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A Study to Assess the Effectiveness of Information Education and Communication (IEC) on Knowledge regarding Polycystic Ovarian Syndrome among Students in a Selected College of Kamrup District, Assam

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Abstract: ***Introduction: Due to the absence of knowledge and ignorance, women suffer from many health issues, among which "Polycystic Ovarian Syndrome" (PCOS) is a prime health concern as the number of PCOS cases are gradually increasing every year. There are many symptoms associated with this hormonal imbalance that may affect women and, in most cases, girls of reproductive age and cause many disturbances which affect their overall health and appearance too. In India, almost 20% (one Indian woman out of five) experience PCOS. The prevalence of India ranges from 3.7 % to 22.5 %, depending on the population studied regarding PCOS. Around 28 percent of college students were observed to be at high risk of developing PCOS. But Medicines alone have not proven superior to modifications to healthy lifestyles. Many women who suffer from PCOS manage signs and long-term health concerns effectively by following a good diet, frequently exercising, and keeping their life healthy. This issue is not something to be ignored, and getting it checked soon to avoid PCOS-related health effects. Objective: To evaluate the efficacy of Information Education and Communication (IEC) on increasing knowledge about PCOS among students. Material and method: The analysis was a pre-experimental research study conducted in a selected college of Kamrup District, Assam.123 female students were selected by using a consecutive sampling method. Information Education and Communication (IEC) was conducted among students by using different kind of Audiovisual aids and materials. Demographic proforma, a self-administered structured questionnaire on knowledge regarding PCOS, were utilized for gathering the data. Results: Study results demonstrated that out of 123 students, the majority, 66 (53.7%) of participants had moderate knowledge, 57 (46.3%) of participants had inadequate knowledge and No one had adequate knowledge in the pre-test knowledge assessment. Results also indicated that the majority, 62 (50.4%) of participants had sufficient knowledge, 61 (49.6%) of participants had moderate knowledge and No one got inadequate knowledge score regarding PCOS in terms of post-test. The post-test mean knowledge score (21.11±3.45) was greater as compared to the pre-test mean knowledge score (10.79±2.79), with a mean variation of 10.33. The comparison was tested using paired t-test with obtained (t=47.50) was substantial statistically at p<0.05 level. There was a positive relationship between pre-test level of knowledge about PCOS among students and their certain demographic factors concerning educational stream, residence, occupation of father, family history of PCOS, and previous information about PCOS, including Previous information source at 0.05 significant level (p<0.05). Conclusion: The findings of the study indicate that IEC is an effective strategy to enhance the level of knowledge about PCOS among students.***

Keywords: Assess, Effectiveness, Information Education and Communication (IEC), Knowledge, Polycystic Ovarian Syndrome, Students

1. Introduction

The first step toward change is awareness. The second is acceptance.

-Nathaniel Branden

In developing countries like India, women are mostly observed to neglect their health. Due to the absence of knowledge and ignorance, women used to suffer from many health issues. Some are preventable, some are curable if it is recognized at an early level, and some are not curable if it is already late. Among those health problems, one of the major health issues is PCOS, an endocrine or hormonal disorder that women can face mostly during their reproductive years. PCOS, which affects 5–10% of reproductive-age women, is among the most prevalent endocrine diseases in females. [1] It's a combination of certain symptoms associated with a hormone imbalance that may affect women and most girls at reproductive age. Mostly it is common in the young reproductive age group. [2]

Experts in India stated that 10 percent of women suffer from PCOS, but the statistics on the incidence of PCOS in India are not yet accessible [3]. It is predicted that PCOS is affected by 116 million women globally in 2010, as pert the "World Health Organization" (3.4% of the population). [3] It is one of the common issues for women that affects one out of every five women of reproductive age, causing many disturbances like irregular menses, hirsutism, acne or pimples, alopecia, depression, mood swings, and even infertility, etc. Due to lack of knowledge and unawareness, often girls cannot recognize the features of this syndrome and are thus left untreated, and later on, they even suffer more. PCOS was first explained by Leventhal and Stein in 1935, who explained this syndrome as manifested by certain symptoms such as amenorrhea, obesity, and hirsutism correlated with enlarged polycystic ovaries. The ovaries produce excessive production of male hormones "androgen," and in such conditions, the body becomes resistant to "insulin. " [4] It is not only multifactorial but also a polygenic condition. [2]

Medicines alone have not been superior to improvements in healthy living (such as losing weight, doing exercises, etc.).

Many women who suffer from PCOS manage signs and long-term health concerns effectively. They accomplish this by following a good diet, frequently exercising, and keeping their life healthy. This issue is not something to be ignored, and getting it checked soon to avoid PCOS-related health effects.

2. Background of the Study

Research indicates that more women suffer from a hormone condition, termed PCOS, in their reproductive age. Gynecologists believe that there is a need to raise knowledge about the disease PCOS, which may be managed or avoided, even for a lifetime. In the global context, PCOS prevalence rates are extremely varied from 2.2 to 26%. In India, specialists have said that 10% of women are afflicted with PCOS, although no statistical information on PCOS prevalence is currently available in India.

Studies have also indicated that PCOS is affected by 20 percent (one out of five Indian women). [11]The disease will have severe health effects if it is not evaluated or managed at an early stage. According to a Gynecologist and fertility specialist, Dr. Duru Shah, PCOS is a condition rather than a disease that can present itself differently. Research studies have shown that young females may experience irregular periods because of PCOS, they can suffer from hirsutism (unwanted masculine patterns of hair growth), and obesity, infertility, the chance of miscarriage, and many other health issues may be caused as well. [11]

Accordingly, about 18% of women having PCOS, 70% were earlier undiagnosed according to one community-based prevalence research study utilizing the Rotterdam standards. [5] Studies also indicate that polycystic ovaries are extremely prevalent throughout the Indian subcontinent of Asian women. They also have an estimated frequency of five to ten percent of women in their reproductive age in the general population. [5, 16]

Research studies state that the prevalence of India ranges from 3.7 % to 22.5 %, depending on the population studied regarding the pathogenesis of PCOS. [12]

Around 28 percent of college students were identified to be at high risk of developing PCOS. [13]

3. Need of the Study

PCOS is one of the commonly occurring endocrine diseases that females face, mostly during reproductive years, and it is most frequent in the young reproductive age group. [2]

PCOS accounts for high health-care costs and distress and have an important influence on the QoL and fertility. Approximately 4%–10% of the world population experiences this syndrome PCOS, although the incidence rate is higher for India, rounding off to 20%–26%. [13]

An ovulatory infertility PCOS comprises 80% of cases. [19]

It is one of the frequent conditions in women's health during reproduction and may lead to many changes in their menstrual cycle, failure to understand, and other health issues, including acne, hirsutism, depression, alopecia, mood swings, etc. [16]

Very few young females know what the illness is and what the first signs must alert them to visit a specialist. Most individuals regard menstruation discomfort and irregularity as an integral component of their physiological process and don't consider visiting a doctor. [18]

Due to lack of knowledge and unawareness, girls often cannot recognize the features of this syndrome in time and are thus left untreated, and ultimately, later on, they even suffer more. Most of the time, women come to know about PCOS from doctors when they approach doctors' advice for issues mostly related to infertility. The risk of developing cardiovascular disease, Type 2 DM, and uterine cancer is high for women with PCOS. Women with PCOS are more likely to suffer from mental health conditions, such as depression, anxiety, etc. Due to the severe impact of PCOS on various health aspects, collaborative efforts are extremely important to advance the diagnosis, treatment and decreasing the suffering of women with PCOS. [7]

Though the major cause of PCOS is not known yet, knowledge regarding it among young women will help them to get knowledge about PCOS, to identify the sign and symptoms of PCOS, to get treated as soon as possible, and thus to get relief from the sign and symptoms of PCOS and also to avoid fertility-related problems in future perspective. As a health care worker, I want to teach the female students regarding PCOS by administration of IEC with a motive to improve knowledge among them so that they can get knowledge, become aware, can protect themselves and even others by sharing knowledge. Regular monitoring, as well as appropriate management, is not only delayed but also beneficial for optimal treatment of the illness for predisposing risk variables.

Problem Statement

"A Study to Assess the Effectiveness of Information Education and Communication (IEC) on Knowledge regarding Polycystic Ovarian Syndrome among Students in a selected College of Kamrup district, Assam".

Objectives

General Objective:

To evaluate the efficacy of Information Education and Communication (IEC) on increasing knowledge about polycystic ovarian syndrome among students.

Specific Objectives:

1) To assess the pre-test level of knowledge regarding polycystic ovarian syndrome among students.
2) To assess the post-test level of knowledge regarding polycystic ovarian syndrome among students.
3) To determine the effectiveness of Information Education and communication (IEC) on the level of knowledge regarding polycystic ovarian syndrome among students.
4) To find out the association between pre-test level of

knowledge regarding polycystic ovarian syndrome among students and their selected demographic variables.

Hypothesis

The hypothesis is examined at 0.05 level significance.

H1-There is significant difference in the level of knowledge regarding polycystic ovarian syndrome between pre-test and post-test scores.

H2-There is significant association between pre-test level of knowledge regarding polycystic ovarian syndrome among students and their selected demographic variables.

Research Approach

A pre-experimental quantitative evaluative research approach is used for this investigation.

Research Design

A pre-experimental one-group pre-and post-test design was adopted.

Conceptual Framework: Ludwig von Bertalanffy's conceptual framework for the research was on the basis of the theory of the general system.

Setting of the Study: This study was carried out in a specific college of Kamurp District", Assam, having all the streams of Arts, Science and Commerce.

Sample: Sample for the study consist of female students of age group 19-22 years pursuing bachelor degree for Arts, Science or Commerce.

Sample Size: The sample size includes 12 female college students that are selected for the pilot study. One hundred twenty-three female learners were selected for the final study.

Sampling Technique: Non-probability Consecutive sampling method was adopted for this study.

Sampling Criteria

Inclusion criteria:

- Students whose age group is 19-22 years studying in a selected college.
- Students that are willing to engage in the study at a selected college.
- Students present at the selected college while collecting data.

Exclusion criteria:

- Students who are already diagnosed and treated with PCOS at the selected college.
- Students above 22 years studying in the selected college.
- Students not in attendance during the "gathering of data.

Variables

Demographic variables: Age, Type of family, Educational stream, Residence, Family income per month, Occupational status of the father, Occupational status of the mother, Family history of PCOS, Previous information about PCOS in terms of Yes or No and if Yes, Source of previous information about PCOS, Characteristics of the menstrual cycle (periods).

- **Independent variable:** In my study, the IEC program on polycystic ovarian syndrome will be the independent variable.
- **Dependent Variable:** The knowledge of college students related to polycystic ovarian syndrome will be the dependent variable in the study.

Research technique and tool:

Demographic proforma, a self-administered structured questionnaire on knowledge regarding PCOS, were utilized for gathering the data. The tool comprising three sections. The first section contained 10 questionnaires on the Demographic variable; the second section contained 30 knowledge-related questionnaires and the third section includes Information Education and Communication (IEC) with different kind of Audio-visual aids and materials.

Validity of the tool: Eight professionals from different fields have verified the tool consisting of three sections. Certain changes e. g., simplification of languages have been made as suggested.

Final Data Collection Procedure:

A few days before performing the research in selected college of Kamrup District, Assam, the head of that institution granted official approval. The results of the pilot research showed that it was sufficiently possible to perform the final study.

The real data was gathered by the researcher herself. The test was arranged and conducted in an **"Auditorium-hall"** where students were gathered. The investigator gave a self-introduction, and a report was prepared before the pre-test day with the students. The researcher interacted with the students and discussed the objective and significance of their research, and clarified any doubts that the students had.123 respondents were chosen by using the non-probability consecutive sampling approach. Participants received informed permission before the research was initiated, and their responses were secured confidential. To evaluate the knowledge of PCOS students, a systematic knowledge questionnaire was provided to them. The questionnaire was completed by the students, and the average time each participant took was around 30 minutes. The pre-test was performed on the same day, IEC was administered by using different kind of audio-visual aids or materials for clarification purposes and study. The subjects were instructed to listen attentively and were notified that a post-test session would be carried out on a feasible 7th day from the pre-test using the same structured questionnaire. The tools and the IEC were comprehensible, feasible, and understandable by the sample subjects.

Problem Faced During Data Collection:

- Due to COVID 19 pandemic situation, the administrative permission from a selected college at Kamrup District, Assam to conduct the research study among students was granted for one day.
- The whole process of gathering the students in an auditorium hall to conduct the study was found to be very challenging and a little time consuming.
- No other major problems encountered during the study.

Main Data Analysis:

Section I: Descriptive Analysis of Demographic Variables:

Table 1: Showing Frequency and Percentage Distribution of demographic variables

	Demographic Variables	Frequency Distribution of the Samples	Percentage Distribution of the Samples
1	**Age in years**		
	19-20 years	87	70.7
	21-22 years	36	29.3
2	**Type of family**		
	Joint family	18	14.6
	Nuclear family	105	85.4
	Extended family	0	0
3	**Educational stream**		
	Arts	41	33.3
	Science	42	34.1
	Commerce	40	32.5
4	**Residence**		
	Urban area	102	82.9
	Rural area	21	17.1
5	**Family income per month**		
	≥ 1, 99, 862	1	0.8
	99, 931 – 1, 99, 861	2	1.6
	74, 55 – 99, 930	9	7.3
	49, 962-74, 755	8	6.5
	29, 973-49, 961	36	29.3
	10, 0002-29, 972	32	26
	≤ 10, 001	35	28.5
6	**Occupational status of father**		
	Unemployed	1	0.8
	Daily wage worker	31	25.2
	Private service	48	39
	Government service	43	34.9
7	**Occupational status of mother**		
	Housewife	75	61
	Daily wage worker	1	0.8
	Private service	40	32.5
	Government service	7	5.7
8	**Family history of PCOS**		
	Yes	14	11.4
	No	109	88.6
9. (I)	**Previous information about PCOS**		
	Yes	45	36.6
	No	78	63.4
9. (II)	**Source of previous information**		
	Health personnel	3	6.7
	Friends	7	15.5
	Mass media	4	8.9
	Teachers	5	11.1
	Family	4	8.9
	Conferences and workshop	22	48.9
10	**Characteristics of menstrual cycle periods**		
	Regular	93	75.6
	Irregular	30	24.4

Section II: Description of Percentage and Frequency

Distribution about Pre-& Post-Test Knowledge Level About PCOS Among Students.

This section covers the valuation of pre-and post-test knowledge scores about PCOS among students. It comprises of thirty questions with multiple choices having only one correct answer, and the scores are categorized into the following division:

21-30: ADEQUATE KNOWLEDGE
11-20: MODERATE KNOWLEDGE
0-10: INADEQUATE KNOWLEDGE

Table 2: Percentage and Frequency distribution of pre-& post-test knowledge level about PCOS among students, N=123

Knowledge level	Pre-Test		Post-Test	
	F	%	F	%
Adequate knowledge	0	0	62	50.4
Moderate knowledge	66	53.7	61	49.6
Inadequate knowledge	57	46.3	0	0

Table 2 depicts the percentage and frequency "distribution of pre-and post-test knowledge levels about PCOS among students. Results revealed that in pre-test", most 66 (53.7%) of participants had "moderate knowledge" and 57 (46.3%) of participants had "inadequate knowledge" and no one got adequate score, whereas in post-test, most of respondents 62 (50.4%) had "adequate knowledge" and 61 (49.6%) of participants had moderate knowledge about polycystic ovarian syndrome and no one got inadequate score.

N=123

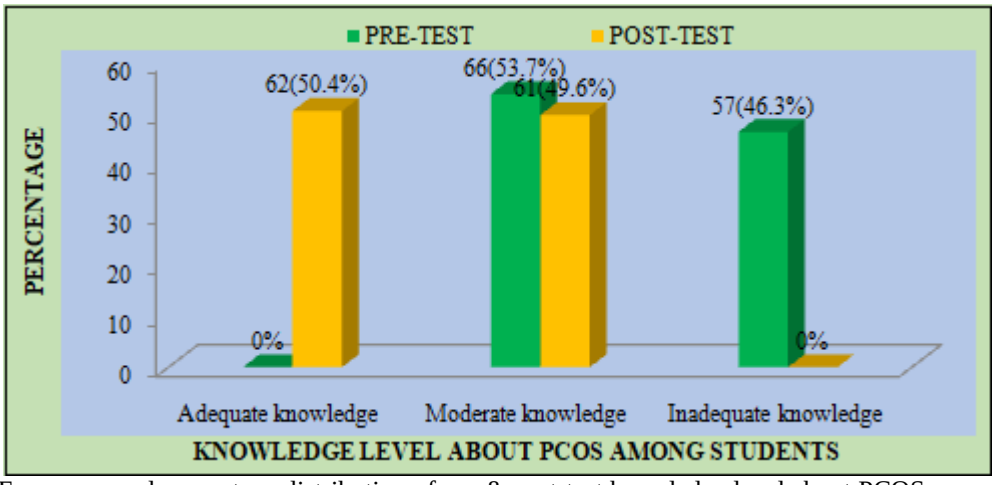

Figure 1: Frequency and percentage distribution of pre-& post-test knowledge level about PCOS among students.

Table 3: Pre-test knowledge score showing mean and standard deviation (SD), N=123

Pre-Test Knowledge Level	Range	N	%	Mean	SD
Inadequate	5-10	57	46.3%	8.39	1.36
Moderate	11-19	66	53.7%	12.86	1.88
Total	5-19	123	100.0%	10.79	2.79

Table 4: Post-test knowledge score showing mean and standard deviation (SD), N=123

Post-Test Knowledge Level	Range	N	%	Mean	SD
Moderate	15-20	61	49.6%	18.28	1.46
Adequate	21-29	62	50.4%	23.90	2.39
Total	15-29	123	100.0%	21.11	3.45

Table 3 shows that in pre-test", most 66 (53.7%) of participants had "moderate knowledge" and 57 (46.3%) of participants had "inadequate knowledge" about polycystic ovarian syndrome. The overall mean pre-test knowledge score is 10.79with standard deviation (SD) 2.79

Table 4 shows that in post-test, most of respondents 62 (50.4%) had "adequate knowledge" and 61 (49.6%) of participants had moderate knowledge about polycystic ovarian syndrome. The overall mean post-test knowledge score is 20.11 with standard deviation (SD) 3.45

N=123

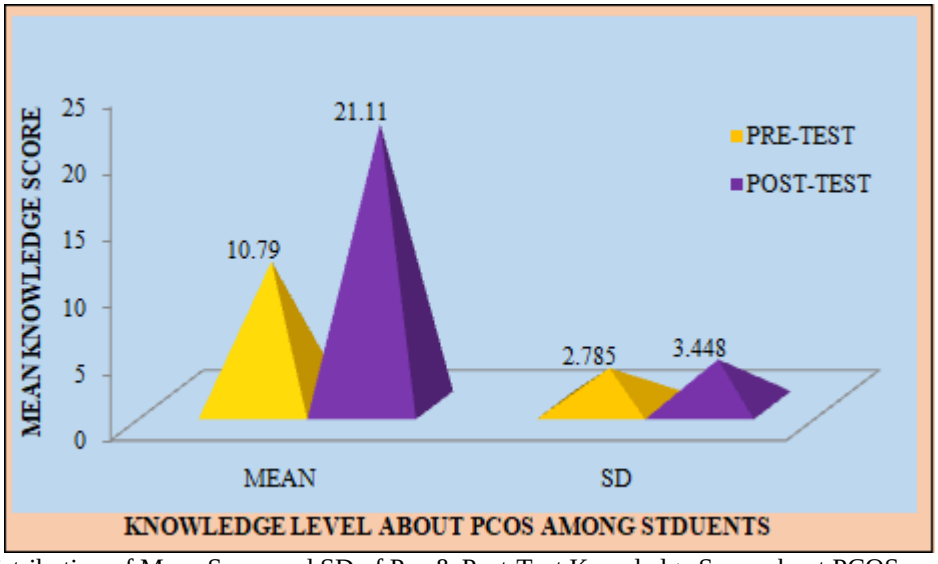

Figure 2: Distribution of Mean Score and SD of Pre-& Post-Test Knowledge Score about PCOS among students

Section III: Findings Related to the Effectiveness of IEC on the Knowledge Level Regarding PCOS among Students

Table 5: Effectiveness of IEC on the knowledge level about PCOS among students, N=123

Comparison of the level of knowledge	Mean	SD	t-test value	Mean Difference	Df	p-value
Pre – Test	10.79	2.79	47.50	10.33	122	0.001***
Post – test	21.11	3.45				

*P<0.05 level of significance
NS-Non significant
***** Very Highly Significant**

Table 5 depicts the efficacy of IEC on the knowledge score about PCOS among students**.** Findings showed that 10.79±2.79 was the score of pre-test mean knowledge and 21.11±3.45 was the score of post-test mean knowledge with a mean difference of 10.33. The comparison was tested using paired t-test with obtained (t=47.50) at p<0.05 level was statistically substantial. Research has shown that IEC has improved student comprehension of a polycystic ovarian syndrome. Consequently, the results indicated that there is a substantial difference between pre-& post-test results among students in understanding of PCOS. **H1 hypothesis was accepted.**

Table 6: Sub Area Wise Effectiveness of IEC on the Knowledge Score about PCOS among Students N=123

Areas	Test Score	Mean± SD	Mean%	Mean Diff± SDD	*t* (122)	P-Value
Concept	Pre	1.34±1.04	44.72%	1.11±0.79	15.58	<.001***
	Post	2.45±0.73	81.57%			
Anatomy and Physiology	Pre	2.59±0.91	64.84%	0.61±0.91	7.42	<.001***
	Post	3.2±0.77	80.08%			
Etiology	Pre	0.49±0.5	48.78%	0.11±0.31	3.80	<.001***
	Post	0.59±0.49	59.35%			
Risk factors	Pre	0.76±0.68	38.21%	0.82±0.65	13.94	<.001***
	Post	1.59±0.56	79.27%			
Sign and symptoms	Pre	0.9±0.89	22.56%	2.17±1.02	23.56	<.001***
	Post	3.07±0.89	76.83%			
Assessment and diagnostic tests	Pre	0.63±0.63	31.30%	0.57±0.7	8.99	<.001***
	Post	1.2±0.73	59.76%			
Management	Pre	3.67±1.57	30.56%	3.93±1.64	26.63	<.001***
	Post	7.59±1.79	63.28%			
Complications	Pre	0.41±0.6	20.33%	1.02±0.78	14.47	<.001***
	Post	1.42±0.64	71.14%			
Total	Pre	10.79±2.79	35.96%	10.33±2.41	47.50	<.001***
	Post	21.11±3.45	70.38%			

*****Very Highly Significant**

Inference: Average pre-test knowledge regarding polycystic ovarian syndrome among (10.79±2.79) significantly increased in post-test (21.11±3.45) corresponding to mean difference at 10.33±2.41, (Mean % increase 34.42%), t (122) = 47.50, p<.001. This indicated a significant impact of IEC on the knowledge score about PCOS between pre-and post-test scores among students. Similar significant results were also found in sub-areas viz. Concept, Anatomy and physiology, Etiology, Risk factors, Sign and symptoms, Assessment and diagnostic tests, Management and Complications, with respective t (122) ≥ 3.80, p<.001. In subareas, the highest mean (%) increase was found in Signs and symptoms (54.27%) followed by Complications (50.81%) and Risk factors (41.06%), whereas the lowest was found in Etiology (10.57%).

Table 7: Mean percentage of pre-& post-test and increased percentage difference as per sub area wise N=123

S No.	Sub Areas	Mean %		Difference Increase (%)
		Pre-Test	Pos-Test	
1	Concept	44.72	81.57	38.85
2	Etiology	48.78	59.35	10.57
3	Risk Factors	38.21	79.27	41.06
4	Sign and Symptoms	22.56	76.83	54.27
5	Assessment and Diagnostic Tests	31.30	59.76	28.46
6	Management	30.56	63.28	32.72
7	Complications	20.33	71.14	50.81
8	Aggregate	35.96	70.38	34.42

N=123

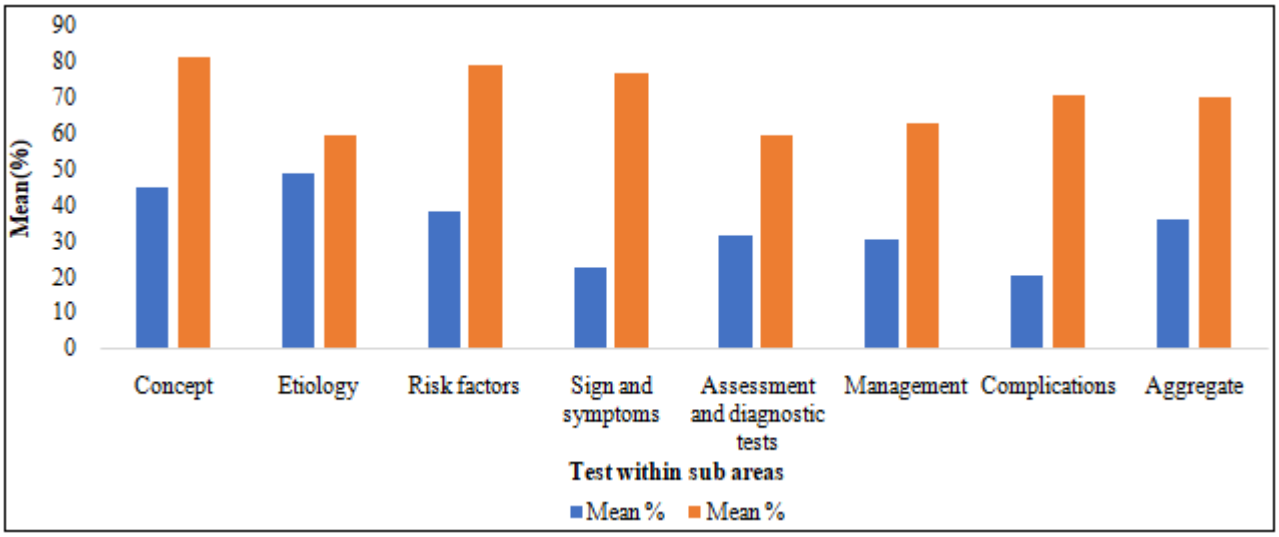

Figure 3: Bar Chart Showing Pre-and Post-Test Score of Knowledge in Sub-regions and Aggregate

Table 8: Percentage and Frequency of Pre-and Post-test score of knowledge about PCOS among students showing association, N=123

Pre-Knowledge	Post Knowledge		Total	Chi Sq	Df	*P-Value*
	Moderate	Adequate				
Inadequate	47 (82.5%)	10 (17.5%)	57 (100%)	45.89	1	<.001***
Moderate	14 (21.2%)	52 (78.8%)	66 (100%)			
Total	61 (49.6%)	62 (50.4%)	123 (100%)			

***Very Highly Significant

Inference: The number of participants in Pre-test Inadequate (57) had been lifted to moderate group (61) in post-test while the same in pre-test adequate (66) had been lifted to adequate group (62) in post-test. It was clear that Pre-Knowledge was significantly associated with Post Knowledge, X^2 (1, 123) = 45.89, p<.001.

Section IV: Findings Related to the Association Between Pre-Test Level of Knowledge Regarding Polycystic Ovarian Syndrome (PCOS) and Their Selected Demographic Variables of Participants.

Table 9: Association between pre-test level of knowledge regarding polycystic ovarian syndrome among students and their selected demographic variables, N=123

Demographic Variables	Pre-test level knowledge Level			Total	Chi Sq	df	p value
	Inadequate	Moderate	Adequate				
1. Age in years							
a) 19-20 years	44	43	0	87	2.142	1	0.143^{NS}
b) 21-22 years	13	23	0	36			
2. Type of family							
a) Joint family	8	10	0	18	0.03	1	0.861^{NS}
b) Nuclear family	49	56	0	105			
c) Extended family	…….	……. .	…….	…….			
3. Educational stream							
a) Arts	23	18	0	41	43.14	2	< 0.001***
b) Science	3	39	0	42			
c) Commerce	31	9	0	40			
4. Residence							
a) Urban area	43	59	0	102	4.21	1	0.040*
b) Rural area	14	7	0	21			
5. Family income per month							
a) ≥ 1, 99, 862	0	1	0	1	4	6	0.676^{NS}
b) 99, 931-1, 99, 861	0	2	0	2			
c) 74, 755-99, 930	3	6	0	9			
d) 49, 962-74, 755	3	5	0	8			
e) 29, 973-49, 961	17	19	0	36			
f) 10, 002-29, 972	16	16	0	32			
g) ≤ 10, 0001	18	17	0	35			
6. Occupational status of father							
a) Unemployed	1	0	0	1	8.47	3	0.037*
b) Daily wage worker	15	16	0	31			
c) Private service	28	20	0	48			

d) Government service	13	30	0	43			
7. Occupational status of mother							
a) Unemployed	36	39	0	75	1.01	3	0.799[NS]
b) Daily wage worker	0	1	0	1			
c) Private service	18	22	0	40			
d) Government service	3	4	0	7			
8. Family history of PCOS							
a) Yes	1	13	0	14	9.76	1	0.002*
b) No	56	53	0	109			
9 (I) Previous information about PCOS							
a) Yes	7	38	0	45	27.05	1	< 0.001***
b) No	50	28	0	78			
9 (II) If yes. Source of your previous information							
a) Health personnel	0	3	0	3	32.22	6	< 0.001***
b) Friends	1	6	0	7			
c) Mass media (e. g., Newspaper, TV, radio etc.)	1	3	0	4			
d) Teachers	3	2	0	5			
e) Family	0	4	0	4			
f) Conferences and workshop	2	20	0	22			
10. Characteristics of menstrual cycle							
a) Regular	41	52	0	93	0.78	1	0.377[NS]
b) Irregular	16	14	0	30			
TOTAL	57 (100%)	66 (100%)	0	123 (100%)			

[NS] Not-Significant; *Significant; ** Highly Significant; ***Very Highly Significant"

Table 9 shows the association between pre-testing student knowledge and their chosen demographic factors on PCOS. The chi-squares values revealed that Educational stream, Residence, Occupation of father, Family history of PCOS, and previous information about PCOS, including Previous information source, had been considered statistically considerable association at $p<0.05$ level. The additional demographic factors like age, family income/month, type of family, occupational status of the mother, characteristics of menstrual cycle were not discovered statistically significant association at $p<0.05$ level with pre-test knowledge level about PCOS among students.

Therefore, it has been founded that the pretest level of PCOS knowledge between students and their chosen demographic factors is significantly associated. H2 is accepted.

4. Nursing Implication of the Study

The researcher has drawn several implications from the study's findings in different fields of nursing research, practice, administration as well as education.

a) Nursing Practice

- The nurses can utilize the findings in both the hospital and the community. They can screen the women having the symptoms as well as a sign of PCOS and also identifying the risk factors.
- Thus, they can develop the skills of screening and assessment of women and take an active part in the treatment plan as a member of the medical team.
- They can also guide the people regarding the management of polycystic ovarian syndrome at the initial level and teach them thoroughly about the significance of identifying this problem at the initial level.
- The nurses can also provide various health education programs to create awareness among people regarding polycystic ovarian syndrome.

b) Nursing Education

- The educator in the nursing field can motivate students to conduct and participate in various awareness programs regarding polycystic ovarian syndrome.
- The nurses should be trained to identify the sign and symptoms, including risk factors regarding polycystic ovarian syndrome, among women.
- They can try to develop or make various AVs. Aids or new materials and include it in the awareness program while educating the women regarding this syndrome. They can make young women knowledgeable and aware by conducting IEC in the community.

c) Nursing Administration

- The health care administrator can conduct PCOS and its management at the community and hospital level in the Service Education Programme.
- My current study enables the nurse's administrator to evaluate the PCOS knowledge of women and can take necessary action to make them more aware regarding this syndrome.
- The nurse administrator should motivate all the nurses to take part in conducting awareness programs like Information Education and Education (IEC)

d) Nursing Research

- Several other types of research, including this present analysis, have stated that the knowledge or awareness level regarding polycystic ovarian syndrome is very less and the cases are rising day by day.
- The nurses should conduct more research study regarding various areas of polycystic ovarian syndrome, and they should be encouraged to make them updated with the recent data or findings related to polycystic ovarian syndrome.

5. Recommendation

1) A comparative study can be done among female learners in a college setting regarding polycystic ovarian syndrome among rural as well as urban regions.
2) A similar type of study may be carried out by using alternative teaching strategies educational sessions.
3) There should be more Information Education and Communication (IEC) among students in various settings.
4) For generalization of results, a related study can be carried out on a wider population.

6. Conclusion

PCOS is one of the main health concerns of women with serious health implications. This present study was conducted among students of age group 19-22 years who are receiving teaching under the supervision of certified teachers to qualify bachelor degree of Arts, Science and Commerce in a selected college of Kamrup District, Assam to determine the efficacy of Information Education and Communication (IEC) on Knowledge about PCOS. Results revealed that majority, 66 (53.7%) of participants, had moderate knowledge, whereas 57 (46.3%) of participants had inadequate knowledge and no one got adequate knowledge score in the pre-test knowledge assessment, and Results also revealed that the majority, 62 (50.4%) of participants got adequate knowledge score, 61 (49.6%) of participants got moderate knowledge score and No one got inadequate knowledge score about PCOS in the post-test. The pre-test means knowledge score was 10.79±2.79, and the post-test mean knowledge score was 21.11±3.45, with a mean difference was 10.33. The comparison was tested using paired t-test with obtained ($t=47.50$) at $p<0.05$ level was statistically substantial. The results have indicated IEC to improve students' level of understanding about the polycystic ovarian syndrome. The researcher wants to recommend that there should be more IEC in various settings to support “PCOS Awareness. ”

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