

# Educational Empowerment of Polycystic Ovarian Syndrome: Enhancing Knowledge and Practice among Undergraduate College Girls

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**Abstract:** *Poly Cystic Ovaries Syndrome is considered to be the most prevalent of all endocrine disorders which women face. It affects 5% to 10% of women in their reproductive years. An experimental study was conducted to assess the effectiveness of an educational package on the prevention and management of PCOS in terms of knowledge and practice among undergraduate college girls in MMS College of Kerala. The conceptual framework for the study was based on the Health Belief Model by Rosenstock. 108 undergraduate college girls were selected by stratified random sampling technique, using the stream of study as strata. After establishing reliability structured knowledge questionnaire and structured practice rating scale were administered to undergraduate college girls in order to assess the knowledge and practice on Prevention and management of PCOS before and after the administration of Educational Package. The data collected were processed using statistical software SPSS. Educational Package was found to be effective in improving the post test knowledge and practice scores with the "t" value of 14.76 and 26.02 respectively for df 107 at 0.05 level of significance. There was a positive correlation ( $r=0.68$ ) between the post - test knowledge score and post - test practice score. Knowledge was found to be significantly associated with BMI, educational status of the mother, year of study, family income, history of diabetes in the family, and unhealthy eating habits and practice was significantly associated with BMI, educational status of the mother, stream of study, year of study, and family income at 0.05 level of significance.*

**Keywords:** Poly Cystic Ovaries Syndrome, Knowledge, Practice, Educational Package, Undergraduate college girls

## 1. Introduction

India has one of the fastest - growing youth populations in the world, with one - fourth of that population made up of adolescent girls [1]. The life of a woman undergoes many physiological changes. The appearance of secondary sexual characters, cyclic menstrual bleeding, and then the ability to reproduce at the desired time are important milestones in the life of a woman. Any discrepancy or inability in any of these may create physiological, psychological, and social stress in a woman's life. [2]

Unhealthy food habits and lack of exercise lead to many adverse effects on the body of a woman during her reproductive phase. Poly Cystic Ovarian Syndrome (PCOS) is one such disease. According to [www.nhp.gov.in](http://www.nhp.gov.in) PCOS is one of the most common hormonal disorders among women of reproductive age. PCOS is a common diagnosis in women presenting with infertility. PCOS is an endocrine abnormality that presents as hyperandrogenemia, anovulation, and/or polycystic ovaries. The exact causes of PCOS are not entirely understood. However, PCOS may be hereditary and associated with abnormalities such as high body mass index (BMI) and obesity, among others [3]. In addition, PCOS is linked to many long - term health problems such as cardiovascular diseases and diabetes [4, 5]. Additionally, because the woman does not usually ovulate, she is often infertile (75%) [6].

In studies done in South India and Maharashtra, the prevalence of PCOS (by Rotterdam's criteria) was reported as 9.13% and 22.5% respectively. [3] India has witnessed about a 30% rise in PCOS cases in the last couple of years. Lack of knowledge and lifestyle changes are considered to be the major factor leading to this phenomenon. It is important to make an early diagnosis to prevent early and late sequels of the syndrome [7]. Although adolescents' concerns are often cosmetic, if left untreated these girls are at risk for diabetes, metabolic syndrome, and infertility as they mature. [8] There is a need to increase awareness among adolescents' to avoid major causes of fertility problems in the future. Hence the investigator felt a strong need to evaluate the effectiveness of the Educational Package on prevention and management of PCOS in terms of knowledge and practice among college students. The researcher felt that knowledge of PCOS is important to develop a mature and healthy attitude regarding the problems.

## 2. Objectives

- To assess and evaluate the knowledge & Practice of undergraduate college girls before and after the administration of the Educational package on prevention and management of PCOS.
- To determine the relationship between knowledge and practice of undergraduate college girls after the administration of the Educational package on prevention and management of PCOS

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- c) To find out the association between post - test knowledge & Practice of undergraduate college girls with selected factors - regularity of menstrual cycle, BMI, stream of study, year of study, unhealthy eating habits, maternal education, family income, history of Poly Cystic Ovarian Syndrome in family, history of diabetes in family

### 3. Materials & methods

After obtaining administrative approval and ethical clearance from MMS College, Kerala, a quasi - experimental study was conducted from 7th February 2022 to 17th February 2022. The sample size was calculated and 108 undergraduate college girls were selected by stratified random sampling technique, using the stream of study as strata. After establishing reliability structured knowledge questionnaire and structured practice rating scale were administered to undergraduate college girls in order to assess the knowledge and practice on Prevention and management of PCOS before and after the administration of Educational Package.

#### Educational Package

Educational Package in this study means a package which was developed by the researcher after in depth review of literature. It included:

- **Structured teaching program:** In this study, it refers to the systematically developed group instruction and A V Aids (FlashCards and PowerPoint Presentation) designed to provide information regarding knowledge and practice on prevention and management of PCOS
- **Information Pamphlet:** A Pamphlet providing information about the prevention and management of PCOS
- **Videos:** This includes standadized videos about PCOS, need for exercise and dietary modification. (authorized and licensed creator of medical illustrations by Nucleus Medical Media and WHO)

#### Data collection

Self - introduction and establishment of rapport with the subjects were done. A conducive atmosphere was set up for data collection. The nature and purpose of the study were informed to the respondents. Written consent was taken from each sample and confidentiality of the respondents was assured and maintained. A pre - test to assess the knowledge and practice of the samples on prevention and management of PCOS was done on day 1 using a structured knowledge questionnaire and Practice rating scale respectively. After the pretest, Educational Package was administered to the undergraduate College girls on prevention and management of PCOS. The post - test was taken on the 8th day after the administration of the Educational Package to assess the knowledge and practice regarding the prevention and management of PCOS. The data was organized and analyzed by using descriptive and inferential statistics according to the objective and hypothesis of the study.

### 4. Observations

The percentage distribution of sample characteristics of undergraduate college girls shows that Maximum of college students 57.40% were in the age group of 19 to 20 years and 26.90% were in the age group of 17 - 18 years. An Equal number of students (33.3%) were taken from Arts, Commerce, and Science and from the 1<sup>st</sup> year, 2<sup>nd</sup> year, and 3<sup>rd</sup> year by using the stream of study as strata. The majority (94.5%) of students were non - vegetarian. 62.96% were having central obesity, 41.67% were physically not active, 33.33% fell under overweight and obesity category, 30.56% were having unhealthy eating habits, 24.07% were having an irregular menstrual cycle, 15.74% were having hereditary factors of PCOS and 11.11% were having metabolic disorders such as Diabetes.

The percentage distribution of undergraduate college girls by their Family characteristics shows that most (45.9%) were having a monthly family income of less than 10, 000, and 27.50% were having family income above Rs 31, 000. The majority (82.60%) of students belong to the nuclear family. The majority of fathers (37.96%) and mothers (40.40%) of the subjects were studied up to higher secondary.

**Table 1:** Mean, Mean Difference, Standard Deviation Difference, Standard Error of Mean Difference & “t” Value of Pretest and Post - Test Knowledge Score of Undergraduate College Girls, N=108

Group	Practice Score	Mean	Mean Difference (MD)	Standard Deviation $SD_d$	$SE_{MD}$	“t” value
Undergraduate College Girls	Pretest	14.01	4.14	0.6	0.77	14.76*
	Post - Test	18.15				

\* t value for df 107 level=1.98,  $P < 0.05$  = Significant at 0.05 level

Table 1 depicts that the mean post - test knowledge score (18.15) was higher than their mean pretest knowledge score (14.01) with a mean difference of 4.14. The obtained mean difference was found to be statistically significant as evident from the “t” value,  $t(107) = 14.76$  at a 0.05 level of

significance. This shows that the educational package was effective in enhancing the knowledge of undergraduate college girls regarding the prevention & management of PCOS.

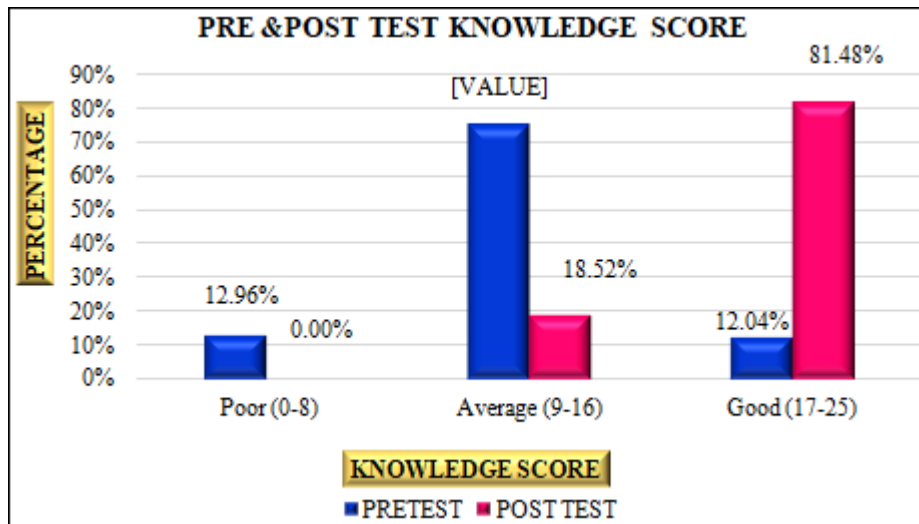


Figure 1: Column chart showing the percentage distribution of pretest & post – test knowledge scores in various categories

The data in the above figure 1 shows that 12.96% of undergraduate college girls had poor knowledge in the pretest which was reduced to 0% in the post - test. The frequency of undergraduate college girls having average knowledge scores also declined from 75% in the pre - test to 18.52% in the post - test. On the contrary, the frequency of

undergraduate college girls having good knowledge scores increased to 81.48% in the post - test from 12.04% in the pre - test. This suggests that the majority of students had good knowledge after the administration of the educational package.

Table 2: Mean, Mean Difference, Standard Deviation, Standard Error of Mean Difference & “t” value of Pretest and post - test Practice score of undergraduate college girls, N=108

Group	Practice Score	Mean	Mean Difference (MD)	Standard Deviation $SD_d$	$SE_{MD}$	“t” value
Undergraduate College Girls	Pretest	39.53	8.59	0.7	0.89	26.02
	Post - Test	48.12				

\* t value for df 107 level= 1.98,  $P < 0.05$  = Significant at 0.05 level

The data in table 2 shows that the mean post - test practice score (48.12) was higher than their mean pretest practice score (39.53) with a mean difference of 8.59. The obtained mean difference was found to be statistically significant as

evident from the “t” value,  $t(107) = 26.02$  at a 0.05 level of significance. This shows that the educational package was effective in improving the practice of undergraduate college girls regarding the prevention and management of PCOS.

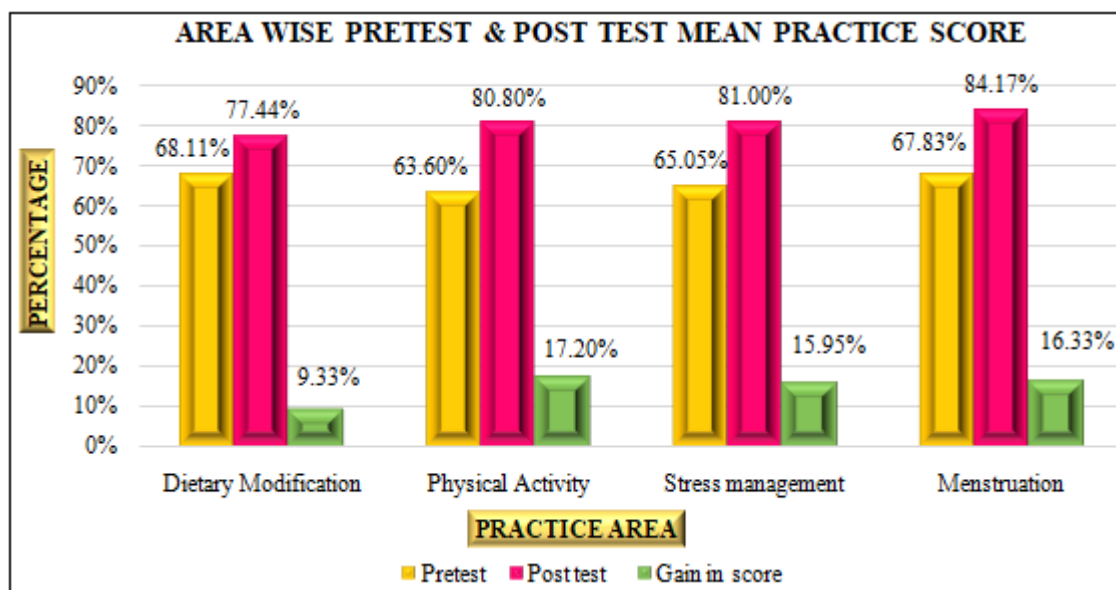


Figure 2: Column chart showing the percentage distribution of area wise practice score of undergraduate college girls

The data in the figure 2 reveals that there is practice deficit in all the areas depicting inadequate practice of Undergraduate college girls regarding PCOS. The maximum improvement occurs in the area of physical activity

(17.20%), followed by menstruation (16.33%), stress management (15.95%), dietary modification (9.33%) respectively. The data indicate that the post test mean percentage practice score in all the content areas were higher

than the pretest mean percentage practice score. It suggests the effectiveness of Educational Package.

**Table 3:** Karl Pearson coefficient of correlation between knowledge score and practice score of undergraduate college girls on Prevention & Management of PCOS, N=108

Group	Variables	Mean	Standard Deviation	"r" value
Undergraduate College Girls	Post - test Knowledge Score	18.15	2.8	0.68*
	Post - test Practice Score	48.12	3.77	

\*r value for df (106) 'r' = 0.17. Significant at 0.05 level

The data represented in the above table 3 shows that there is a strong positive correlation ( $r=0.68$ ) between post - test knowledge scores and post - test practice scores of undergraduate college girls. The positive correlation shows that as the knowledge score increases, the practice also get increases. The association between the post - test knowledge score and Body Mass Index (**10.27**), educational status of the mother (**17.90**), Year of study (**6.38**), Family Income (**11.19**), History of Diabetes in the Family (**6.74**), and unhealthy eating habits (**7.56**) were found to be significant at a 0.05 level of significance. This indicates that knowledge was dependent and influenced by these variables.

The association between the post - test Practice score and Body Mass Index (**9.00**), educational status of the mother (**8.34**), stream of study (**7.49**), year of study (**6.38**), and family income (**7.57**) were found to be significant at a 0.05 level of significance. This indicates that practice was dependent and influenced by these variables.

## 5. Discussion

The present study found that the Educational Package was effective in improving the knowledge and practices of Undergraduate college girls. After imparting information the knowledge and practice of Undergraduate college girls regarding PCOS showed significant improvement as revealed by their post - test scores. These findings are consistent with the study findings of Almkhtar SH. (2019) which revealed that the Educational Package had a positive impact on students' knowledge concerning PCOS. This study was also supported by the study findings of Shariff A, Begum GS, et al. (2016), which concluded that the knowledge of participants was improved through structured education programme that can play a vital role in prevention and early diagnosis of Poly Cystic Ovarian Syndrome. [9, 10]

## 6. Conclusion

The findings of the study reveals that there is need of comprehensive information and education among females of reproductive age group about PCOS and early detection of PCOS. Reproductive Health of women is of prime concern for every nation to lay down the foundation of a healthy society. Poly Cystic Ovarian Syndrome is the most common endocrine disorder in the females of reproductive age. Educational package was effective in enhancing the knowledge of undergraduate college girls regarding the

prevention & management of PCOS. Nurses working in Gynecology department should take up the responsibility of educating and motivating the females about the lifestyle modifications to manage PCOS. Schools and colleges are the two important social institutions where students can be taught and encouraged to practice healthy life styles. Community Health Nurse can create awareness among adolescents, youth and public regarding risk factors of Poly Cystic Ovarian Syndrome and organize School Health Programmes to teach the prevention and management of Poly Cystic Ovarian Syndrome among adolescent group so that the incidence can be minimised.

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