Symbiosis

www.symbiosisonlinepublishing.com
ISSN Online: 2374-8362

Research Article | Palliative Medicine & Care: Open Access | Open Access

A Co Relational Study between Polycystic Ovarian Symptoms among Adults in a Selected Setting at Mangaluru

Precilla D Silva[1*], Reena Frank[1] and Darryl Aranha[1]

[1]Department of Obstetrics and Gynecological Nursing

Received: August 12, 2019; Accepted: October 10, 2019; Published: October 19, 2019

***Corresponding author:** Ms Precilla D'Silva, Lecturer, Department of Obstetrics and Gynecological Nursing, Father Muller college of Nursing, Father Muller Road, Kankanady, Mangaluru, Dakshina Kannada, Karnataka. Pin Code: 575002. E-mail id: PRECILLADSILVA25@gmail.com*

Abstract

Introduction: Poly Cystic Ovarian Syndrome (PCOS) is one of the most common metabolic and reproductive disorders among women of reproductive age group. PCOS also referred to as hyper androgenic an ovulation. Clinical features of PCOS: Women with PCOS may therefore present with a variety of serious clinical squeal including psychological problems (reduced quality of life, poor self-esteem, depression, anxiety), reproductive manifestations (hirsutism, infertility and pregnancy complications), and metabolic implications (insulin resistance, metabolic syndrome, IGT, DM2 and potentially CVD)

Method: Descriptive co relational design is used for the study. Using convenient sampling 86 women in the age group of 18-40 years were selected who were diagnosed to have poly cystic ovarian symptoms. The instruments used are: Baseline proforma, Gallway scale to check the Hirsutism, Acne grading scale, BMI categorization (according to Asian), pattern of menstrual cycle and a food diary to check the food habits.

Results: Moderate co relation was found with food habits and Hirsutism scale (r=0.509, p=0.001), and with acne grade (r=0.591, p=0.001) whereas negative co relation was found with BMI and good habits which was not statistically significant.

Conclusion: Prevalence of PCOD is increasing in young adult women. Hence early awareness on lifestyle modification and screening for the presence of PCOS symptoms will help to reduce serious complications in future.

Keywords: Diet; Co relation; Adult women.

Poly Cystic Ovarian Syndrome (PCOS) is one of the most common metabolic and reproductive disorders among women of reproductive age group. PCOS also referred to as hyper androgenic an ovulation [1]. Polycystic ovary syndrome (PCOS) is a frustrating experience for women, often complex for managing clinicians band is a scientific challenge for researchers.2 The rapid development PCOS insists to implement the evidence based practice which makes the women and policy makers more aware[2]. Globally, prevalence estimates of PCOS are highly variable, ranging from 2.2% to as high as 26% of this age group depending on how it is defined. These variations are due to difficulties in hormonal evaluation and lack of consensus on diagnostic criteria. It is one of the leading causes of poor fertility [3].

A co relational study on skin changes with hormonal changes in PCOS was conducted among 40 subjects with PCOS attending the outpatient department in India. Details of clinical, menstrual and obstetric history were taken from each patient. Cutaneous manifestations were noted down on the basis of its clinical appearance as acne, Hirsutism, AGA, seborrhea, Acanthosis Nigicans and acrochordons. Hormonal assays are measured using serum markers. The majority of the subjects were in the age group of 21-30 years (72.5%).Amongst the cutaneous manifestations in patients with PCOS acne vulgaris standing highest with 27 patients (67.5%) followed by hirsutism in 25 (62.5%) patients, seborrhea was seen in 21 (52.5%) patients, AGA in 12 (30%) patients, Acanthosis Nigicans in 9 (22.5%) patients and acrochordons in 4 (10%) of patients. Acne was associated with increase in fasting insulin in 28%, testosterone in 23%, DHEA-S in 18%, LH in 15%. AGA showed increase in testosterone by 31%, fasting insulin by 23%, DHEA-S by 19%. Seborrhea showed increase in fasting insulin by 28%, testosterone by 24% and DHEA-S in 21%. Acanthosis Nigricans showed increased fasting level insulin in 33%, increased testosterone in 24% and DHEA-S in 19%. In patients with acrochordons 27% had a rise in fasting insulin levels, 20% showed rise in both testosterone and DHEA-S[4].

Methodology

Quantitative descriptive approach design was used to assess 86 adult women belong to the age group of 20-40 years with the diagnosis of polycystic ovarian symptoms were selected by convenient sampling who are attending the OBG OPD of selected setting at Mangaluru and who are confirmed having polycystic ovarian symptoms . The main study was conducted from June 5th to July 20th 2019. The ethical clearance and a formal permission

letter were obtained by the authority concerned prior to the study. The investigators introduced themselves and obtained informed consent from the women. In order to derive data, the investigator used 3 point rating scale to assess the food habits and standardized scale to measure the hirsutism score, acne grade. Also BMI is calculated based on the height and weight which was checked by the investigator. Type of menstrual cycle followed by each woman is also mentioned in the tool. The approximate time duration for one tool was 20-25 mins. The collected data was tabulated and analyzed using descriptive and inferential statistics using SPSS 16.0 version.

Results

The hypotheses tested at 0.05 level of significance

H_1: There will be a significant relationship between dietary pattern and PCOS.

Organization of Findings

The analysis and interpretation of data are organized and presented under the following headings.

Section I: Description of the baseline characteristics

Section II: Description of PCOS symptoms

Section III: Description of food practices

Section IV: Correlation between PCOS symptoms and dietary pattern

Section I: Description of the Baseline Characteristics

This section deals with the description of baseline characteristics of subjects and is explained infrequency and percentage using table 1.

Table 1: Frequency and Percentage Distribution of the Subjects according to their Baseline Characteristics **n=86**

Sl No	Variables	f	%
1	**Age of the women (mean age27.13± 5.908)**		
	a) 20-25 years	40	46.51
	b) 26-30 years	24	27.91
	c) 31-35 years	10	11.63
	d) 36-40 years	12	13.95
2	**Monthly Income in rupees (mean income 8883.012±9286.43)**		
	a) ≤ 5,000	39	45.38
	b) 5,001 -10,000	17	19.77
	c)10,001-15,000	12	13.95
	d) 15,01-20,000	9	10.47
	e)20,001-25,000	2	2.33
	f) > 25,000	7	8.14
3	**Area of Residence**		
	a) Rural	38	44.2
	b) Urban	48	55.8
4	**Attainment of first menstrual period (13.66 ±1.46)**		
	a) 10-14 years	70	
	b) 15-19 years	16	
5	**Familial history of Hirsutism**		
	a) Yes	8	9.3
	b) No	78	90.7
6	**Persistent thyroid problems**		
	a) Yes	7	8.1
	b) No	63	73.3
	c) Never tested	16	18.6
7	**Type of diet**		
	a) Vegetarian	8	9.3
	b) Non vegetarian	78	90.7
8	**Marital status**		
	a) unmarried	42	48.8
	b) married	44	51.2
9	**Presence of Acanthiosis Nigicans**		
	a) Yes	14	16.3
	b) No	72	83.7
10	**Type of work**		
	a) Sedentary work	11	12.8
	b) Moderate work	63	73.3
	c) Heavy work	12	14
11	**Weight in kg (mean weight53.607 ±11.89)**		
	a) 25-35	4	4.65
	b) 35.1-45	17	19.77
	c) 45.1-55	32	37.21
	d) 55.1-65	23	26.74
	e) 65.1-75	6	6.976
	f) >75	4	4.65
12	**Height in cm (mean height 152.15 ± 18.66)**		
	a) 125-135	5	5.813
	b) 135.1-145	10	11.627
	c) 145.1-155	34	39.53
	d) 155.1-165	31	36.046
	e) 165.1-175	5	5.814
	f) >175	1	1.163

Section II : Description of PCOS symptoms

Table 2: frequency and percentage distribution of PCOS symptoms

Table 2: frequency and percentage distribution of PCOS symptoms **n=86**

Sl No	Variables	Range	F	%
1	**Gallway score**			
	Absence of terminal hair	0	0	0
	Normal	<8	9	10.46
	Mild Hirsutism	15-Aug	67	77.9
	Severe Hirsutism	>15	10	11.63
2	**Acne grading**			
	none	0	0	0
	Mild	18-Jan	80	93.02
	Moderate	19-30	6	6.97
	Severe	31-38	0	0
	Very severe	>39	0	0
3	**BMI**			
	Underweight	<18.5	13	15.2
	Normal	18.5-22.9	39	45.35
	Overweight	23-24.9	10	11.63
	Obese	>25	24	27.91
4	**Menstrual cycle**			
	a) amenorrhea	Absence of menstruation >90 days	5	5.8
	b) Oligomenorrhea	Between 37-90 days	17	19.8
	c) Polymenorrhea	<21 days	6	7
	d) Regular cycle	Between 28-35 days	58	67.4

Section III: Grading of food practices

Table 3: Grading of food practices of PCOS women

The above table describes that 75(87.20%) were following unhealthy type of food habits and a minority group followed 11(12.79%) healthy type of food habits.

Section IV: Relationship between PCOS symptoms and dietary pattern

H0: There will be a significant relationship between dietary pattern and PCOS. [Table 4]

H1: There is a significant relation between food habits and BMI

Table 3: Grading of food practices of PCOS women **n=86**

Grading	Score range	f	%
Healthy habits	<9	11	12.79
Unhealthy habits	<9	75	87.2

Table 4: Co relation between food habits and BMI **n=86**

Variable	r value	P value
Food habits and BMI	-0.088	0.421

There is a negative co relation between food habits and BMI which is not statistically significant. There is a negative co relation with food habits and BMI and the p value 0.421, hence the null hypothesis is accepted and research hypothesis is rejected. [Figure 1] [Table 5]

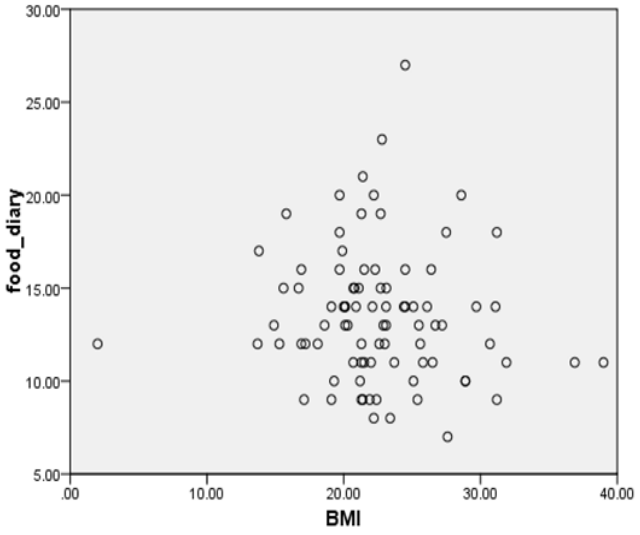

Figure 1: Scatter plot showing the relation of BMI and food habits

Table 5: Co relation between food habits and acne **n=86**

Variable	r value	P value
Food habits and acne	0.591	0.001*
*p<0.05		

H_2: There is a significant relation between food habits and acne

There is moderate positive co relation exists between food habits and acne which is statistically significant as the p value is <0.05. Hence the research hypothesis is accepted and null hypothesis is rejected. [Figure 2] [Table 6]

There is moderate positive co relation exists between food habits and hirsutism score which is statistically significant as the p value is <0.05. Hence the null hypothesis is rejected and research hypothesis is accepted. [Figure 3]

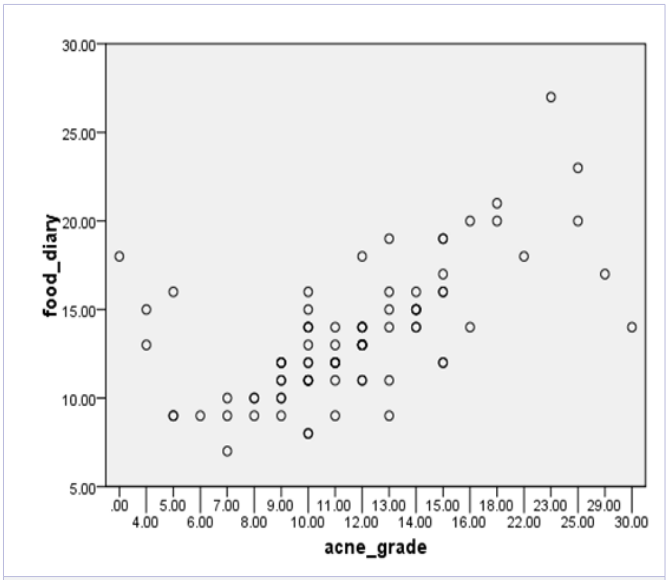

Figure 2: Scatter plot showing the relation of acne grade and food habits

Table 6: Co relation between food habits and Gallway score

H_3: There is a significant relation between food habits and Gallway score n=86

Variable	r value	P value
Food habits and Gallway score	0.509	0.001*

*p<0.05

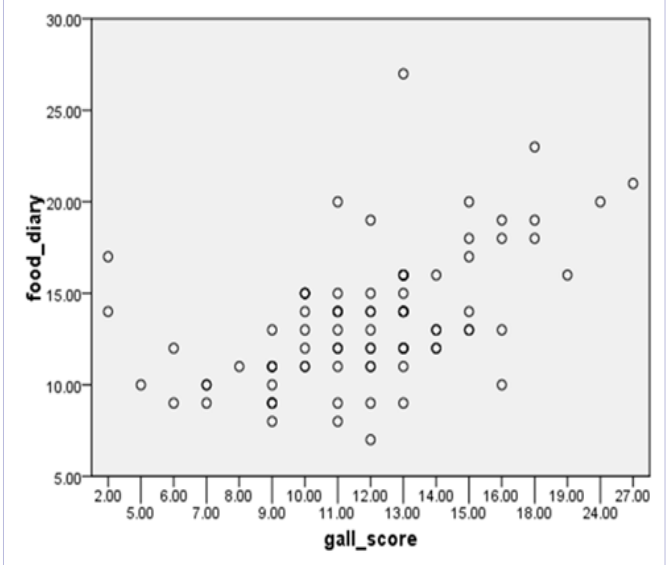

Figure 3: Scatter plot showing the relation of gall way score and food habits

Discussion

A study on polycystic ovarian syndrome among adolescent girls was conducted in a tertiary care hospital at Bangalore. Study population comprised of Adolescent girls attending the gynecology OPD was included in the study. Ferriman Gallways score; calculation of BMI, Menstrual history is collected from the participants. The girls who were confirmed as having polycystic ovaries on ultrasound were then advised serum FSH, LH, Prolactin, Testosterone and TSH. Serum FSH: LH ratio of 1:3 was taken as raised and below this was considered normal. It was found that PCOS was prevalent among early adolescence 30 (23.8%) and 96 (76.2%) among late adolescent group. The common symptoms experienced by this group was irregular cycle 21(16.6%), Obesity 18(14.3%), Hirsutism 12 (9.5%), alopecia 7(5.5%), acne 21 (16.6%) and depression 6 (4.8%) [5].

Descriptive-comparative study was conducted on 65 women with PCOS and 65 healthy women presenting to hospitals affiliated to Shahid Beheshti University of Medical Sciences in 2013. Data collection tools were demographics, diet, IPAQ and unhealthy behavior questionnaires, tape measure and scale. The mean age was 28.85±6.525 and 29.57±7.794 years in the PCOS group and the healthy groups, respectively. The mean BMI was 24.02±3.48 and 23.47±3.281 kg.m2 in the PCOS and the healthy groups, respectively. There was a significant difference between the two groups in terms of diet and physical activity (p<0.001). The mean score of unhealthy behaviors was 6.43 and 5.94 in the PCOS group and the healthy group, respectively, but the difference was not significant (p=0.7) [6].

Conclusion

Most of the time lifestyle pattern influences the hormonal level in the body. If precaution measures taken to follow a good life style pattern, we can avoid many of the imbalances which are occurring in our patient's body. The aim of health care is prevention of illness and restoration of health. Keeping in view of this early identification of polycystic ovarian symptoms will help a woman to have regular menstrual flow which helps in reducing infertility.

References

1. El Hayek S, Bitar L, Hamdar LH, Mirza FG, Daoud G . Poly Cystic Ovarian Syndrome: An Updated Overview. Front. Physiol. 7:124. doi: 10.3389/fphys.2016.00124
2. Teede H, Deeks A, Moran L. Polycystic ovary syndrome: a complex condition with psychological, reproductive and metabolic manifestations that impacts on health across lifespan. BMC Med. 2010 ;8:41. doi: 10.1186/1741-7015-8-41
3. What causes female infertility?
4. Joshi B, Mukherjee S, Patil A, Purandare A, Chauhan S, Vaidya R. A cross-sectional study of polycystic ovarian syndrome among adolescent and young girls in Mumbai, India. Indian J Endocrinol Metab. 2014 ;18(3):317-324. doi: 10.4103/2230-8210.131162
5. Kalavathi, Biradar D, Shamanewadi A N. Descriptive study of polycystic ovariansyndrome in adolescent girls among a tertiary care hospital of Bangalore. Indian Journal of Basic and Applied Medical Research. 2015;4(2):453-457
6. Sedighi S, Ali Akbari AS, Afakhteh M, Esteki T, Majid AH, Mahmoodi Z. Comparison of lifestyle in women with polycystic ovary syndrome in healthy women. Glob J Health Sci. 2015; 7(1): 228–234. doi: 10.5539/gjhs.v7n1p228