

An exploratory survey to identify the adolescents with high risk for Polycystic Ovarian Syndrome (PCOS) and to find the effectiveness of an awareness programme among students of selected pre university colleges of Udupi District

Shobha¹, Elsa Sanatombi Devi², Anusuya Prabhu³

¹ Lecturer Department of OBG Nursing, Manipal College of Nursing Manipal

² Professor Department of Medical Surgical Nursing, Manipal College of Nursing Manipal

³ Assistant professor Department of OBG Nursing Manipal College of Nursing Manipal

Abstract: *Introduction:* Polycystic Ovarian Syndrome (PCOS) is one of the leading health problems among women of reproductive age group. Many of the menstrual problems are ignored initially during the adolescent period, and the problem will be identified much later when they seek treatment for infertility. Risk assessment appears to be the most useful method in identifying the condition at the earliest and encourage the adolescents for seeking the treatment.

Objective: objectives of the study were to identify the adolescents with risk for developing PCOS and to find the effectiveness of awareness program.

Method and materials: the study was conducted in selected pre-university colleges of Udupi District and 752 students were selected from six colleges. Risk Status of the students was assessed by administering the High Risk Assessment questionnaire and awareness program was given to the risk group students, and the post-test was taken on 8th day following intervention.

Results: A total of 102 (13.6%) students were found to have moderate risk for developing PCOS. A significant increase in the knowledge scores on PCOS was observed after the awareness program ($p < 0.001$).

Conclusion: This study revealed that an awareness program could bring about a desirable change in knowledge among adolescent girls regarding PCOS and prevent future complications.

Key words: adolescent students, awareness programme, Polycystic Ovarian Syndrome (PCOS), pre-university college, risk status.

I. Introduction

Polycystic Ovarian Syndrome (PCOS) is one of the most common female endocrine disorders affecting approximately 5-10% of women of reproductive age (15-45 years) and was thought to be one of the leading causes of female infertility^[1]. PCOS often manifests around the time of menarche as irregular and often lengthened menstrual cycles. It often goes unrecognized and undiagnosed at this time because most adolescents do not have regular menstrual cycles. In addition, these young women go undiagnosed because the prescribed treatment for irregular menstrual cycles is the use of Oral Contraceptive Pills (OCPs). OCPs will regulate menstrual cycle and often controls acne and hirsutism. Often these girls will not receive a diagnosis until much later, perhaps at the time when they seek treatment for infertility^[2]. The major purpose of this study is to create awareness among adolescents about PCOS. This will help them to modify their life style and to have better reproductive life. The main objectives of this study were to 1) identify the adolescent girls who are at high risk for PCOS. 2) find association between PCOS risk status with selected variable i.e. socio-economic status. 3) determine the effectiveness of the awareness programme on PCOS in terms of gain in knowledge scores as measured by knowledge questionnaires.

Material and Methods

The study was conducted in selected pre-university colleges of Udupi District, and 752 students were included in the study. The data were collected by using demographic proforma, risk assessment tool on PCOS to identify the risk status and structured knowledge questionnaire on PCOS to assess the knowledge level of students on PCOS. The study was conducted in two phases; first phase was the survey approach as it aimed to assess the risk status of the adolescents and the second phase was the evaluative approach as it aimed to evaluate the effectiveness of an awareness program on PCOS. The risk status was arbitrarily classified as 0-13 low risk, 14-26 moderate risk and 27-39 high risk. Chi square test was performed using SPSS version 16 to measure the association between risk status and selected variables.

II. Results

2.1 Description of sample characteristics of phase I

Table 1: frequency and percentage distribution of students by sample characteristics

n= 752

Sl No.	Sample Characteristics	f	%
1	Age in years	16	33.7
		17	51.7
		18	14.6
2	Area of living	Urban	11.8
		Rural	88.2
3.	Income in rupees	>10000	24.5
		5001-10000	47.9
		3001-5000	27.6
4	Fathers' educational level	Illiterate	5.6
		Primary	46.9
		High school	35.4
		PUC	8.5
		Graduate	2.8
		postgraduate	0.8
5.	Mothers' educational level	Illiterate	6.2
		Primary	58.1
		High school	27.9
		PUC	6.1
		Graduate	1.6
		postgraduate	0.1
6	Fathers' occupation	Unskilled	42.4
		Semiskilled	32.0
		Professional	0.5
		Business	25.1
7	Mothers' occupation	Unskilled	12.5
		Semiskilled	13.6
		Professional	0.3
		Housewife	73.6
8	Habit of reading health related magazines	Yes	74.7
		No	25.3

Data in table 1 shows that out of 752 students, 389 (51.7%) students belonged to the age of 17 years and 253 (33.7%) students belonged to the age of 16 years. Majority, 663 (88.2%) of the students belonged to rural area and 562 (74.7%) of the students had the habit of reading health related magazines. Father's educational status of majority, 353 (46.9%) of the students was primary education and majority, of their mother's educational status 437 (58.1%) was primary education. Fathers' occupation of majority of the students 323 (42.4%) was unskilled labour and majority, 554 (73.6%) of the students' mothers were home makers.

2.2 Risk status of students for PCOS

Out of 752 students, 650 (86.2%) of the students in the study group had low risk and 102 (13.4%) were at moderate risk for developing PCOS. None of the students had high risk for developing PCOS.

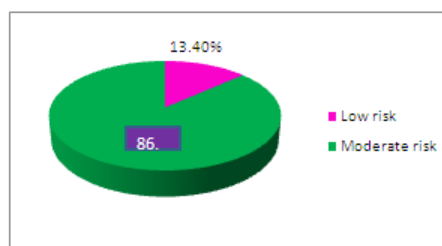


Fig 1: Risk status of adolescent girls for developing PCOS

2.3 Phase II: Effectiveness of awareness program

Table 2: Mean, mean difference and t value of pre-test and post-test scores of students on PCOS

(n=102)

Sl no.	Knowledge score	Mean	Mean difference	t	Significance
1	Pre-test	5.10			
			7.82	37.02*	<0.01
2	Post-test	13.02			

*t(101)=37.02, <0.05

The data presented in table 2 shows that mean difference of pre-test and post-test knowledge score was 7.82. In order to find the significant difference between two correlated means of pre-test and post-test knowledge score, paired t test was computed (t=37.02, p<0.001). Statistically it was inferred that the awareness program was effective in improving the knowledge on PCOS.

2.4 Association between risk status and selected demographic variables

Table 3: Chi square values between risk status and socio-economic status (n=752)

Variable	Low risk	Moderate risk	χ^2	df	p value
Income/month In rupees					
>10000	155	29			
5001-10000	322	38	0.65	2	0.54
3001-5000	173	35			
Area of living					
Urban	77	12			
Rural	573	90	0.98	1	0.13
Fathers' Educational status					
Illiterate					
Primary	36	6			
High school	306	47			
PUC	226	38	0.69	5	*0.04
Graduate	57	7			
Post-graduate	19	7			
	3	2			
Mothers' Educational status					
Illiterate	43	4			
Primary	368	69			
High school	186	24	0.18	5	*0.02
PUC	11	41			
Graduate	1	5			
Postgraduate	0	-			
Fathers' occupation					
Unskilled					
Semiskilled	273	48			
Professional	210	31			
Business	3	1	0.73	3	0.22
Unemployed	160	21			
	4	1			

Mothers' occupation					
Unskilled	80	11.99			
Semiskilled	88	14			
Professional	2	0.01	0.95	3	*0.03
Housewife	480	74			
Weight in Kgs					
30-45	331	51			
46-60	304	41	0.95	2	0.07
61 & above	15	2			

*p<0.05

Data presented in table 3 show that there is no significant association between risk status and income of the family (p<0.54), area of living (p<0.13) fathers' occupation (p<0.22), weight of the students (p<0.07) and association was seen between fathers' educational status (p<0.04), mothers' educational status (p<0.02) and mothers' occupation (p<0.03). Hence it was inferred that the risk status was independent of the selected variables like income of the family, area of living and fathers' occupation weight of the students.

III. Discussion

A bibliographic search was done to identify the usefulness of screening test to identify the adolescents with risk for PCOS. A cross sectional study was done in Sri Lanka to identify the prevalence of PCOS. The study findings support the present study findings as the total prevalence was 6.3% and 91.1% of women with oligo/amenorrhoea and/or hirsutisms were confirmed to have PCOS^[3].

An educational intervention study was carried out over a period of one year by Rao RS, et al., (2008) to determine the effectiveness of reproductive health education program among rural adolescent girls in Udupi Taluk, Karnataka. Seven hundred and ninety one rural girls in the age group of 16-19 years were included and educated regarding reproductive health. A significant increase in overall knowledge was observed regarding contraception, ovulation, first sign of pregnancy and fertilisation. The study clearly showed that educational intervention program could bring about a desirable change in knowledge among adolescent girls^[4].

IV. Conclusion

Adolescents who are overweight or obese at the time of diagnosis should be encouraged to engage in a diet and exercise plan that will aid them in attaining and subsequently maintaining a healthy body weight and to regularize the hormonal cycle^[6]. PCOS cannot be prevented or cured; it can be controlled, with varying degrees of success, with healthy lifestyle choices. Many women experience improvement in the signs and symptoms of PCOS if they maintain a healthy weight. Research indicates that even a moderate decrease in weight, as little as 5% from baseline, can improve rates of ovulation and conception by lowering androgen levels, as well as improve the insulin resistance associated with this disorder^[7].

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References

- [1]. Azziz R, Carmina E, Dewailly D. Position statement: criteria for defining polycystic ovary as a predominantly hyperandrogenic syndrome: An Androgen excess society guideline. *J Clin Endocrinol Metab* 2006 Dec 91:4237-45.
- [2]. Kousta E, White DM. The prevalence of polycystic ovaries in women with infertility. *HRJ of India* 1999 April 90:2545-9.
- [3]. Kumarapeli R, Seneviratne CN, Wijeyaratne RM.A Simple Screening Approach for Assessing Community Prevalence and Phenotype of Polycystic Ovary Syndrome in a Semi-urban Population in Sri Lanka. *American Journal of Epidemiology* 2007 Oct 10: 1093-99.
- [4]. Rao RS, Lena A, Nair NS, Kamath V, Kamath A. Effectiveness of reproductive health education among rural adolescent girls: a school based intervention study in Udupi Taluk, Karnataka. *Indian J Med Sci*. 2008 Nov 62 (11) 439-43.
- [5]. Ganie MA, Marwaha R, Aggarwal R, Singh S. High prevalence of polycystic ovarian syndrome (PCOS) characteristics in girls with euthyroid chronic lymphocytic thyroiditis: a case control study. *European journal of endocrinology* 2010 March 162:1117.
- [6]. Timothy FK. PCOS prevalence estimated at 6%: hirsutism most common presentation. *OB/GYN news* 2002 August 15 (cited 2011 Jan). Available from: <http://findarticles.com/p/search/?qa>.
- [7]. Elsenbruch S, Hahn S. Quality of life, psychosocial well satisfaction in women with polycystic ovary syndrome. *Journal of clinical endocrinology* 2003 Jan 94:1322-28.