

Assessment of Associated Factors and Complications for Women with Poly Cystic Ovarian Syndrome in Baghdad City

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Abstract

Objectives: To assess the associated factors and complication for women with poly cystic ovarian syndrome. **Methodology:** A descriptive study conducted on purposive sample of (65) women whom attended Hospitals in Baghdad city suffering polycystic ovarian syndrome for the period of (20th October 2019 through 25th February 2020). Descriptive & Inferential statistical analyses were used to analyze the data.

Results: The highest percentages (50%) in age group were (19-22) years, primary schools graduates, housewife, from “urban area”, with irregular cycle. Take high grains, fat, sugar in their food And suffered from obesity, hirsutism, acne, amenorrhea, infertility among short term complication.

Conclusions: The study concluded that there is significant relationship between occupation, body mass index, food consumption, dietary habits, environmental factors, with short term complication of PCOS. **Recommendations:** Need to developed training program to upgrade their knowledge and skills about healthy food and life style to reduction the complication of PCOS.

Keywords: Assessment, Associated Factors, Complication, Poly Cystic Ovarian Syndrome.

Introduction

The life style ways, environmental and genetics factors could be the reasons to some of diseases, one of these diseases is polycystic ovary syndrome which affects about one in 15 women in the world⁽¹⁾.

Polycystic ovary syndrome defines as hormonal and endocrine disorder affect women in their reproductive age which described in 1935 by Stein and Leventhal, as represents of an estimate of 10 small cysts of a diameter ranging between 2 and 9 mm develop on one or both ovaries and/or the ovarian volume in at least one ovary exceeds 10 ml⁽²⁾.

These syndrome can diagnosed if two of three symptoms are found: (1) hyperandrogenism (detected by clinical and/or biochemical testing) in meaning

hormonal disturbances of LH, Prolactin and testosterone levels (2) ovulation abnormalities, and/or (3) 12 or more cysts on one ovary and/or ovarian volume > 10 mL⁽³⁾⁽⁴⁾.

Insulin resistance effect about (44-70%) of women with PCOS which consider the main causes of metabolic disturbance that lead to hyperinsulinemia, hyperglycemia, and increased oxidative all these factors contributes to occurrence the condition⁽⁵⁾.

Many sign and symptom can appear in woman with pcos with leading to health complication, the most common abnormalities associated with PCOS include menstrual disorders (amenorrhea or oligomenorrhea), often leading to infertility (in 73–74% of the cases), abdominal obesity (30–70%) and type 2 diabetes (approximately 10%). Other frequent disorders include hirsutism (85–90%), arterial hypertension (approximately 20%)⁽⁶⁾.

The long complications like dyslipidaemia, cardiovascular disease, endometrial cancer occur when the ovarian syndrome leave untreated so we concern with this factors and complications in this study⁽⁷⁾.

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Methodology

A descriptive study was applied to assess the associated factors and complication of polycystic ovarian syndrome among purposive sample of (65) women aged between (19-34) years old attended the hospitals in Baghdad city. Data is collected through using the questionnaire format which consisted of three parts, including demographic, associated factors of PCOS, included reproductive characteristics, food consumption, environmental factors, and complications of PCOS included short and long term complication, the items of questionnaire are rated by (yes) scored as (2) and (no) scored as (1) expect

food consumption is scored by (3) for always (2) for sometimes (1) for never. Data are collected through using study instrument and the interview technique in purpose of data collection after agreement of woman which suffering from PCOS which implemented for the period of (20th October 2019 through 25th February 2020). The reliability and Content validity of the questionnaire are determined through a panel of (6) experts and the. Descriptive and inferential statistical analyses were used to analyze the data by using frequency (F), percentage (%), mean of score (MS), assessment (ASS), and Bivariate Pearson correlation, through SPSS program the statistical procedures tested at $p \leq 0.05$.

Result

Table (1): Reproductive History

Variables	S Group	F	%
Age at Menarche	(9-12) years	53	81.5
	(13-16) years	12	18.5
Menstrual cycle characteristic			
Regularity	Regular	0	0
	Irregular	65	100
Frequency	(25-28) days	3	4.6
	(29-32) days	11	16.9
	(33 and more) days	51	78.5
Duration.	(2-7) days.	63	96.9
	8 days and more	2	3.1
Amount of blood	Normal.	0	0
	<u>Oligomenorrhoea</u>	44	67.7
	Polymenorrhoea	4	6.2
Dysmenorrhea	<u>Amenorrhoea</u>	17	26.2
	Mild	0	0
	Moderate	23	35.4

F: Frequency, %: Percentage

This table shows that the highest percentage (81.5%) study groups are in age of menarche at (9-12) years old, (100%) had irregular menstrual cycle, (78.5%) are at (33 days and more) for frequency of menstrual cycle,

(96.9%) are at (2-7 days) for duration of menstrual cycle, (67.7%) are suffered from oligomenorrhoea, (54.6) have severe dysmenorrhoeal.

Table (2): Assessment of Food Consumption for Women with Poly Cystic Ovarian Syndrome

List	Food Consumption	Never		Sometimes		Always		M.S	ASS	T.S	Adequately
		F	%	F	%	F	%				
1	Grains										
	White bread (2 thin slices)	0	0	0	0	65	100	3	H	195	Adequate
	Rice (1 cup)	0	0	0	0	65	100	3	H	195	Adequate
	Corn (¾ cup)	65	100	0	0	0	0	1	L	65	Inadequate
2	Meats (50-75gm)										
	Red meat	0	0	26	44.6	36	55.4	2.55	H	166	Adequate
	White meat	0	0	46	70.8	19	29.2	2.29	M	149	Fair
3	Fats										
	Fast Foods (50-75gm)	0	0	26	40	39	60	2.6	H	169	Adequate
	Fatty Soup (1 bowl)	0	0	0	0	65	100	3	H	195	Adequate
	Cooking oil (1 teaspoon)	9	13.8	0	0	56	86.2	2.72	H	177	Adequate
4	High sugar foods										
	Wight sugar (1 teaspoon)	0	0	5	7.7	60	92.3	2.92	H	190	Adequate
	Desserts (1 slices)	0	0	25	38.5	40	61.5	1.61	H	170	Adequate
	Processed Juice (1 glass 150 ml)	1	1.5	25	38.5	39	60	2.58	H	168	Adequate
	Energy drinks(1 glass 150 ml)	51	78.5	9	13.8	5	7.7	1.29	L	84	Inadequate
	Pepsi(1glass 150 ml)	2	3.1	1	1.5	62	95.5	2.92	H	190	Adequate
5	Milk and dairy foods										
	Milk (1 glass 200ml)	0	0	37	56.9	28	43.1	2.43	M	158	Fair
	Dairy foods (1 portion pack)	0	0	0	0	65	100	3	H	195	Adequate

F: Frequency, %: Percentage, M.S: Mean of scores, Ass: Assessment, L: Low, M: Moderate, H: High, T.S: Total Score

This table reveals that all Food Consumption items are high in assessment expect white meat and milk drinking are moderate, taking corn and energy drinking are low.

Table (3): Assessment of Women's Environmental Factors

List	Environmental Factors	Yes		No		M.S	ASS
		F	%	F	%		
1	Use of Plastic-packaged food.	52	80	13	20	1.8	H
2	Use of disposable plastic cup for drinking.	53	81.5	12	18.5	1.81	H
3	Exposure to cooking oil fumes.	65	100	0	0	2	H
4	Exposure to organ chlorine pesticides.	6	9.2	59	90.8	1.09	L

F: Frequency, %: Percentage, M.S: Mean of scores, Ass: Assessment, L: Low, M: Moderate, H: High

This table presents that all Environmental Factors items are high in assessment expect, Exposure to organ chlorine pesticides is low.

Table (4): Assessment of Short Term Complications of Poly Cystic Ovarian Syndrome

List	Short Term Complications	Yes		No		M.S	ASS
		F	%	F	%		
1	Obesity.	51	78.5	14	21.5	1.78	H
2	Hirsutism.	49	75.4	16	24.6	1.75	H
3	Acne.	52	80	13	20	1.8	H
4	Diabetes mellitus.	0	0	65	100	1	L
5	Hypertension.	5	7.7	60	92.3	1.07	L
6	Amenorrhea.	42	64.6	23	35.4	1.64	H
7	Infertility.	51	78.5	14	21.5	1.78	H
8	Pelvic pain.	35	53.8	30	46.2	1.53	M
9	Acanthuses Nigerians.	33	50.8	32	49.2	1.50	M

F: Frequency, %: Percentage, M.S: Mean of scores, Ass: Assessment, L: Low, M: Moderate, H: High

This table depicts that all Short Term Complications of PCOS items are high in assessment expect, pelvic pain and acanthuses nigerians are moderate, diabetes mellitus and hypertension are low

Table (5): Relationships between Studied Variables and Short Term Complications of Poly Cystic Ovarian Syndrome

Studied Variables	Pearson Correlation	P-value (2-tailed)	Significance
Age (Years)	-0.083	0.513	NS
Marital status	0.111	0.381	NS
Education	-0.125	0.323	NS
Occupation	0.251	0.044	S
Place of Residence	-0.035	0.782	NS
Body Mass Index	0.213	0.088	S
Consanguinity	0.022	0.861	NS
Family History	-0.124	0.324	NS
Reproductive Status	0.062	0.622	S
Food Consumption	0.238	0.056	S
Dietary Habits	0.235	0.059	S
Environmental Factors	0.222	0.075	S

P-value: Probability level, S: Significant, NS: Not significant

This table shows that most of studied variables had significance relationship with Short Term Complications of PCOS, and not significant with age, marital status, education, place of residence, consanguinity and family history

Discussion

The study show that the most women are in the age group (19-22) year old, was married, primary school graduates, housewife, live in urban, suffered from obesity, and they relative in consanguinity. The age and education level considered important factors that effect

the woman health and make her more susceptible to pcothis finding is agreement with the study done in los Angeles the majority of the study sample was (18-30) years old with low education level⁽⁸⁾ another substantial factor leading to PCOS is the obesity, obesity or overweight infect 50% of women with PCOS in a study conducted in Italy⁽⁹⁾.

Reproductive characteristic results (Table 1) illustrates that most of their menstrual age are (9-12) years old with irregular cycle, oligomenorrhea and severe dysmenorrhea, begin every (33 days and more), stayed (2-7) days, these characteristic of menstrual cycle put the women at risk for development PCOS this finding is constant with the study in Aristotle University of Thessaloniki which found that patients with amenorrhea, oligomenorrhea and irregular menstrual cycles are more likely to progressive PCOS from woman with regular cycles⁽¹⁰⁾.

Food consumption in table (2) reported that most food taken by women are: (grains, meats, fats, high sugar foods, milk, and dairy food), these unhealthy food lead to obesity which is among the associated factors these result agreement with the study done in Shiraz, Iran that seems that PCOS has augmented in adolescent girls due to unhealthy food habits and obesity⁽¹¹⁾.

Environmental factors items in table (3) as: use of plastic-packaged food, disposable plastic cup for drinking and exposure to cooking oil fumes are most factors found in this study which contribution to ovulatory dysfunction that causes PCOS correspond with study done in china⁽¹²⁾.

Short term complications of PCOS items in table (4) as: (obesity, hirsutism, acne, amenorrhea, infertility) which represents the most common complications that appear in affected women with PCOS which compose a great risk to their health unless treated, in the other study shows that the diagnosed of PCOS is depended on the presence of hyperandrogenism with lead to hirsutism, acne, oligo-anovulation resulted to amenorrhea, infertility, and Insulin resistance (IR), with increasing body mass index⁽¹³⁾.

To define the relationship between studied variables and short term complications of PCOS the study used the Pearson correlation test (Table 5), which depicts that there is significant relationship between occupation, body mass index, food consumption, dietary habits, environmental factors, and short term complication of PCOS, while not significant in age, marital status, education, place of residence, consanguinity, family history with short term complication of PCOS, all these factors if not managed correctly will perform to the complication of PCOS, these result is similar to the study done in India that indicated to the main risk factors of complication of PCOS; (Hirsutism, acne, dysmenorrhea

and oligomenorrhea) are Obesity, socioeconomic status, family history, insulin resistance⁽¹⁴⁾.

This study shows there are no long term complication of PCO as: (dyslipidaemia, cardiovascular disease, endometrial cancer), and the reason for that is short time comes in collecting the sample, as is known, the complications for a specific disease needs a long period of time to appear, which indicated in a different study conducted in India indicates that women with PCOS are more likely to develop complications as: (obstetric, cardiovascular, metabolic and psychological) with the time⁽¹⁵⁾.

Conclusions

The study concluded that there is significant relationship between occupation, body mass index, food consumption, dietary habits, environmental factors, with short term complication of PCOS.

Recommendations: The study recommended to developing study about management to women with PCOS, training program to upgrade their knowledge and skills about healthy food and life style to reduction the complication of PCOS and more study with long time to identify the long term complication of PCOS.

Ethical Clearance: Nil

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Conflict of Interest: Is obtained from the Ministry of Health/Al-Russafa Health Directorate (Kamal Al-Samarae Hospital and Elweya Maternity Teaching Hospital), and All women with PCOS participants in the research have been approved before the questionnaire is started.

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