

“A PRE -EXPERIMENTAL STUDY TO EVALUATE THE EFFECTIVENESS OF PLANNED TEACHING PROGRAM(PTP) ON KNOWLEDGE REGARDING POLYCYSTIC OVARIAN SYNDROME (PCOS) AMONG ADOLESCENT GIRLS AT SELECTED JUNIOR COLLEGES KALBURGI”.

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ABSTRACT

Introduction: Polycystic ovary syndrome (PCOS) is a common hormonal condition that affects women of reproductive age. It usually starts during adolescence, but symptoms may fluctuate over time. PCOS can cause hormonal imbalances, irregular periods, excess androgen levels and cysts in the ovaries. Irregular periods, usually with a lack of ovulation, can make it difficult to become pregnant. PCOS is a leading cause of infertility.

Aims of the Study: To assess the effectiveness of planned teaching program on knowledge regarding the polycystic ovarian syndrome among adolescent girls.

Methodology: A quantitative evaluative research approach with a pre-experimental one-group pre-test and post-test design was adopted. The study was conducted among 100 adolescent girls studying in selected junior colleges of Kalburgi. Participants were selected using non-probability purposive sampling. Data were collected using a structured knowledge questionnaire. A Planned Teaching Programme on PCOS was administered after the pre-test, and the post-test was conducted one day later. Descriptive statistics (frequency, percentage, mean, standard deviation) and inferential statistics (paired *t*-test and Chi-square test) were used for data analysis.

Results: The findings revealed that in the pre-test, 59% of the participants had poor knowledge and 41% had average knowledge regarding PCOS. Following the Planned Teaching Programme, 72% of the participants achieved good knowledge and the remaining participants demonstrated average knowledge, while none had poor knowledge. The calculated paired *t*-value (44.25) was greater than the table value (1.98), indicating a statistically significant improvement in knowledge ($p < 0.05$). Significant associations were found between pre-test knowledge scores and selected socio-demographic variables including age, educational standard, previous knowledge, and source of information.

Conclusion: The Planned Teaching Programme was highly effective in improving the knowledge of adolescent girls regarding PCOS. Educational interventions in educational institutions can enhance awareness, encourage early recognition of symptoms, and promote healthy lifestyle practices, thereby contributing to the prevention of long-term complications associated with PCOS.

Keywords: Polycystic Ovarian Syndrome, Planned Teaching Programme, Adolescent Girls, Knowledge, junior college.

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INTRODUCTION

Adolescence is a period of transition between childhood and adulthood, a time of profound biological, intellectual, psychological and economic changes. During this period individual reaches physical, sexual maturity and develop more sophisticated reasoning abilities. The changes of adolescence have important implications for understanding the kinds of health risks to which young people are exposed, health enhancing, risk taking behavior in which they engage and the major opportunities for health promotion among this population.¹

Our lifestyle also has changed as food intake is becoming more concentrated on sugar, fast food, and soft drinks and less on healthy, traditional fare. This unhealthy food habits and lack of exercise leads to many diseases in adolescents like Polycystic Ovarian Syndrome. Teenagers may experience the full range of PCOS often seen in more mature women including irregular or completely absent periods, heavier than normal menstrual bleeding, ovarian cysts, Hirsutism (excessive facial or body hair) and alopecia (male pattern).²

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 is important to understand the health risks associated with it. During this period the body changes and there will be development of secondary sexual characteristics. Any difference in secondary sexual characteristics can inversely affect the physical and emotional adaptation of the adolescent. Present day lifestyle, food habits, environmental exposure to toxins along with hereditary predisposition for metabolic syndrome like obesity, hyperlipidemia, infertility, miscarriages, diabetes, heart disease, cancer, hypertension and stress has contributed to the common problem faced by today's female population.³

PCOS clinical presentation may not be alarming to most women. In young adolescents, symptoms like weight gain, acne, menstrual irregularities, and abnormal hair distribution can be easily mistaken for common pubertal issues. Thus, the disease can be overlooked until severe complications arise, most commonly infertility, the point at which most patients seek medical attention secondary to difficulty conceiving. Furthermore, PCOS was linked to a higher risk of having endometrial cancer, type 2 diabetes mellitus, and cardiovascular diseases. Consequently, there lies a common pattern of PCOS patients being under-evaluated and misdiagnosed. It has been evident that an early diagnosed PCOS case is easily managed compared to the more complex management of the later stages. Nevertheless, awareness was found to be lacking in

both healthcare professionals and females of the general population.⁴

Need of the study:

The main risk factor of PCOD is a family history. If there is a family history of diabetes, it may increase the risk of PCOD because of the strong relationship between the two. Also, the long-term use of the seizure medication "valporate" has also been found linked to an increase risk of occurrence of PCOD. The symptoms usually start during adolescent period but it may vary over time. The symptoms are menstrual irregularities, acne, excessive facial and body hair, obesity and pelvic pain. Irregular periods along with lack of or absence of ovulation (anovulation) can make it difficult for a woman to become pregnant. This makes PCOD a leading cause of infertility. The main risk factor of PCOD is a family history. If there is a family history of diabetes, it may increase the risk of PCOD because of the strong relationship between the two. Also, the long-term use of the seizure medication "valporate" has also been found linked to an increase risk of occurrence of PCOD.⁵

According to recent statistics more than 50% of the world's population are below the age of 25 and one fifth are adolescents (WHO). In India one third of the population are between the ages of 10- 24. Today we are living in a period of modernization and the effect of modernization and technological advancement reflects in everyday life. Our lifestyle has also changed a lot. Food intake is becoming more concentrated on sugar, fast food, and soft drinks and less on healthy, traditional fare. This unhealthy food habits and lack of exercise leads to many diseases in adolescents like Polycystic Ovarian Disease (PCOD). The incidence of PCOD is more among adults suffering from physical and psychological morbidity. Assessing adolescents regarding Polycystic ovarian disease (PCOD) is desirable to understand this upcoming health issue and formulate effective programme to enhance the quality of life of the people.⁶

A study finding shows that adolescent girls with Polycystic Ovarian disease have an increased risk of the metabolic syndrome associated with increasing androgen levels, independent of obesity and insulin resistance. A current scientific research, reported that the prevalence of Polycystic Ovarian Disease may be as high as 11.2% in girls of reproductive years. Among this group, adolescence girls makeup a large part, perhaps as high as 50% of young girls. Life style modification in polycystic ovarian disease is very important, because sedentary lifestyle and lack of exercise and fast food consumption by the ladies are leading to rise in case of polycystic ovarian disease especially among urban adolescents girls. As the significant prevalence of polycystic

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ovarian syndrome among adolescents girls increases and there is a need to take measures to create awareness and to improve their lifestyle at the appropriate time.⁷

An estimated 65.77 million to 69.5 million women of reproductive age worldwide were living with PCOS in 2021. The global number of new cases increased from 1.48 million in 1990 to 2.3 million in 2021. Up to 70% of affected women remain unaware of their condition. (3) Polycystic ovary syndrome (PCOS) is a significant contributor to female infertility and other various metabolic disorders. According to the Ministry of Health and Family Welfare, Government of India, the prevalence of Polycystic Ovary Syndrome (PCOS/PCOD) in India ranges from 3.7% to 28% among women in the age group of 12–40 years. Studies indicate that 1 in 5 young Indian women suffer from PCOS. Early identification is crucial because timely lifestyle changes and treatment can mitigate complications. However, lack of awareness hinders early diagnosis: globally up to 70% of PCOD cases go undetected.⁸

MATERIALS AND METHODS

The study adopted a quantitative evaluative research approach using a pre-experimental one-group pre-test and post-test research design ($O_1 \times O_2$) to evaluate the effectiveness of a Planned Teaching Programme (PTP) on knowledge regarding Polycystic Ovarian Syndrome (PCOS) among adolescent girls. The study was conducted among 100 adolescent girls studying in 11th and 12th standard. Participants were selected through a non-probability purposive sampling technique. Data were collected using a structured tool consisting of two sections: Section I included socio-demographic variables, and Section II comprised a 25-item structured knowledge questionnaire on PCOS. The content validity of the tool was established through expert review, and its reliability was confirmed using the test-retest method ($r = 0.84$). A pilot study was conducted on 10 participants to assess the feasibility of the study. After obtaining informed consent, a pre-test was administered, followed by the Planned Teaching Programme. The post-test was conducted one day after the intervention using the same questionnaire. The collected data were analyzed using descriptive statistics (frequency, percentage, mean, median, mode, range, and standard deviation) and inferential statistics (paired *t*-test and Chi-square test) to determine the effectiveness of the intervention and the association between pre-test knowledge scores and selected socio-demographic variables.

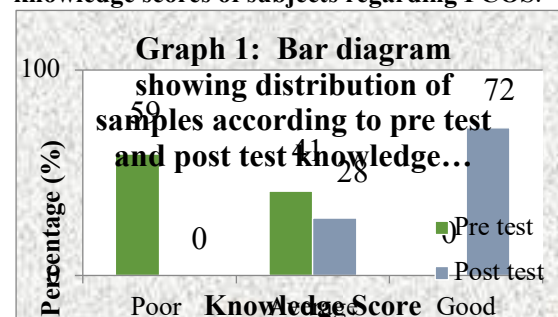
RESULTS

SECTION-I

Table-1: Frequency and percentage distribution of subjects according to their selected socio demographic variables.
n=100

The Table no. 1 indicates that the majority of participants were 18–19 years old (59%), followed by 16–17 years (38%). Most participants were Hindu (79%) and belonged to nuclear families (71%). Regarding education, 57% were studying in 12th standard and 43% in 11th standard. Most participants were from rural areas (65%). Regarding menstrual history, 75% reported menarche at 13–15 years, while 30% had a history of menstrual problems. Only 24% had previous knowledge about PCOS, whereas 76% had no previous knowledge. Among those who had information, the major source was electronic media/TV (10%), followed by newspapers/magazines (7%), family (4%), and peer group (3%). Overall, the findings show that most participants had limited prior knowledge about PCOS.

SECTION II - This section discusses findings related to distribution of pre test and post test knowledge scores of subjects regarding PCOS.



In fig. No. 1 indicates that in pre test, majority of subjects 59 (59%) had poor knowledge about PCOS and 41 (41%) had average knowledge about PCOS, on the other hand in post test majority of subjects 72 (72%) had good knowledge about PCOS while 33 (33%) had average knowledge, and none had poor knowledge about PCOS.

SECTION III

Findings related to mean, median, mode, standard deviation, range & their differences of pre-test and post-test knowledge scores of subjects regarding PCOS.

Table No. 2 Mean Median, Mode, Standard Deviation and Range of knowledge scores of subjects regarding PCOS.

Sr. No.	Demographic variable	Frequency (f)	Percentage (%)
1	Age in Years		
a	16 to 17 yrs	38	38
b	18 to 19 yrs	59	59
c	above 19 yrs	3	3

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2	Religion		
a	Hindu	79	79
b	Christian	9	9
c	Muslim	4	4
d	Other	8	8

3	Type of Family		
a	Nuclear	71	71
b	Joint	17	17
c	Extended	12	12

4	Educational standard		
a	11 th	43	43
b	12 th	57	57

5	Habitat		
a	Rural	65	65
b	Urban	35	35

6	Age at Menarche		
a	10 to 12 years	13	13
b	13 to 15 years	75	75
c	16 to 18 years	12	12

7	History of menstrual problem		
a	Yes	30	30
b	No	70	70

8	Previous knowledge about PCOS		
a	Yes	24	24
b	No	76	76

9	Source of information		
a	Family	4	4
b	Peer group	3	3

c	News paper, Magazine	7	7
d	Electronic Media, TV	10	10
e	No Previous Knowledge	76	76

In Table no.2 indicates the the overall knowledge score of subjects was increased by mean difference 10.28 and median difference was 11 where as mode difference was 12. The variability around the mean of knowledge score distribution was -0.59.The difference between pre test and post test score was -2.

SECTION - IV

Findings related to effectiveness of self instructional module on knowledge regarding PCOS among adolescent girls.

Table No. 3: Effectiveness of self instructional module (SIM) on knowledge regarding PCOS among subjects.

Area of analysis	Mean	Median	Mode	Standard Deviation	Range
Pre test	7.76	8	7	2.67	12
Post test	18.04	19	19	2.08	10
Difference	10.28	11	12	-0.59	-2

=100

Mean Difference	Standard Error (SE)	Paired 't' Values	df
		Calculated	Tabulated
10.28	0.58	44.25* 1.98	99

The calculated paired t test value ($t_{cal} = 44.25$) was greater than tabulated value ($t_{tab} = 1.98$) at level of significance Hence H_1 was accepted. This indicated that the gain in knowledge score was statistically significant at $p < 0.05$ level. Therefore the findings revealed that the self instructional module on PCOS was effective in increasing the knowledge, among subjects.

SECTION V: Testing of hypothesis for an association between pre-test knowledge scores of subjects with their selected socio-demographic variables.

There was significant association between pre test knowledge scores and selected socio-demographic variables, like age in years [$\chi^2_{cal} = 28.786$ $\chi^2_{tab} =$

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5.99], educational standard [$X^2_{cal}= 41.2$, $X^2_{tab}= 3.84$], previous knowledge [$X^2_{cal}=6.034$ $X^2_{tab}= 3.84$], source of information [$X^2_{cal}= 14.623$ $X^2_{tab}= 9.49$]. The calculated Chi-square values were higher than tabulated value at 0.05 level of significance. Hence H_2 was accepted. This indicated that there was significant association between pre test knowledge scores and selected socio-demographic variables at 0.05 level of significance.

DISCUSSION

A similar study was conducted by Anjana Devi G to assess the effectiveness of information education communication on knowledge regarding polycystic ovarian syndrome among adolescent girls in a selected college at Theni. The result related to socio-demographic data of the study reveals that, majority of adolescent girls 36 (60%) were in the age group of 18-19 years. Majority of adolescent girls 32 (53%) were Hindu. Majority of adolescent girls 43(71%) belonged to nuclear family and 17 (29%) belonged to joint family. Regarding menstrual cycle, majority of adolescent girls 41(68%) had regular cycle and 19(32%) had irregular cycle. Regarding menstrual problem, majority of adolescent girls 39(65%) did not have any associated disease while 21(35%) had associated menstrual disease. Regarding presence of any menstrual disorders majority of adolescent girls 31(52%) did not have any menstrual disorder but 29(48%) had menstrual disorder and regarding source information about Polycystic Ovarian Syndrome, majority of adolescent girls 32(54%), from mass media.

A similar study was conducted by Simu sunny to evaluate the effectiveness of planned teaching programme on knowledge regarding polycystic ovarian syndrome among adolescent girls in selected pre university colleges at Hassan The study revealed that there was significant association between knowledge scores and selected sociodemographic variables like age [$X^2_{cal} = 5.45$ $X^2_{tab} = 3.84$], place of residence [$X^2_{cal} = 7.73$ $X^2_{tab} = 5.99$] and previous knowledge [$X^2_{cal} = 5.40$ $X^2_{tab} = 3.84$].

CONCLUSION:

The knowledge results reveals that the calculated paired't' value ($t_{cal}= 44.25$) was greater than tabulated value ($t_{tab} = 1.98$). Hence H_1 was accepted. This indicates that the gain in knowledge score was statistically significant at $p < 0.05$ level. Therefore the finding revealed that the planned teaching programme on PCOS was effective in increasing the knowledge regarding PCOS among adolescent girls. The major conclusions drawn on the basis of findings were, in pre test, majority of samples 59 (59%) had poor knowledge about PCOS and 41 (41%) had average knowledge about PCOS, on the other hand after the administration of Self The instructional module, in post test majority of samples 72 (72%) had good knowledge about PCOS while 33 (33%) had average knowledge, and none had poor knowledge about PCOS. From the study

findings it is concluded that Planned teaching programme is effective in improving knowledge of adolescent girls regarding PCOS.

DECLARATION BY AUTHORS:

Ethical Approval: The study was approved by the institutional ethics committee of MAEER'S Vishwaraj Institute of Nursing. The study participants were briefed about the purpose and nature of the study and written informed consent was obtained before data collection.

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Conflict of Interest: The authors declare no conflict of interest.

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“A PRE -EXPERIMENTAL STUDY TO EVALUATE THE EFFECTIVENESS OF PLANNED TEACHING PROGRAM(PTP) ON KNOWLEDGE REGARDING POLYCYSTIC OVARIAN SYNDROME (PCOS) AMONG ADOLESCENT GIRLS AT SELECTED JUNIOR COLLEGES KALBURGI”.

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