JETIR.ORG ISSN: 2349-5162 | ESTD Year : 2014 | Monthly Issue
JOURNAL OF EMERGING TECHNOLOGIES AND INNOVATIVE RESEARCH (JETIR)
An International Scholarly Open Access, Peer-reviewed, Refereed Journal

"A STUDY TO ASSESS THE EFFECTIVENESS OF STRUCTURED TEACHING PROGRAMME ON KNOWLEDGE AND ATTITUDE REGARDING POLYCYSTIC OVARIAN SYNDROME AMONG FEMALE STUDENTS IN SELECTED COLLEGES OF AHMEDABAD"

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ABSTRACT

Background

PCOS is one of the most common endocrine disorder affecting women around the world. Worldwide statistics shows that Polycystic Ovarian Syndrome affects 1 in 15 women. Many females neglect the signs and symptoms of PCOS thinking it as a physiological process. Administering structured teaching programme, the female students will have an increase in knowledge and change in attitude regarding PCOS.

Aim

The aim of the study is to determine that whether structured teaching programme was effective among female students in terms of their knowledge and attitude regarding PCOS with the selected demographic variables.

Objectives of the study

- To assess the pre-test level of knowledge and attitude regarding polycystic ovarian syndrome among female college students
- To assess the post-test level of knowledge and attitude regarding polycystic ovarian syndrome among female college students
- To evaluate the effectiveness of structured teaching programme by comparing pre-test and post-test knowledge scores after administration of a Structured Teaching Program regarding Polycystic Ovarian Syndrome.
- To find out the association between pre-test knowledge and pre-test attitude regarding polycystic ovarian syndrome among female college students with their selected demographic variables.

Methods

Under pre-experimental research design total, 60 female students were selected through non probability convenient sampling. Knowledge objective and demographic variable were assessed through pre-test with the help of structured knowledge questionnaire and attitude was assessed using Likert's scale. Structured teaching programme on PCOS was administered using A.V. Aids, followed by post-test which was carried after 07 days.

Results

It was revealed in Pre-test that the mean knowledge score was **14.3** with standard deviation of **4.35** whereas in post-test average knowledge score was **19.82** with standard deviation of **2.49**. For attitude the mean pre-test score was **32.38** and the mean post-test score was **38.22**. Significance of the difference between pre-test and post-test knowledge score was statistically tested using paired 't' test and it was found significant at 0.05 levels. There was significant increase in the knowledge score in the students after administering the structured teaching programme regarding PCOS.

Conclusion

This indicates that the structure-teaching programme was effective to enhance the level of knowledge and change their attitude regarding PCOS among the female students of selected colleges of Ahmedabad.

Introduction

Polycystic Ovarian Syndrome was originally described in 1935 by Stein and Leventhal. It is the most common endocrine disorder in women affecting around 6-8% of reproductive age women. Its incidence is fast increasing due to change in lifestyle and stress. This heterogeneous disorder is characterised by excessive androgen production by the ovaries mainly. PCOS is multi factorial and polygenic condition characterised by obesity, an ovulation associated with primary or secondary infertility, hirsutism, abnormal menstrual pattern and acne. PCOS is mainly found in females between 18 and 44 years. 1 in 10 women of child bearing age (18-35 Years). In India the incidence is higher and probably 3 times more than that found in the western world. According to a recent study published in Sep 2019 in The Hindu an estimated 1 in 5 (20%) women in India suffer from PCOS. An increasing number of women in the reproductive age are suffering from a hormonal disorder called Polycystic Ovarian Syndrome (PCOS). Gynaecologists say more awareness is needed about the condition, that prolongs for a lifetime and can be simply controlled by a proper diet and lifestyle. If not monitored in time, the condition can have serious health impacts.Polycystic Ovarian Syndrome is an endocrinopathy of reproductive age women and its incidence is increasing due to change in lifestyle and stress. Manifestation of polycystic ovarian syndrome occurs around the time of menarche as lengthened or irregular menstrual cycles. It goes undiagnosed at this time because most girls have irregular menstrual cycles and remain undiagnosed till the time when they come to seek treatment for infertility. Women with PCOS are at an increased risk for primary or secondary infertility, pre- eclampsia, early pregnancy loss and endometrial cancer. The transformation, from child to adolescence is a journey full of challenges, both for the parents and the children. Gynaecological diseases are quite common but most of the adolescent females ignore the symptoms or they are unaware, till the time the problem really worsens. One of them is polycystic ovarian syndrome (PCOS). The risk of developing pre-diabetes and type 2 diabetes is increased in women with PCOS, particularly if they have a family history of diabetes. Obesity and insulin resistance, both associated with PCOS, are significant risk factor for the development of type 2 diabetes.

Objectives of the study

- To assess the pre-test level of knowledge and attitude regarding polycystic ovarian syndrome among female college students
- To assess the post-test level of knowledge and attitude regarding polycystic ovarian syndrome among female college students
- To evaluate the effectiveness of structured teaching programme by comparing pre-test and post-test knowledge scores after administration of a Structured Teaching Program regarding Polycystic Ovarian Syndrome.
- To find out the association between pre-test knowledge and pre-test attitude regarding polycystic ovarian syndrome among female college students with their selected demographic variables.

Methods

Based on the objectives, an extensive search for literature was made to determine and develop the conceptual framework and methodology for the study. Conceptual framework was based on General System model, a guide for development, utilization and evaluation. The research approach adopted for the study was Pre experimental with one group pre-test and post-test design. The study was conducted in selected colleges of Ahmedabad. Structured teaching program was developed by reviewing literature regarding polycystic ovarian syndrome. The structured teaching program was developed under expert's guidance of professors and senior lecturers of JG College of Nursing Ahmedabad. The Structured Teaching Program was developed for enhancing the knowledge and attitude regarding Polycystic Ovarian Syndrome. The study comprises of total 60 samples selected from colleges of Ahmedabad through Convenient Sampling Technique. The instrument used for generating necessary data was structured knowledge questionnaire and Likert's attitude scale to assess knowledge and attitude of female students on Polycystic Ovarian Syndrome. The investigator collected the data by establishment of rapport with the subject and confidentiality of their response was assured. The data were analysed and interpreted in terms of objective of the study. Descriptive and inferential statistic was utilized for the data analysis.

RESULT Out of 60 samples, 10(16.17%) samples were distributed in the age group of 18 and 22(36.7%) samples were distributed in the age group of 19 years and 28(46.7%) samples were in 20 years of age. In religion 55(91.7%) samples were Hindus, 2(3.3%) are Muslims, 2(3.3%) are Christians and 1(1.7%) fall in other category. In stream of study 20(33.33%) samples each from Commerce, Science and Others had responded. In area of residence 45(75%) samples were from rural residential area and 6(10%) samples were from urban residential area and 9(15%) were from semi-urban residential areas. In age at menarche 6(10%) samples were in the age group of 9-12 years and 54(90%) were in the 13-18 years. In cycle of menstruation 49(81.7%) females had regular menstruation and 11(18.3%) females had irregular menstruation. In the category of whether they had any previous knowledge regarding pcos 50(83.3%) samples had previous knowledge and 10(16.7%) samples had no previous knowledge.

ANALYSIS AND INTERPRETATION OF DEMOGRAPHIC DATA OF THE SAMPLES

This section describes the distribution of samples according to their characteristics such as Age in years, Religion, Stream of study, Area of residence, Age at menarche, Cycle of menstruation, Previous knowledge on PCOS.

Table 1: Frequency and percentage wise distribution of samples based on Demographic Variables.

SR. NO	DEMOGRAPHIC VARIABLES		Frequency (n)	Percentage (%)
1	**Age in years**	18 Years	10	16.7
		19 Years	22	36.7
		20 Years	28	46.7
2	**Religion**	Hindu	55	91.7
		Christians	2	3.3
		Muslims	2	3.3
		Sikh	1	1.7
3	**Stream of study**	Commerce	20	33.3
		Science	20	33.3
		Computer Applications	20	33.3
4	**Area of residence**	Rural	45	75
		Urban	6	10
		Semi Urban	9	15
5	**Age at menarche**	9 - 12 Years	6	10
		13 -18 years	54	90
6	**Cycle of menstruation**	Regular	49	81.7
		Irregular	11	18.3
7	**Previous knowledge regarding PCOS**	Yes	50	83.3
		No	10	16.7

It Shows that out of 60 samples, 10(16.17%) samples were distributed in the age group of 18 and 22(36.7%) samples were distributed in the age group of 19 years and 28(46.7%) samples were in 20 years of age. In **Religion** 55(91.7%) samples were Hindus, 2(3.3%) are Muslims, 2(3.3%) are Christians and 1(1.7%) fall in Sikh category. In **Stream of study** 20(33.33%) samples each from Commerce, Science and Computer Applications had responded. In **Area of residence** 45(75%) samples were from rural residential area and 6(10%) samples were from urban residential area and 9(15%) were from semi-urban residential areas. In **Age at menarche** 6(10%) samples were in the age group of 9-12 years and 54(90%) were in the 13-18 years. In **Cycle of menstruation** 49(81.7%) females had regular menstruation and 11(18.3%) females had irregular menstruation. In the category of whether they had any **Previous knowledge regarding PCOS** 50(83.3%) samples had previous knowledge and 10(16.7%) samples had no previous knowledge.

Fig 1 Frequency and percentage wise distribution of samples based on Demographic Variables.

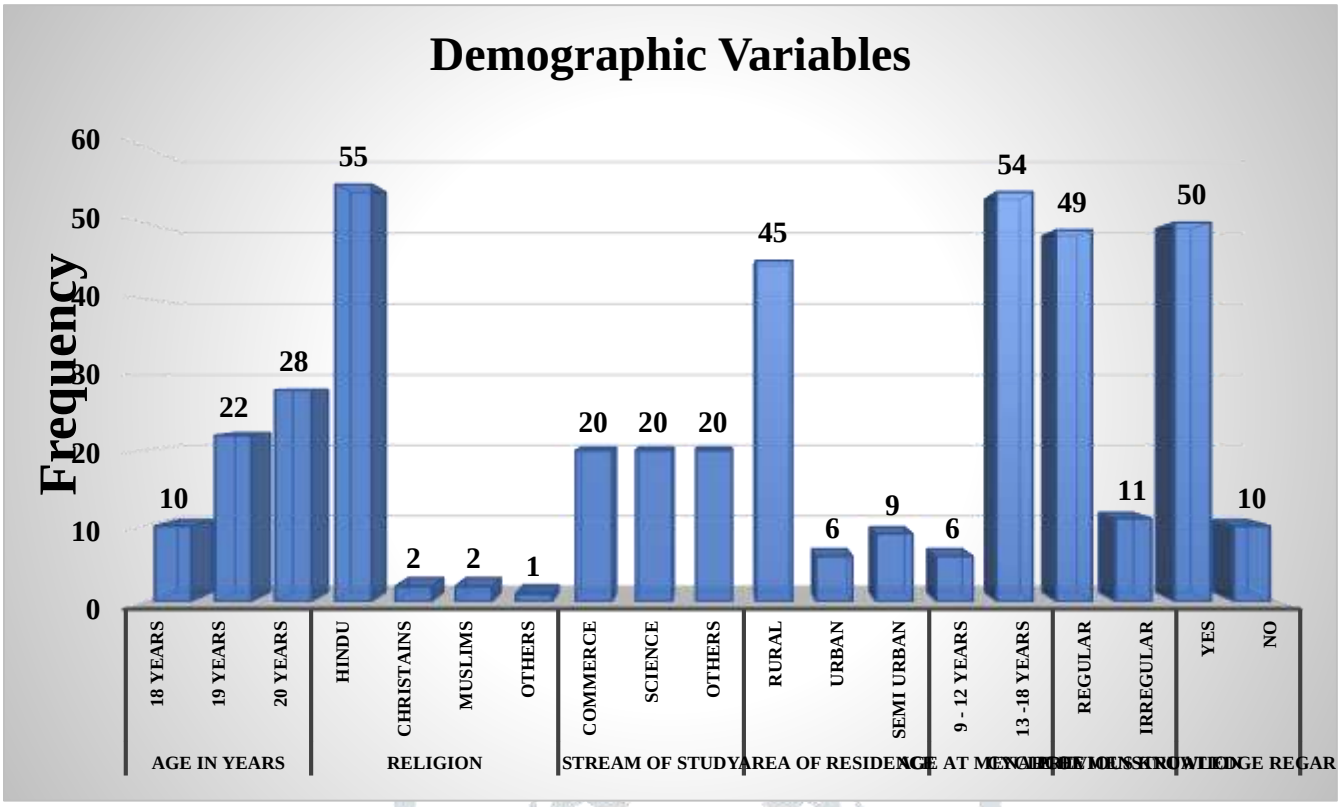

Table 2 Area wise mean, mean percentage, percentage gain and mean difference of pre-test and post-test knowledge scores of the samples on Polycystic Ovarian Syndrome.

Sr. No	Area of content	Max. Score	Pre test		Post test		Mean Diff	% Gain
			Mean	Mean %	Mean	Mean %		
1	Introduction	2	1.23	61.5	1.57	78.5	0.34	17
2	Anatomy and physiology	5	4.02	80.4	4.63	92.6	0.61	12.2
3	Menstrual cycle	1	0.68	68	0.92	92	0.24	24
4	Causes and risk factors	5	2.08	41.6	3.38	67.6	1.3	26
5	Sign and symptoms	4	2.12	53	2.8	70	0.68	17

6	**Management of PCOS**	6	2.7	45	4.75	79.17	2.05	34.17
7	**Complications of PCOS**	2	1.33	66.5	1.78	89	0.45	22.5
	TOTAL	**25**	**14.3**	**57.2**	**19.82**	**79.28**	**5.52**	**22.08**

Table2 Shows the pre-test and post-test knowledge scores obtained by the samples on Polycystic Ovarian Syndrome. The area wise result related to **Introduction**, Pre-test mean score was 1.23(61.50%) and Post-test mean score was 1.57(78.50%). Hence the difference noted was 0.34 and percentage gain in this area is 17%. The area wise result related to **Anatomy and Physiology**, Pre- test mean score was 4.02(80.40%) and Post-test mean score was 4.63(92.60%). Hence the difference noted was 0.61 and percentage gain in this area is 12.20%. The area wise result related **Menstrual cycle**, Pre- test mean score was 0.68(68%) and Post-test mean score was 0.92(92%). Hence the mean difference noted was 0.24 and percentage gain in this area is 24. The area wise result related to **Causes and risk factors**, Pre- test mean score was 2.08(41.60%) and Post-test mean score was 3.38(67.60%). Hence the mean difference noted was 1.3 and percentage gain in this area is 26. The area wise result related to **Signs and symptoms**, Pre- test mean score was 2.12(53%) and Post-test mean score was 2.8(70%). Hence the mean difference noted was 0.68 and percentage gain in this area is 17. The area wise result related to **Management of PCOS**, Pre- test mean score was 2.7(45%) and Post-test mean score was 4.75(79.17%). Hence the mean difference noted was 2.05 and percentage gain in this area is 34.17. The area wise result related to **Complications of PCOS**, Pre- test mean score was 1.33(66.50%) and Post-test mean score was 1.78(89%). Hence the mean difference noted was 0.45 and percentage gain in this area is 22.50. Thus, it was concluded that there was increase in the mean post-test knowledge score as compared to mean pre-test knowledge score after administration of a Structured Teaching Program on Polycystic Ovarian Syndrome.

Fig 2: Bar Graph showing

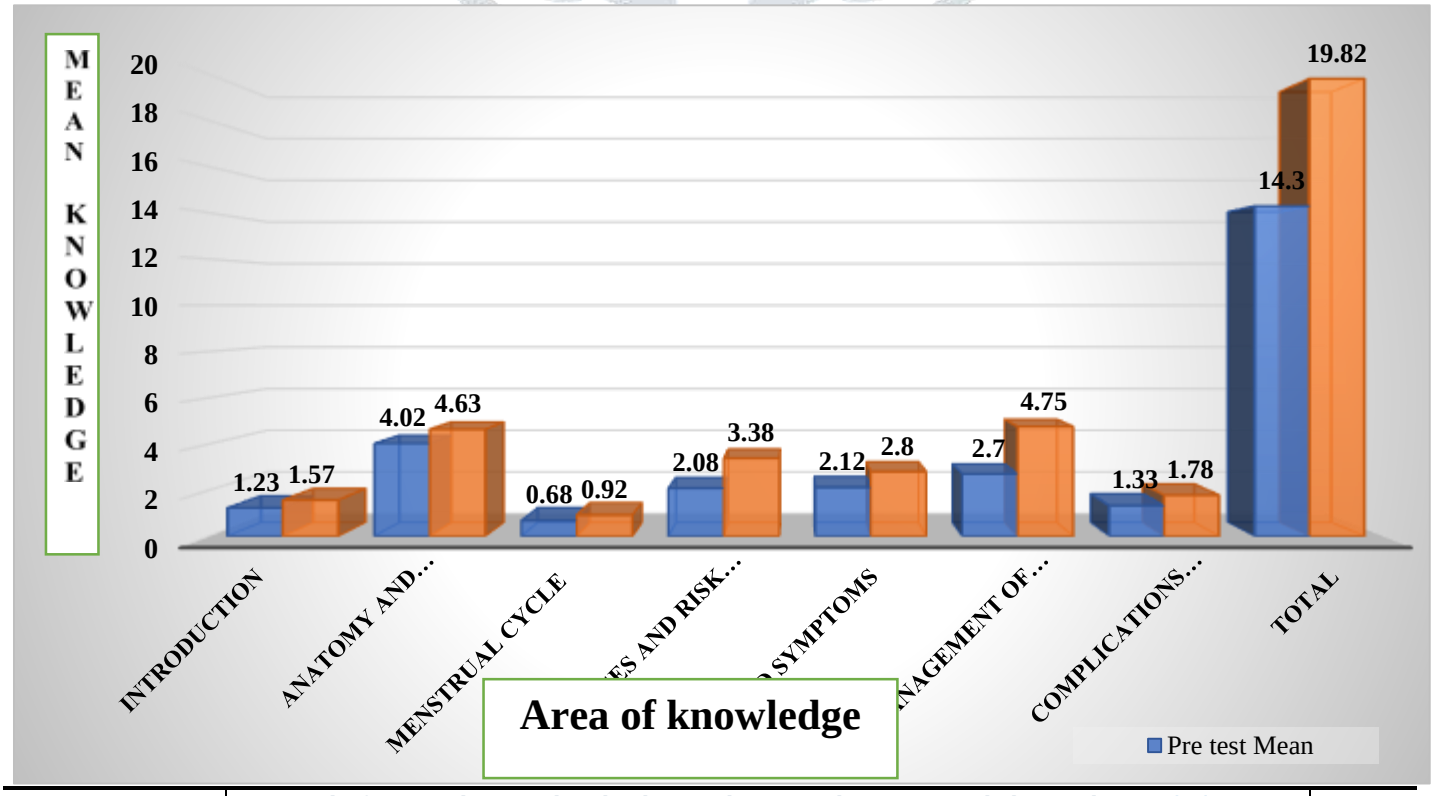

Table 3: Mean, Mean Difference, Standard Deviation (SD) and 't' test value of the Pre-test and Post-test Knowledge scores of samples.

Knowledge Test	Mean Score	Mean Difference	SD	Calculated 't' value	Table value	DF	Significant/ Non-significant
Pre-test	14.3	5.52	4.35	14.164	1.98	59	Significant
Post test	19.82		2.49				

Table 3 Shows the Pre-test and Post-test knowledge scores obtained by the respondents on polycystic ovarian syndrome. The mean Pre-test score was **14.3** and the mean post test score was **19.82**. The mean difference between Pre-test and post-test knowledge score was **5.52.** The table also shows that the Standard deviation of Pre-test score of knowledge was **4.35** and Standard deviation of post test score of knowledge was **2.49**. The calculated 't' value was **14.164** and the tabulated 't' value was **1.98** at 0.05 level of significance. Above table reveals that the mean post-test knowledge score was significantly higher than the mean pre-test knowledge scores. The calculated 't' value (**t= 14.164**) was greater than the tabulated 't'(**t=1.98**). Therefore, the null hypothesis H_0 was rejected and research hypothesis was accepted and it reveals that the structured teaching program was effective in gaining the knowledge among the samples. Investigator concluded that there was significant increase in the mean post-test knowledge score as compared to the mean pre-test knowledge score after administration of structured teaching program on Polycystic Ovarian Syndrome.

Figure 3: Bar graph showing the Mean pre-test and Mean post-test Knowledge scores of samples on polycystic ovarian syndrome.

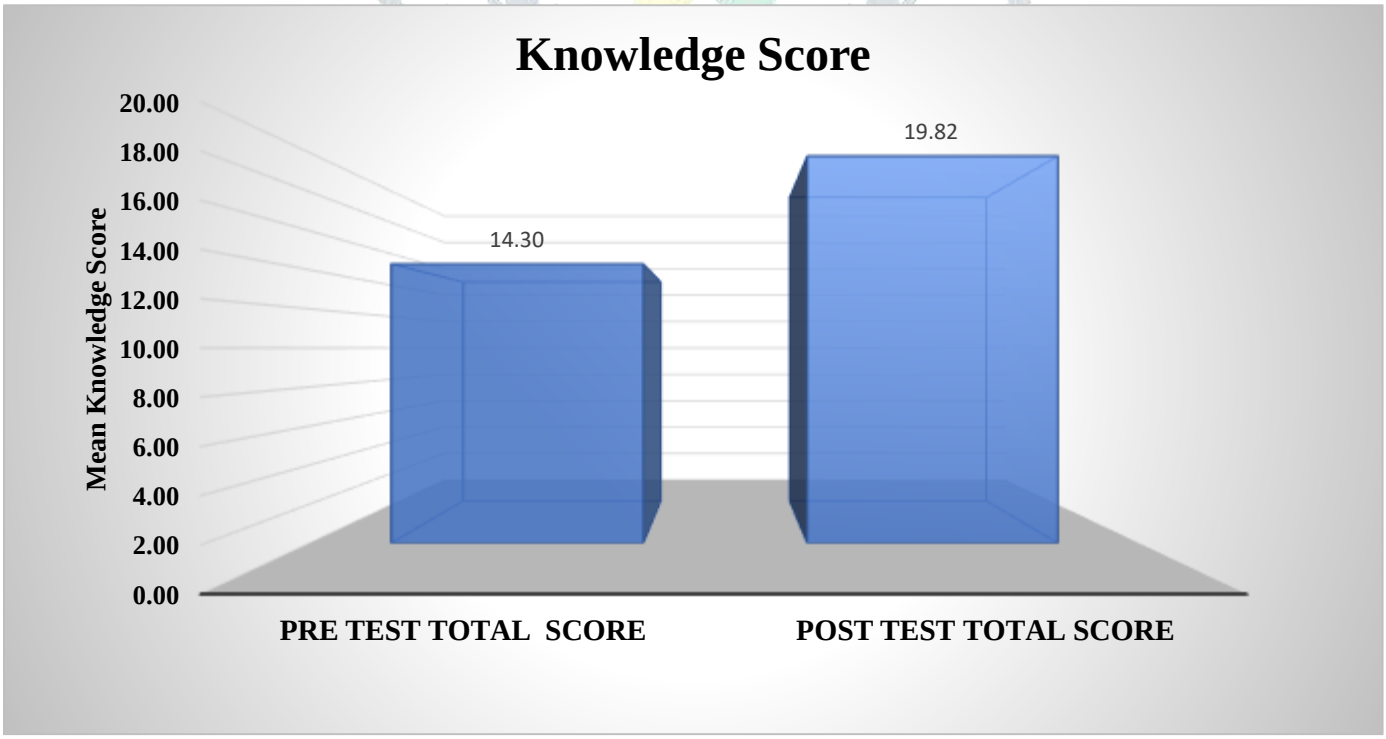

TABLE 4: Scores of knowledge before and after administration of structured teaching program.

Score of Knowledge	Pre-test		Post-test	
	Frequency (n)	Percentage (%)	Frequency (n)	Percentage (%)
Poor	18	30	0	0
Average	35	58.33	16	26.67
Excellent	7	11.67	44	73.33
Total	**60**	**100**	**60**	**100**

Table 4 Shows that 18(30%) samples had poor, 35(58.33%) samples had average and 7(11.67%) samples had excellent knowledge as per their pre-test knowledge scores whereas 16(26.67%) samples had average, 44(73.33%) samples had excellent knowledge as per their post-test knowledge scores.

FIG 4: Scores of knowledge before and after administration of structured teaching program.

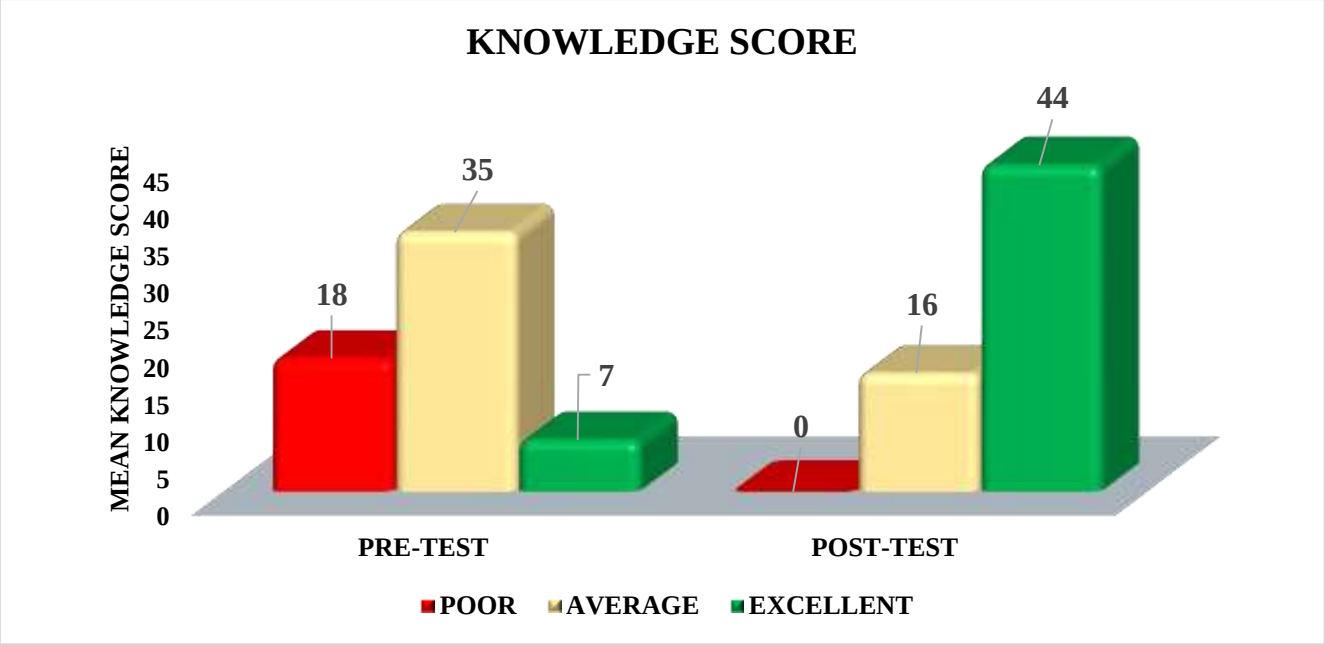

Table 5: Distribution of favourable and unfavourable Attitude based on pre-test and post-test attitude score of the samples.

Score of Knowledge	Pre-test		Post-test	
	Frequency (n)	Percentage (%)	Frequency (n)	Percentage (%)
Unfavourable	32	53.33	8	13.33
Favourable	28	46.67	52	86.67
Total	**60**	**100**	**60**	**100**

Table 5 Shows the total 32 (53.33%) Samples had unfavourable attitude in pre-test and 28(46.67%) samples had favourable attitude whereas 8 (13.33%) samples had unfavourable attitude and 52(86.67%) Samples had favourable attitude in post-test regarding Polycystic Ovarian Syndrome**.** Thus, investigator concludes that the structured teaching program was effective in gaining favourable attitude towards Polycystic Ovarian Syndrome**.**

FIG 5: Bar graph showing distribution of Favourable and Unfavourable Attitude based on Pre-test and Post-test of samples on Polycystic Ovarian Syndrome.

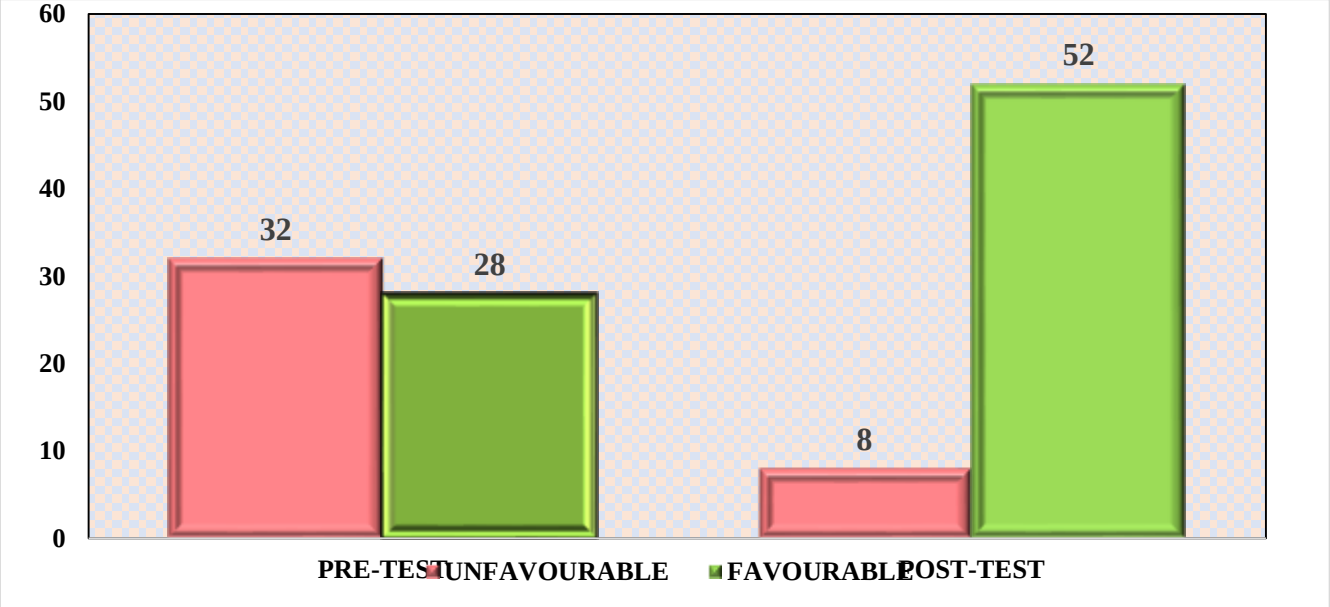

Table 6: Mean, Mean Difference, Standard Deviation (SD) and 't' value of the Pre-test and Post-test attitude Scores of samples.

	Mean	Std. Deviation	Calculated 't'	Table value	DF	Significant/Non-significant
Pre-test Attitude	**32.38**	**4.67**	**10.511**	**1.98**	**59**	**Significant**
Post-test Attitude	**38.22**	**4.00**				

Table 6 Shows the Pre-test and Post-test Attitude scores obtained by the samples on Polycystic Ovarian Syndrome. The mean pre-test score was **32.38** and the mean post-test score was **38.22**. The mean difference between pre-test and post-test attitude score was **5.84**. The table also shows that the pre-test standard deviation of attitude score was **4.76** and post-test standard deviation of attitude score was **4**. The calculated 't' value was **10.51** and the tabulated 't' value was **1.98** with df (59) at 0.05 level of significance. The above table reveals that the mean post-test attitude score was significantly higher than the mean pre-test attitude scores. The calculated 't' value **(t=10.51**) was greater than the tabulated 't' (**t= 1.98**). Therefore, the null hypothesis H_0 was rejected and research hypothesis was accepted. Investigator concluded that there was significant increase in the mean post-test attitude scores as compared to the mean pre-test attitude score after administration of structured teaching program on Polycystic Ovarian Syndrome.

Figure 6: Bar graph showing the Mean Pre-test and Mean Post-test Attitude scores of Samples on Polycystic ovarian syndrome.

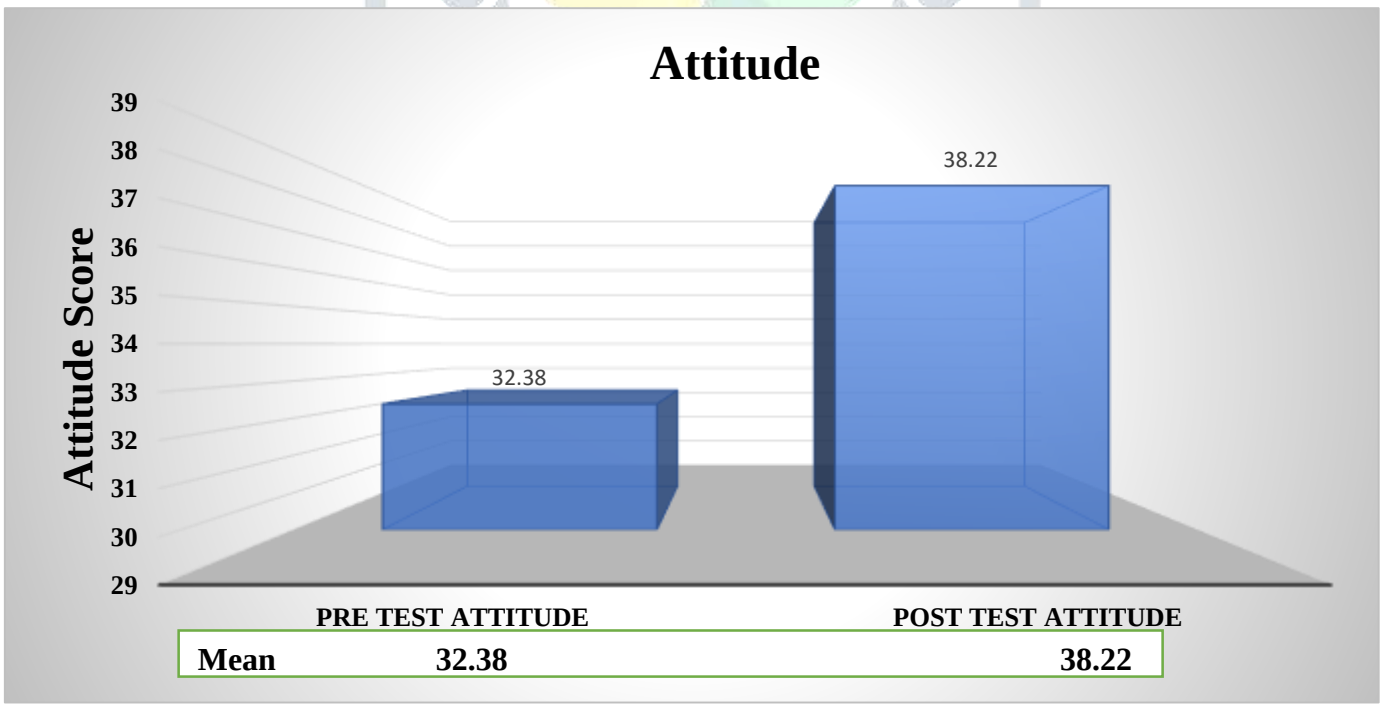

Table 7: Association of Pre-test knowledge score with selected Demographic Variables.

Sr. No	Demographic variables		Frequency	Chi Square/Fishers Chi Square		DF	Significant/ Non-Significant
1	**Age in years**	18 Years	10	2.88	9.49	4	Non-Significant
		19 Years	22				
		20 Years	28				
2	**Religion**	Hindu	55	6.536	12.59	6	Non-Significant
		Christian	2				
		Muslims	2				
		Sikh	1				
3	**Stream of study**	Arts	20	10.247	9.49	4	**Significant**
		Science	20				
		Commerce	20				
4	**Area of residence**	Rural	45	9.725	9.49	4	**Significant**
		Urban	6				
		Semi Urban	9				
5	**Age at menarche**	9 - 12 Years	6	1.393	5.99	2	Non-Significant
		13 -18 years	54				
6	**Cycle of menstruation**	Regular	49	2.505	5.99	2	Non-Significant
		Irregular	11				
7	**Previous knowledge regarding PCOS**	Yes	50	2.473	5.99	2	Non-Significant
		No	10				

For **Age** with the pre-test knowledge scores, the calculated value of chi square (x^2) 2.88 was less than 9.49, the table value of chi square (x^2) at the 4 degree of freedom and 0.05 level of significance. Therefore, Age has no significant association with the knowledge of the samples. For **Religion** with the pre-test knowledge scores, the calculated value of chi square (x^2) 6.536 was less than 12.59, the table value of chi square (x^2) at the 6 degree of freedom and 0.05 level of significance. Therefore, Religion has no significant association with the knowledge of the samples. For **Stream of study** of the samples with the pre-test knowledge scores, the calculated value of chi square (x^2) 10.247 was more than 9.49, the table value of chi square (x^2) at the 4 degree of freedom and 0.05 level of significance. Therefore, Stream of study has **significant** association with the knowledge of the samples. For **Area of residence** with the pre-test knowledge scores, the calculated value of chi square (x^2) **9.725** was less than **9.49**, the table value of chi square (x^2) at the 4 degree of freedom and 0.05 level of significance. Therefore, Area of residence has **significant** association with the knowledge of the samples. For **Age at menarche** of the samples with the pre-test knowledge scores, the calculated value of chi square (x^2) 1.393 was less than 5.99, the table value of chi square (x^2) at the 2 degree of freedom and 0.05 level of significance. Therefore, Age at menarche has no significant association with the knowledge of the samples. For **Cycle of menstruation** of the patient with the pre-test knowledge scores, the calculated value of chi square (x^2) 2.505 was less than 5.99, the table value of chi square (x^2) at the 2 degree of freedom and 0.05 level of significance. Therefore, Cycle of menstruation has no significant association with the knowledge of the samples. For **Previous knowledge of PCOS** of the patient with the pre-test knowledge scores, the calculated value of chi square (x^2) 2.473 was less than 5.99, the table value of chi square (x^2) at the 2 degree of freedom and 0.05 level of significance. Therefore, **Previous knowledge of PCOS** has no significant association with the knowledge of the samples. This indicates that from selected demographic variables

only two variable that is **Stream of study** and **Area of residence** has significant association with the knowledge of the samples and no any other Demographic variables has significant association with the knowledge of the samples.

Table 8: Association of Pre-test Attitude score with selected Demographic Variables.

SR. NO	Demographic Variables		Total	Chi Square/Fishers Chi Square		DF	Significant/Non-significant
				Calculated 't'Value	Table Value		
1	**Age in years**	18 Years	10	2.23	5.99	2	Non- Significant
		19 Years	22				
		20 Years	28				
2	**Religion**	Hindu	55	2.761	7.82	3	Non- Significant
		Christian	2				
		Muslims	2				
		Others	1				
3	**Stream of study**	Arts	20	7.677	5.99	2	**Significant**
		Science	20				
		Commerce	20				
4	**Area of residence**	Rural	45	1.297	5.99	2	Non- Significant
		Urban	6				
		Semi Urban	9				
5	**Age at menarche**	9 - 12 Years	6	0.897	3.84	1	Non- Significant
		13 -18 years	54				
6	**Cycle of menstruation**	Regular	49	3.914	3.84	1	**Significant**
		Irregular	11				
7	**Previous knowledge regarding PCOS**	Yes	50	1.615	3.84	1	Non- Significant
		No	10				

Table 8 shows the association of attitude of the Demographic Variables of the samples.

For **Age** with the pre-test attitude scores, the calculated value of chi square (x^2) 2.23 was less than 5.99, the table value of chi square (x^2) at the 2 degree of freedom and 0.05 level of significance. Therefore, Age has no significant association with the attitude of the samples. For **Religion** with the pre-test attitude scores, the calculated value of chi square (x^2) 2.761 was less than 7.82, the table value of chi square (x^2) at the 3 degree of freedom and 0.05 level of significance. Therefore, **Religion** has no significant association with the attitude of the samples. For **Stream of study** of the samples with the pre-test attitude scores, the calculated value of chi square (x^2) 7.677 was more than 5.99, the table value of chi square (x^2) at the 2 degree of freedom and 0.05 level of significance. Therefore, **Stream of study** has **significant** association with the attitude of the samples. For **Area of residence** with the pre-test attitude scores, the calculated value of chi square (x^2) 1.297 was less than 5.99, the table value of chi square (x^2) at the 2 degree of freedom and 0.05 level of significance. Therefore, **Area of residence** has no significant association with the attitude of the samples. For **Age at menarche** with patient of the samples with the pre-test knowledge scores, the calculated value of chi square (x^2) 0.897 was less than 3.84, the table value of chi square (x^2) at the 1 degree of freedom and 0.05 level of significance. Therefore, **Age at menarche** has no significant association with the attitude of the samples.For

Cycle of menstruation of the patient with the pre-test knowledge scores, the calculated value of chi square (x^2) 3.914 was more than 3.84, the table value of chi square (x^2) at the 1 degree of freedom and 0.05 level of significance. Therefore, **Cycle of menstruation** has **significant** association with the attitude of the samples. For **Previous knowledge of PCOS** with the pre-test knowledge scores, the calculated value of chi square (x^2) 1.615 was less than 3.84, the table value of chi square (x^2) at the 1 degree of freedom and 0.05 level of significance. Therefore, **Previous knowledge of PCOS** has no significant association with the attitude of the samples. This indicates that from selected demographic variables only two variable that is **Stream of study** and **Cycle of menstruation** has significant association with the Attitude of the samples and no any other Demographic variables has significant association with the attitude of the samples.

CONCLUSION

The following conclusion can be drawn from the study findings.

The Structured Teaching Programme was found to be effective in terms of knowledge and attitude of female students regarding Polycystic Ovarian Syndrome. For knowledge, there is association found only in Stream of study and Area of residence of pre-test knowledge score with selected demographic variable. In the rest of variables there is no association found between pre-test attitude score with selected demographic variable. And for Attitude, there is association found only in Stream of study and Cycle of menstruation of pre-test knowledge score with selected demographic variable. In the rest of variables there is no association found between pre-test attitude score with selected demographic variable.

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DISSERTATION

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