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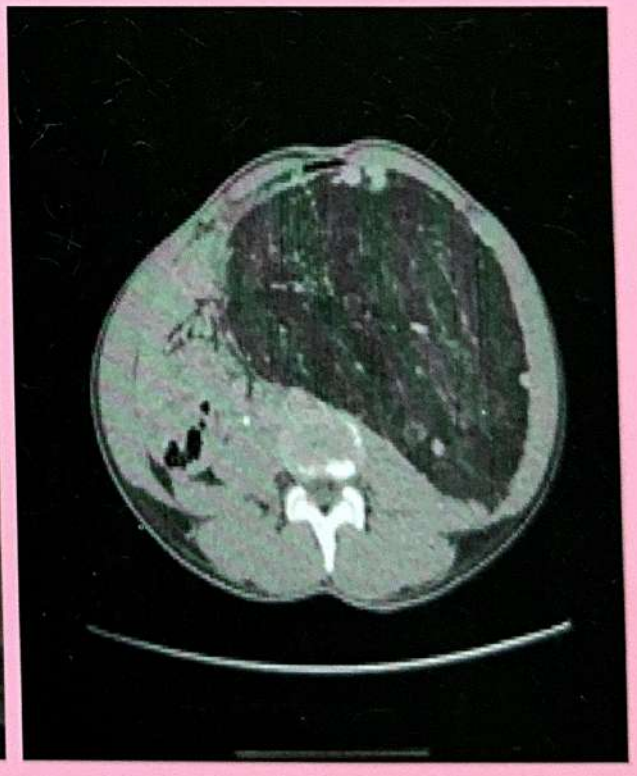

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EFFECTIVENESS OF LIFE STYLE MODIFICATION IN PATIENTS WITH POLYCYSTIC OVARY SYNDROME

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ABSTRACT

Background: Polycystic ovary Syndrome (PCOS) is a common disease of infertility affecting most people of young age. However up to now there is no effective treatment for this disease.

Objective: To determine in effectiveness of life style modification in PCOS patients in term of body weight, BMI and menstrual cycle.

Methodology: Those entire patients with PCOS after ruling out other endocrine pathology were included in study. These entire patients were interviewed thoroughly and life style modification like change in the diet and exercise level was implemented. After 8 months the result of the intervention were noted in the form of outcomes of, weight, BMI, waist circumference and menstrual cycle.

Result: Out of 41 patients of PCOS, Baseline age was 27.04±6.03, mean baseline weight was 58.43±6.11 kg. BMI was 24.93±2.03 kg/m², Waist Circumference was 81.29±11.70cm and mean duration of menstrual cycle was 46.32±10.2 days. The weight, BMI, Waist circumference, abnormal menstrual cycles and menstrual periods decrease significantly after the life style modification.

Conclusion: the implementation and adherence to the life style modification is a valuable treatment for patients with PCOS. Further studies with larger sample size are recommended.

Key words: Polycystic Ovary Syndrome, Life Style Modification, BMI, weight, waist Circumference, Abnormal Menstrual Cycles.

INTRODUCTION

Polycystic Ovary Syndrome (disease) (PCOS) related to the infertility due to chronic anovulation which affect about 4-8% of women[1]. Most the sign and symptoms appears just after pubescence[2]. Half of the female with PCOS are obese leading to an additional severe clinical image[3]. Fatness among adolescents is prevailing[4], with over-representation in for the symptoms of hyper-androgenism and irregular mences[5, 6], which suggest an correlation between fatness and PCOS at an early age. Recent information has diverted our attention to the long-run metabolic risks of PCOS[7-10]. insulin resistance have been showed to plays an important role within the pathology of PCOS[11] and is assumed to be the metabolic pathology most closely connected to an inflated risk of diabetes and cardiovascular disease[12, 13]. It's additionally seemingly that the precursors to cardiovascular disease or diabetes are already present within the adolescent with PCOS, and there's a necessity to deal with these factors is necessary.

The most effective management for the long-run treatment of PCOS isn't identified. Treatment choices embrace oral contraceptives (OCPs), life-style changes, and insulin sensitizers. So the treatment of OCPs is related to decrease in androgens and enhancements in expelling cycles in adolescents with PCOS[14]. Few studies are reportable in weighty adolescents[15] Still, OCs stay a first-line treatment selection for the adolescent with PCOS. Lifestyle modifications like a healthy diet, regular exercise and achieving and maintaining a healthy weight, has been shown to be effective within the restoration of ovulation[16-20]. PCOS have been shown to affects life's qualities and even can increase the symptoms of anxiety and depression either due to features of PCOS or due to the diagnosis of this chronic disease. Further studies are necessary on Pakistani population to address the effects of lifestyle modification in patient with PCOS, for decreasing the infertility in such patients.

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OBJECTIVE

To determine in effectiveness of life style modification in PCOS patients in term of body weight, BMI and menstrual cycle.

METHODOLOGY

This study was conducted in the department of Gynecology Lady reading hospital Peshawar. The study design was Study design: Quasi Experimental study (Before and after study). Study duration was 8 months from 1st oct 2018 to 31st may 2019.

All patients who have either 2 of the 3 symptoms of PCOS like Menstrual irregularity, Clinical Hyper-androgenism or polycystic ovarian ultrasound morphology were consider to be Polycystic Ovaries Syndrome patients under Rootterdam 2003 criteria. All these PCOS patients, those willing for consent and adherence to the life style modification were included in the study. Patient who were already on treatment for PCOS, having other medical problems like Hyperprolactenemia, adrenal tumors or thyroid diseases were excluded from the study.

After explain the study protocol and confidentiality level consent was taken from the patients. Patient with PCOS were evaluated thoroughly, detail medical history Gynecological history especially about menstrual cycle were taken. A menstrual period of 21 to 35 days duration was as labeled as normal menstrual period. Period greater than this was considered as abnormal.

The relevant examinations were done. And the baseline characteristics like, weight, height and waist circumference were noted.

Every patient were interviewed personally and their diet habits like eating of junk food and their daily calorie intake were estimated. Daily physical activity was also noted and was grouped into sedentary, moderate and heavy activity groups. As per caloric requirement (energy required for BMR i.e. 25kcal/kg/day + energy for daily physical activity+ energy for SDA) form was given which include a daily caloric diet taken and advised the participant to note in a diary (prepared from Dietician) according to daily activity. Diet routine must be followed each day as per calculated from the RDA (Recommended daily allowance) chart for their age.

All patients were advised for brisk walking for 45 minutes to 1 hour daily beyond their daily activity with exercise to muscle like abdomen and thigh. Water intake should be about 2000ml per day.

All the patients were followed up monthly telephonically emphasizing on the daily activity and adherence to the modifications.

RESULTS

Out of 41 patients of PCOS, Baseline age was 27.04±6.03, mean baseline weight was 58.43±6.11 kg, BMI was 24.93±2.03 kg/m², Waist Circumference was 81.29±11.70cm and mean duration of menstrual cycle was 46.32±10.2 days (Table 1).

The mean weight before the start of the life style modification was 58.43±6.11kg which decrease significantly to 56.06±6.73kg (difference of 2.37 ± 1.31), similarly the BMI also decrease from 24.93±2.03 to 23.71±1.93 (1.22±0.53) with a p value of 0.031. The waist Circumference decrease from 81.29±11.70cm before start of the intervention to 78.83±10.68cm with p value of 0.001. Menstrual Cycle duration decreased from 46.32±10.2 days to 39.21±12.31 days with p value of 0.042 (Table 2).

Then Menstrual Cycle was abnormal in 38 (92.68%) patient before start of the modification which decrease to 17 (41.46%) with p value of <0.001(Table 3).

Table 1: Baseline Characteristics

Parameter	Mean	SD
Age (years)	27.04	6.03
Weight (kg)	58.43	6.11
BMI (kg/m2)	24.93	2.03
Waist Circumference (cm)	81.29	11.70
Menstrual Cycle (days)	46.32	10.2

Table 2: Before and After Outcomes

Parameter	Before	After	p- value
Weight (kg)	58.43±6.11	56.06±6.73	0.004
BMI (kg/m2)	24.93±2.03		0.031
Waist Circumference (cm)	81.29±11.70	78.83±10.68	0.001
Menstrual Cycle (days)	46.32±10.2	39.21±12.31	0.042

Table 3: Before and After Menstrual Cycle duration

		Before (n)	After (n)	P value
Menstrual Cycle	Normal	3	24	<0.001
	Abnormal	38	17	

DISCUSSION

Our result showed the mean age of PCOS patients of was 27.04±6.03 and mean baseline weight was 58.43±6.11 kg, BMI was 24.93±2.03 kg/m² and Waist Circumference was 81.29±11.70cm this result was somewhat similar to that by Anju et al[21] who showed the mean Baseline weight of 57.54 ±8.62 , BMI of 24.05±3.05 and waist circumference of 80.23±10.38 at baseline.

There is decrease of mean weight from 58.43±6.11kg to 56.06±6.73kg (difference of 2.37 ± 1.31) this is similar to the that by Anju et al[21] which showed decrease of weight from 57.54 ±8.62 to 55.82±7.90 and also to the Lim et al.[22] This study find the decrease in BMI from 24.93±2.03 to 23.71±1.93 (1.22±0.53) which also similar to Anju et al[21] and Lim et al. [22] the waist Circumference from 81.29±11.70cm before start of the intervention to 78.83±10.68cm this value is also similar to Anju et al. Lim et al. Hoeger et al. and Tiware et al. where 4% decrease in the waist circumference was noticed[21-24]. The menstrual Cycle duration significantly decreased from 46.32±10.2 days to 39.21±12.31 days in our study and the number of abnormal menstrual bleeding decrease from significantly from 38 to 17. This percentage was similar to Anju et al. in which abnormal menstruation decreased from 97% to 33%[21].

Limitation of the study included that the patient may also use other drugs like, OCPS, or other remedies during the study period. Also due to low sample size the power of study is low. Further studies with large sample size are recommended for greater power of study.

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