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AWARENESS ON POLYCYSTIC OVARIAN SYNDROME (PCOS)

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Abstract

Polycystic ovary syndrome (PCOS) is a common reproductive endocrinological disorder among women of fertile age. Polycystic ovary syndrome (PCOS) is a set of symptoms due to elevated androgens (male hormones) in women. Signs and symptoms include irregular or no menstrual periods, heavy periods, excess body and facial hair, acne, pelvic pain, difficulty getting pregnant, and patches of thick, darker, velvety skin (Dutta, 2000). Women with PCOS are more likely to suffer from depression, anxiety, poor self-esteem, alter the coping abilities, strain relationships, decrease quality of life, disordered eating and psychosexual dysfunction. Present study focus to study the Prevalence and Lifestyle pattern among PCOS women. Study was conducted on women (Respondents) in selected hospitals and gynaecology Clinics in Bangalore city. Purposive Random Sampling was adopted. Sample size comprising 50 PCOS affected respondents were selected in the age group of 18-45 years. Structured questionnaire was developed and administered to respondents and accessed their Diet, Prevalence and Lifestyle of respondents. Analysis carried out using descriptive and inferential statistics. Majority (38 %) of the respondents found in age group of 21-23 years, married (82%), intermediate (54%) and students (64%), no self income (70%) and family income above Rs.60,000 (40%). Food habits with majority were non-vegetarian (78%) , no health history (78%) and 30% were menstrual cycle period of 60 days. 72 percent of the respondents have inadequate knowledge on prevalence of PCOS and 70% had moderate lifestyle pattern. The association found significant ($p<0.05$) with age, marital status, education, occupation, food habit and family history with Prevalence level of PCOD. Prevalence and life style level observed from the research study found to be inadequate indicating effective counseling is most essential. It is very important to note that only medications alone cannot manage PCOS, appropriate diet and regular physical activities are equally important and contributing factors. Early diagnosis is necessary for early intervention, including behavior modification, to minimize the immediate and chronic consequences of PCOS.

Keywords:

Polycystic ovary syndrome (PCOS);
Endocrinological disorder;
Purposive Random Sampling;
Diet;
Prevalenc;
Lifestyle;
Knowledge;
Physical activity.

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1. Introduction

Polycystic ovary syndrome (PCOS) is a common reproductive endocrinological disorder among women of fertile age. The history of PCOS dates back to 1721. Hence, PCOD is now referred to as Polycystic Ovarian Syndrome (David Ehrmann, 2009). PCOS is also associated with metabolic abnormalities, central to which are insulin resistance and hyperinsulinaemia, which carry an increased risk of developing type 2 diabetes in later life.

Polycystic ovary syndrome (PCOS) is a set of symptoms due to elevated androgens (male hormones) in women. Signs and symptoms of PCOS include irregular or no menstrual periods, heavy periods, excess body and facial hair, acne, pelvic pain, difficulty getting pregnant, and patches of thick, darker, velvety skin (Dutta, 2000)

Early diagnosis is necessary for early intervention, including behaviour modification, to minimize the immediate and chronic consequences of PCOS and treatment can help control the symptoms and prevent long-term problems.

Women with PCOS are more likely to suffer from depression, anxiety, poor self-esteem, alter the coping abilities, strain relationships, decrease quality of life, disordered eating and psychosexual dysfunction. The underlying etiology of PCOS is unknown, but strong evidence supports the possibility of a genetic component in disease development. Familial clustering of the disorder and noted inheritance of hyperandrogenemia and hyperinsulinemia (common findings in PCOS) strongly indicate a possible hereditary influence. Environmental risk factors such as obesity may also play a role, supporting the hypothesis that genetics and environment may be interconnected. An attempt is made in the present study on socio-economic status, Prevalence and Lifestyle pattern among Polycystic Ovarian Syndrome women.

2. Research Method

The study was conducted on women in selected hospitals and gynaecology Clinics in Bangalore city. Purposive Random Sampling procedure was adopted in selection of existing PCOS respondents.

[1] **The objectives of the study:**
- To study the prevalence and lifestyle pattern among of PCOS among women
- To develop a booklet for the general awareness of PCOS

[2] **Research design**
- Descriptive Survey Design

Variables under study
- Dependent variables – Diet, Lifestyle, Physical activity, Environment
- Independent variables – General Information.

[3] **Locale of the study**

The study was planned and conducted on women in selected hospitals and gynaecology Clinics in Bangalore.

[4] **Sampling technique**
- Purposive Random Sampling

Purposive Random Sampling procedure was adopted in selecting hospitals and gynaecology Clinics based on existing PCOS respondents for the
- Phase 1 – Selection of hospitals/clinics
- Phase 2 – Simple Random Sampling techniques was applied and selected the respondents for the present study

[5] **Sample size**

Sample size comprising 50 PCOS affected respondents from different hospitals and gynaecology clinics were selected for the present study in Bangalore city.

[6] **Selection of the tool**

The structured questionnaire was developed to access the various aspects viz., background information, Prevalence, Lifestyle, Diet and health history of the selected respondents in the present study. Eight statements pertaining to prevalence and 12 statements to measure life style were considered

for the study. The scoring pattern given as zero (0) and one (1) for the incorrect and correct response observed for each statement under consideration. Further, prevalence and lifestyle level classifying as inadequate (< 50% score), moderate (51-75% score) and adequate (>75% score). The data analyzed using descriptive and inferential statistics (Chi-Square test).

3. Results and Analysis

TABLE 1. Classification of Respondents by Age, Marital status, Educational level and Occupational status

N=50

Characteristics	Category	Respondents	
		Number	Percent
Age group (years)	18-20	17	34.0
	21-23	19	38.0
	24-30	14	28.0
Marital status	Single	41	82.0
	Married	9	18.0
Educational level	Primary	2	4.0
	Secondary	5	10.0
	Intermediate	27	54.0
	Graduate	16	32.0
Occupational status	Student	32	64.0
	Self employed	2	4.0
	House wife	3	6.0
	Private	10	20.0
	Government	3	6.0
Total		50	100.0

Table 1 reveals the classification of respondents by age, marital status, educational level and occupational status. The results indicate that 38 percent of the respondents fall under the age group of 21-23 years followed by 18-20 years (34%) and 24-30 years (28%). Regarding marital status majority (82%) were single and only 18% were married.

Most of the respondents were intermediate qualified (54%) as compared to 32 percent were graduate. Majority of respondents noticed as students (64%) followed by private employment (20%) and government (6%) research findings are in conformity with the study conducted by Moran et al (2013).

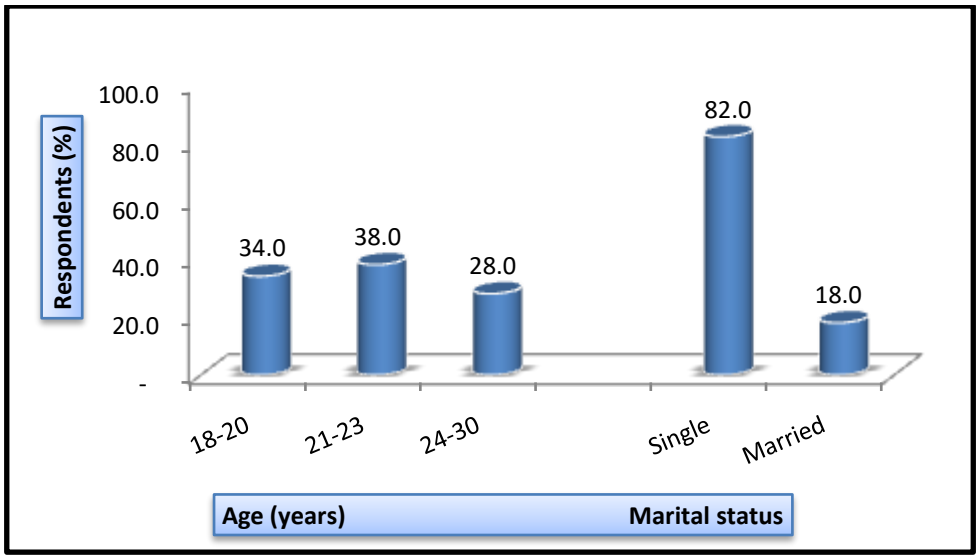

Figure . 1 : Classification of Respondents by Age and Marital status

TABLE 2. Classification of Respondents by Self income and Family income

N=50

Characteristics	Category	Respondents	
		Number	Percent
Self income/month	No	35	70.0
	≤ Rs.10,000	4	8.0
	Rs.10,001-20,000	4	8.0
	> Rs.20,000	7	14.0
Family income/month	≤ Rs.25,000	14	28.0
	Rs.25,001-60,000	16	32.0
	> Rs.60,000	20	40.0
Total		50	100.0

It is evident from Table 2 that most of the respondents (70%) have no self income as majority being students, while 8 percent of the respondent's income level was from Rs.10,000 to 20,000 and the remaing14 percent respondent's income was above Rs.20,000.

The finding also reveals that 40 percent of the respondents family income was >Rs 60,000 followed by between Rs.25,000 to 60,000 and the rest of 28 percent respondents family income was less than Rs.25,000 research findings are in confirmative with the study conducted by Moran et al (2013).

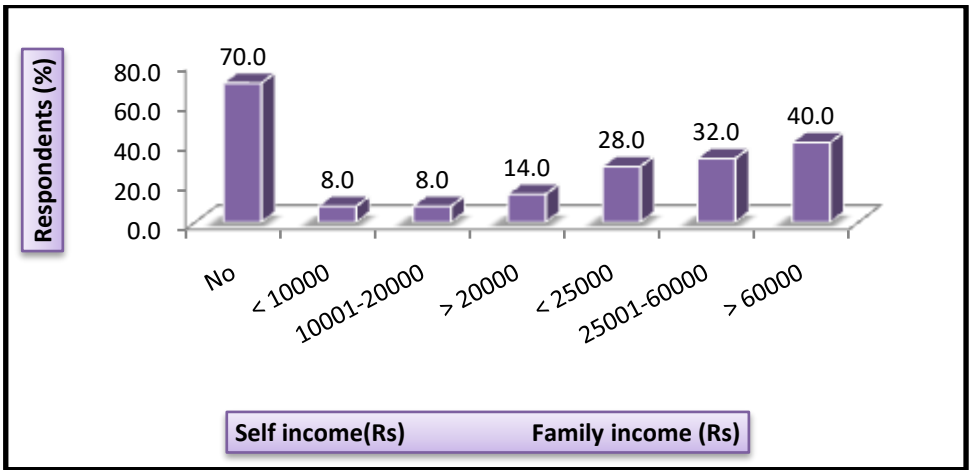

Figure . 2 : Classification of Respondents by Self and Family income/month

TABLE 3. Classification of Respondents by Food habit and Health history

N=50

Characteristics	Category	Respondents	
		Number	Percent
Food habit	Vegetarian	11	22.0
	Non-vegetarian	39	78.0
Health history	No	39	78.0
	Thyroid	6	12.0
	Obesity	1	2.0
	Others	4	8.0
Total		50	100.0

It is seen from Table 3 that the food habits indicate that majority (78%) of respondents were non-vegetarian and the vegetarian respondents were found to be 22 percent. Majority of the respondents (78%) were healthy without significant health history. Further, 12 percent were with thyroid, obesity (2%) and others (8%) research findings are on par with the study conducted by Bao shan et al (2015) and Afsane Ahmadi et al (2013).

TABLE 4. Classification of Respondents by Menstrual cycle period

N=50

No.	Menstrual cycle period	Respondents	
		Number	Percent
1	20 days	9	18.0
2	28 days	14	28.0
3	35 days	12	24.0
4	60 days	15	30.0
	Total	50	100.0

It is observed from Table 4 that 30 percent of the respondents had 60 days as their menstrual cycle period followed by 28 percent of the respondents had 28 days as their menstrual cycle period and 24 percent noticed with 35 days research findings are on par with the study conducted by Vijayan et al (2013) and Judy Griffin Mc Cook (2015).

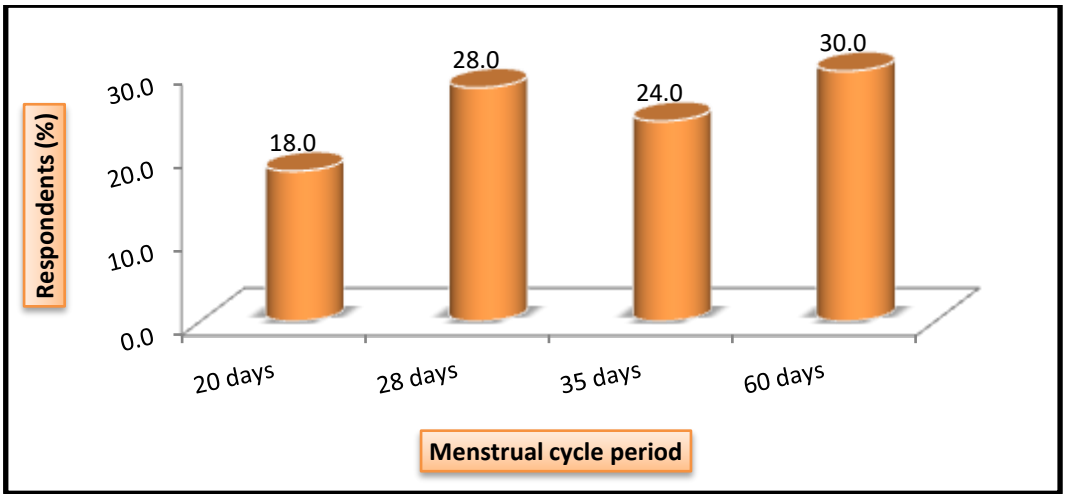

Figure . 3 : Classification of Respondents by Menstrual cycle period

TABLE 5. Classification of Respondent on Overall Knowledge on Prevalence and Life style pattern on PCOS

N=50

No.	Knowledge level	Respondents			
		Prevalence		Life style	
		N	%	N	%
1	Inadequate	36	72.0	0	0.0
2	Moderate	14	28.0	35	70.0
3	Adequate	0	0.0	15	30.0
	Total	50	100.0	50	100.0

Table 5 depicts the classification of respondent on overall Knowledge on Prevalence and Life style level on PCOS. According to the findings it is evident that 72 percent of the respondents found inadequate knowledge on prevalence of PCOS and remaining 28 percent of the respondents have moderate knowledge on prevalence of PCOS.

Results on life style depicts that 70 percent of the respondents were noticed with moderate knowledge about the lifestyle patterns regarding PCOS and remaining 30 percent have adequate knowledge on lifestyle pattern regarding PCOS research findings are in conformity with the study conducted by Hadayat Amasha et al (2014), Sunanda et al (2016) and Pothiraj Pitchai (2016).

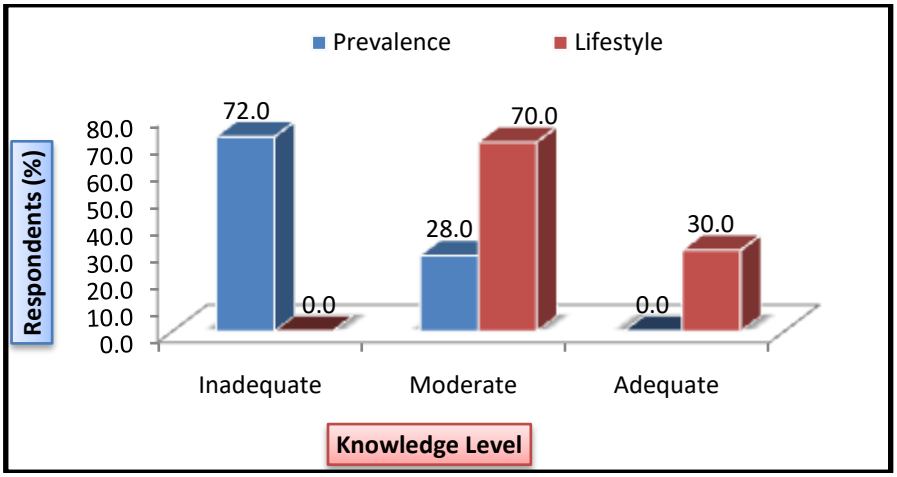

Figure . 4 : Respondents Overall Knowledge on Prevalence and Life style on PCOS

TABLE 6. Association between Personal variables and Prevalence level on PCOS

N=50

Demographic Variables	**Category**	**Sample**	**Prevalence Level**				**χ^2 Value**	**P Value**
			Inadequate		**Moderate**			
			N	**%**	**N**	**%**		
Age group (years)	18-20	17	15	88.2	2	11.8	8.58*	P<0.05 (5.991)
	21-23	19	15	78.9	4	21.1		
	24-30	14	6	42.9	8	57.1		
Marital status	Single	41	32	78.1	9	21.9	4.13*	P<0.05 (3.841)
	Married	9	4	44.4	5	55.5		
Educational level	Primary	2	2	100.0	0	0.0	10.26*	P<0.05 (7.815)
	Secondary	5	5	100.0	0	0.0		
	Intermediate	27	22	81.5	5	18.5		
	Graduate	16	7	43.8	9	56.2		
Occupational status	Student	32	27	84.4	5	15.6	6.75*	P<0.05 (3.841)
	Employed	18	9	50.0	9	50.0		
Combined		50	36	72.0	14	28.0		

* Significant at 5% Level, NS: Non-significant

Note: Figures in the parenthesis indicate Table value

Table 6 depicts the association between personal variables and Prevalence level on PCOS. Respondents about 57.1 percent of moderate prevalence level fall under the age group 24-30 years followed by 21-23 age (21.1%) and 18-20 years (11.8%) and established statistically significant ($\chi^2 = 8.58$*). Majority of the respondents (55.5%) indicate moderate prevalence level among married and as compared to 21.9 percent with unmarried established significant at 5% level ($\chi^2 = 4.13$*).

Further, 56.2 percent of moderate prevalence level noticed among graduates and 18.5 percent with Intermediate qualified indicating association significance at 5% level ($\chi^2 = 10.26$*). Occupational status reveals that 50 percent of moderate prevalence level observed with employed and 15.6 percent with students indicating statistical significance level ($\chi^2 = 6.75$*) research findings are in conformity with the study conducted by Moran et al (2013).

TABLE 7. Association between Related variables and Prevalence level on PCOS

N=50

Demographic Variables	Category	Sample	Prevalence Level				χ^2 Value	P Value
			Inadequate		Moderate			
			N	%	N	%		
Food habit	Vegetarian	11	4	36.4	7	63.6	8.88*	P<0.05 (3.841)
	Non-vegetarian	39	32	82.1	7	17.9		
Details about PCOS	Yes	41	30	73.2	11	26.8	0.16 NS	P>0.05 (3.841)
	No	9	6	66.7	3	33.3		
Family history of PCOS	Yes	8	3	37.5	5	62.5	5.62*	P<0.05 (3.841)
	No	42	33	78.6	9	21.4		
Combined		50	36	72.0	14	28.0		

* Significant at 5% Level, NS: Non-significant

Note: Figures in the parenthesis indicate Table value

Table 7 depicts the association between Related variables and Prevalence level on PCOS. Respondents about 63.6 percent of moderate prevalence level among vegetarians as compared to non-vegetarians (17.9%) revealing significant association ($\chi^2 = 8.88^*$).

Respondents about 33.3 percent of moderate prevalence level were unaware of the details of PCOS and 26.6 percent of moderate prevalence level were aware of the details related to PCOS. The association noticed non-significant at 5 level ($\chi^2 = 0.16^{NS}$).

Majority of the respondents (62.5%) with family history of PCOS had moderate prevalence level as compared to 21.4 percent did not have the family history of PCOS. Further, the association between study aspects found significance ($\chi^2 = 5.62^*$) research findings are on par with the study conducted by Bao shan et al (2015) and Afsane Ahmadi et al (2013).

4. Conclusion

PCOS is on its rise because of lifestyle and environmental changes occurring with modernization. It can be inferred from the conducted research study that Polycystic Ovarian Syndrome (PCOS) is an emerging lifestyle syndrome. Majority of the respondents have PCOD in the age group 21-23 years. Prevalence and life style pattern observed from the present research study found to be inadequate knowledge. Modern lifestyles among the adults are not encouraging enough to overcome this syndrome. Therefore, it is need of the hour for giving effective counseling to adolescent girls and women. It is interesting to note that only medications alone cannot manage PCOS however, appropriate dietary habits, positive lifestyle and more emphasis to be given to regular physical activities. All these factors are equally important for promotion of reproductive health.

Early diagnosis is necessary for early intervention, including behaviour modification, to minimize the immediate and chronic consequences of PCOS. The booklet was developed and handed over to create awareness on Polycystic Ovarian Syndrome (PCOS).

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