regarding occupation of father the calculated value of chi square was χ^2= 7.16, which is less than the tabulated value at P > 0.05 level of significance and df = 3 there was no significant association between post-test level of knowledge and occupation of father.
- Regarding occupation of mother the calculated value of chi square was χ2 = 3.95, which is less than the tabulated value at P > 0.05 level of significance and df = 3 there was no significant association between post-test level of knowledge and occupation of mother
- Regarding monthly income of family the calculated value of chi square was χ^2 = 3.42 which is less than the tabulated value at P > 0.05 level of significance and df = 3 there was no significant association between post-test level of knowledge and monthly income of family.
- Regarding source of information the calculated value of chi square was χ^2 = 20.14, which is greater than the tabulated value at P>0.05 level of significance and df=3, there was significant association between post-test level of knowledge and source of information.
- The association between the post-test level of knowledge with the background variable were significant in relation to having a prior source of information.

CONCLUSION

The study reveals that majority of the B.Sc. Nursing had inadequate knowledge regarding polycystic ovarian syndrome in pre test. After the structured teaching program, the level of knowledge has increased significantly in experimental group. The findings indicate that, structured teaching program is an effective intervention in improving the level of knowledge regarding polycystic ovarian syndrome. Structured teaching program is found to be comfortable and effective. After the completion of the study, subjects in the control group were taught regarding prevention and early detection of polycystic ovarian syndrome.

Declaration of No Conflict of Interest

The authors of this study declare no conflict of interest in the execution, analysis, or publication of this research. No financial, professional, or personal affiliations influenced the study's outcomes or the structured teaching program's effectiveness. This research was conducted solely for academic purposes to enhance knowledge and public awareness of

dengue fever prevention among adolescents.

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Ethical Clearance Statement

This study titled ***"To assess the a Quasi Experimental Study to assess Effectiveness of Structured Teaching Program Regarding Prevention and Early Detection of Polycystic Ovarian Syndrome (PCOS) in Terms of Knowledge Among B.Sc. Nursing students"*** was conducted with strict adherence to ethical research practices. The research protocol was reviewed and approved by an appropriate institutional ethics committee. Participants were informed about the purpose, procedure, and expected outcomes of the study. Informed consent was obtained from participants and their guardians, ensuring confidentiality and voluntary participation. The study was designed to avoid any physical or psychological harm to participants and followed all ethical guidelines for research involving human subjects.

REFERENCES

1. Fraser, Diane M. (2009). Myles Textbook for Midwives (Fifteenth Edition, Elsevier Publication. Page no. 317 – 318.
2. Anupama, K. (2018). Hypothesis types and research. International Journal of Nursing Science Practice and Research. https://doi.org/10.37628/ijnspr.v4i2.812.
3. T Sivabalan G Vimala Textbook of Nursing Research and statistics First Edition CBS Publisher page no. 39.
4. BT Basavanthappa. Essential of Nursing Research (First Edition,)., JAYPEE brothers Publications. Page no. 287.
5. Bijayalaskhmi Dash Essential of Nursing Research and Biostatistics (FirstEdition)Jaypee Brothers Medical Publisher page no. 218.
6. T Sivabalan G Vimala Textbook of Nursing Research and statistics First Edition CBS Publisher page no. 145-147.
7. T Sivabalan G Vimala Textbook of Nursing Research and statistics First Edition CBS Publisher page no. 199.