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Impact of nutritional education intervention on knowledge and practices of women with polycystic ovarian syndrome

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Abstract

Despite of increasing prevalence of polycystic ovarian syndrome (PCOS) in women of reproductive age and its health impact, studies regarding impact of nutrition education intervention are limited. Hence the present study was taken with an objective to assess the impact of education intervention on knowledge and practices of women with PCOS. The study was conducted in 4 hospitals of Hubli – Dharwad cities of Karnataka state. Based on the availability and willingness of subjects to participate in the intervention, 15 subjects were enrolled in the study by visiting outpatient department of the hospitals. Nutritional education intervention was given to the subjects in 2 sessions, with a gap of fifteen days between each session. The results showed that before intervention majority of the subjects belonged to less than 30 percent knowledge and practice score category, but after intervention none of them scored less than 50% scores. The classification of intervention group showed that there was significant (@ 5%) increase in knowledge and practices after intervention. Thus nutrition education intervention is very effective on improving the knowledge and practices of women with PCOS and management of the disease.

Keywords: Acanthosis nigricans, hirsutism, infertility, insulin resistance, PCOS

Introduction

Polycystic Ovarian Syndrome (PCOS) is a very common endocrine disorder with no known cure, and is the leading cause of female infertility worldwide. The syndrome gets its name from multiple ovarian follicles, which look like cysts. The prevalence of PCOS is increasing universally, as it affects women of all races and nationalities.

PCOS is associated with symptoms such as absent or irregular menstrual cycles, cystic acne, male pattern hair loss, hirsutism, obesity and darkened skin patches known as acanthosis nigricans. It is a serious issue because of its long term health consequence such as insulin resistance leading to diabetes mellitus, high blood pressure, increased abdominal fat, high cholesterol levels and low HDL. Women with PCOS are also at risk of developing other conditions such as endometrial cancer (Pillay, 2006) ^[1] which is the second most frequent gynecological malignancy among women.

The disease is also observed to be occurring at much younger age than traditionally believed and pre teen girls have reported to have insulin resistance, which is a precursor of PCOS at a later age. Awareness regarding various aspects of disease by using a suitable educational module will help in effective management of PCOS by suitable diet and lifestyle changes. Hence the present study was taken with an objective to assess the impact of nutrition education on knowledge and practices of women with PCOS

Materials and Methods

A hospital based study was carried out in year 2017-2018 at Hubli-Dharwad cities of Karnataka state. The study was approved by ethical committee and consent was taken from the participants. Based on the availability and willingness of subjects to participate in the intervention, 15 subjects were enrolled in the study by visiting outpatient department of the hospitals. Nutritional education intervention was given to the subjects in 2 sessions, with a gap of fifteen days between each session. First session was given through power point presentation and second session was done using flash cards. Impact of education intervention was done by assessing knowledge and practices of PCOS patients before and after nutrition education intervention.

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Results and Discussion

Table 1 depicts the demographic profile of patients who were selected for intervention study. Majority of the subjects belonged to age group of 21-25 years (46.67%), women of younger age group were 33.33 percent. About 46.67 percent of the patients were under graduates followed by PUC passed (33.33%) and high school (13.33%) with very few post graduates (6.67). About half of the subjects were unmarried (53.33%). More than half the subjects were non – vegetarian (80%), followed by vegetarian (20%). Type of activity showed that all the subjects belonged to sedentary activity group.

Effect of intervention on knowledge and practice scores of PCOS subjects is presented in table 2. Before intervention majority of subjects belonged to less than 30 percent knowledge scores (46.67%), followed by 51-70 percent (26.68%) and 31-50 percent (13.33%) whereas after intervention none of the subjects scored less than 50 percent. Majority of them scored >90 percent (46.67%), followed by 71-90 percent (33.33%) and 51-70 percent (20%) scores.

Before intervention majority of subjects were seen in 30-50 percent practice scores (33.33%), followed by 50-70 percent (26.68%) and equal number of subjects in <30 percent and 71-90 percent scores (20%). After intervention none of the subjects scored less than 50 percent. Majority of them were seen in 71-90 percent scores (93.33) with very few in 50-70 percent unit (6.6 percent).

PCOS is the disease of modern age that requires proper knowledge and practices about the disease, for better management. Awareness about the disease is very less among the adolescents and young women. Poor knowledge has become a serious problem in management of the syndrome, in spite of the increasing prevalence. Educating the adolescent girls regarding polycystic ovarian syndrome helps them to identify the signs and symptoms and early recognition of polycystic ovarian syndrome and prevent its complications and improve the fertility.

More than half the women had poor scores for knowledge and practices. Similarly Jajo *et al.* (2013) [21] and Jayashree *et al.* (2013) reported that PCOS subjects have poor knowledge about the disease. Marzia *et al.* (2017) [4] found that 63 percent of PCOS women had low awareness about the disease. The reason for lesser scores knowledge and practices in the present study may be attributed to lack of awareness about the disease, many of them were newly diagnosed and the doctors and gynaecologists only told them about the medicines to be taken and some dietary restrictions. Some of the young girls with PCOS had better knowledge and gained knowledge through internet, friends and books (Table 2). The results of study were in line with the investigations of Alessa *et al.* (2017) [5] who reported that 15.3 percent of PCOS patients had gained knowledge through internet, patients, friends and books.

Impact of education intervention on knowledge of PCOS women is presented in table 3. Pre intervention knowledge score showed that equal number of subjects had knowledge about diagnosis and symptoms (20%), followed by meaning, treatment and dietary management (13.33%) and very few had knowledge about causes and complications (6.66%) associated with disease. But after intervention there was increase in knowledge of women about all the aspects of disease. Maximum increase was found in knowledge about symptoms (80%), followed by complications, (73.34%) and treatment (73.33%).

Table 4 shows the impact of education intervention on practices of PCOS subjects. Before intervention 60 percent of subjects consumed junk foods, followed by equal number of subjects in consuming low calorie foods and diet modification (20%). Very few subjects practiced exercise (13.33%). After education intervention improvement was seen in desired practices among the PCOS subjects, Better practice scores were seen in number of subjects practising exercise (93.33%), followed by diet modification (60%).

Table 5 shows classification of intervention group on before and after knowledge and practices. The classification showed that there was significant increase in knowledge and practice scores after the intervention (@ 0.05% level). All the subjects had higher knowledge scores with none of them in moderate and low category. Similar trend was observed with practice scores. The reason for this may be attributed to the different aspects covered in the intervention programme. The results of present study were in line with the investigations of Soumya *et al.* (2013) [6] who found that the structured teaching programme program was effective in improving the knowledge of PCOS women after intervention.

Conclusion: The impact of education intervention showed significant improvement in the knowledge and practices of patients. Hence nutrition education intervention is effective and showed improvement in knowledge and practices of women with PCOS and will help to manage the disease and create awareness for prevention of other metabolic syndromes in later part of life

Table 1: Demographic profile of women selected for intervention study N=15

Demographic profile	Subjects	
	Frequency	Percentage
Age (yrs)		
15-20	5	33.33
21-25	7	46.67
26-30	3	20
Education level		
Primary	0	0
High school	2	13.33
PUC	5	33.33
Graduates	7	46.67
Post graduates	1	6.67
Marital status		
Married	7	46.67
Unmarried	8	53.33
Family history of PCOS		
Yes	0	0
No	15	100
Type of diet		
Vegetarian	3	20
Non-Vegetarian	12	80
Eggtarians	0	0
Type of activity		
Sedentary	15	100

Table 2: Effect of intervention on knowledge and practice scores polycystic ovarian syndrome women N=15

Percentage	Before intervention		After intervention	
	Frequency	Percentage	Frequency	Percentage
Knowledge				
< 30	7	46.67	0	0
31-50	2	13.33	0	0
51-70	4	26.68	3	20.00
71-90	1	6.66	5	33.33
>90	1	6.66	7	46.67
Practice				
< 30	3	20.00	0	0
30-50	5	33.33	0	0
50-70	4	26.68	1	6.67
71-90	3	20.00	14	93.33

Table 3: Impact of education intervention on the knowledge of polycystic ovarian syndrome women N=15

Knowledge domains	Knowledge of subjects				
	Before		After		% Improvement
	F	%	F	%	%
Meaning of disease	2	13.33	12	80	66.67
Causes of disease	1	6.66	9	60	53.34
Diagnosis of PCOS	3	20	13	86.66	66.66
Symptoms	3	20	15	100	80
Complications	1	6.66	12	80	73.34
Treatment	2	13.33	13	86.66	73.33
Dietary management	2	13.33	12	80	66.67

F – Frequency% - Percentage

% Improvement =% Knowledge after intervention -% Knowledge before intervention

Table 4: Impact of education intervention on practices of polycystic ovarian syndrome women N=15

Practices [#]	Practices of subjects				
	Before		After		% Improvement
	F	%	F	%	%
Consumption of Junk foods	9	60.00	12	80.00	20.00
Consumption of low calorie foods	3	20.00	10	66.66	46.66
Diet modification	3	20.00	12	80.00	60.00
No of subjects Exercising	2	13.33	14	93.33	80.00

F – Frequency% - Percentage

% Improvement =% Practice after intervention -% Practice before intervention

[#]Multiple responses were notes

Table 5: Classification of women based on knowledge and practices before and after intervention N=15

Knowledge [#]	Intervention		‘t’ value
	Before	After	
Low (<4.7)	6	0	8.75*
Moderate(4.8-10.4)	3	0	
High (>10.4)	6	15	
Practices			
Low (<2.9)	3	0	10.25*
Moderate (3-3.7)	5	0	
High (>3.7)	7	15	

Significant @ 5% level

[#]Based on the formula mean ± SD (0.425)

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