Effectiveness of Nursing Led Intervention on Physical and Physiological Parameters Among Married Women with Polycystic Ovarian Syndrome in Selected Setting

Sr. Sagaya Mary[1], Dr. Vijayalakshmi S[2], Dr. M. Hemamalini[3]

[1]Ph. D Scholar
[2]Ph. D Research Guide and Principal
[3]Research Co-Guide and Principal

Abstract: *Aim of the study: Assess the effectiveness of nursing led intervention on physical and Physiological parameters among married women with polycystic ovarian syndrome in Selected Setting. Materials and Methods: The study was conducted using true experimental design. The present study was carried out at Janet fertility centres, Trichy. 200 samples were selected as study participants by simple random sampling technique. The data was collected by the tool which was prepared and retrieved from books by the investigator with expert's guidance and opinion. Results: The study findings revealed that the comparison of pre and posttest BMI (F=902.674), menstrual frequency (F=70.752) in the study group revealed a statistically very high significance at p<0.0001 whereas control group pre and posttest BMI (F=1.353) menstrual frequency (F=2.747) shows statistically non-significant. The statistically significant correlation was partially observed between the mean differed score of physical and physiological parameters in the study group. Thus, nursing led intervention was effective in physical and physiological parameters. Conclusion: PCOS being the leading cause for infertility among women and lack of awareness among women about the modifiable risk factors was the major issue. Nursing led intervention hip soak and diet by practicing polycystic ovarian syndrome is effectively managed and further complication likes infertility, Monaural pain and relives constipation can be prevented. Nursing led intervention is effective interventional strategy in regulation of menstrual cycle, improving reproduction of health. This study shows that after implementation of hip soak and diet, there is significant difference in physiological parameters between experimental and control group. This study will also form a basis for alternative medicine in nursing curriculum.*

Keywords: Nursing led Intervention and Polycystic Ovarian Syndrome, Lifestyle based care, Menstrual cycle regulation, and Fertility related outcomes

1. Introduction

Polycystic ovary syndrome (PCOS) is a multifaceted endocrine and metabolic disorder, typically characterized by an ovulation, infertility, obesity, insulin resistance, and polycystic ovaries. Lifestyle or diet, environmental pollutants, genetics, gut dysbiosis, neuroendocrine alterations, and obesity are among the risk factors that predispose females to PCOS. These factors might contribute to up surging metabolic syndrome by causing hyper insulinemia, oxidative stress, hyper androgenism, impaired folliculogenesis, and irregular menstrual cycles – (Samradhi Singh 2023). Based on the observed population and criteria, 8–13% of people worldwide have PCOS. The frequency of PCOS varies throughout India between 3.7% and 22.5% depending on the demographics and conditions. PCOS can cause hormonal imbalances, irregular periods, excess androgen levels and cysts in the ovaries. Irregular periods, usually with a lack of ovulation, can make it difficult to become pregnant. PCOS is a leading cause of infertility. PCOS is a chronic condition and cannot be cured. However, some symptoms of PCOS can be reduced through lifestyle changes. Eating a healthy diet, getting enough exercise and yoga can help reduce weight, regulate the hormone and normal menstrual cycle and this may reduce the further risk of type 2 diabetes and cardiovascular disease. Hence the study was undertaken to assess the effectiveness of cluster of care on physical, physiological, psychological and biochemical parameters among married women with polycystic ovarian syndrome in selected fertility centre's, Trichy.

2. Objectives of the Study

1. To assess the effectiveness of nursing led intervention on physical and physiological parameters among married women with polycystic ovarian syndrome.
2. To compare the effectiveness of nursing led intervention on physical and physiological parameters within study and control group among married women with polycystic ovarian syndrome.
3. To compare the effectiveness of nursing led intervention on physical and physiological parameters between study and control group among married women with polycystic ovarian syndrome.

The Null Hypotheses

NH1: There is no significant difference in level of physical, and physiological, parameters within study and control group among married women with polycystic ovarian syndrome.

NH2: There is no significant difference in level of physical, and physiological, parameters between study and control group among married women with polycystic ovarian syndrome.

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3. Material and Methods

Research design: A true experimental research design was adopted for the study. **Independent variable** is nursing led intervention and it consists of four interventions such as hip soak, and diet for three months. **Dependent Variable** in this study was physical and physiological parameters. **Settings:** The researcher selected two fertility centre at Trichy. **Sampling technique:** Simple random sampling technique (Lottery method) was undertaken to select sample. **Data collection tool:** The tool used for the present study consisted of the following: Part A: Background variables, Part B: Quetelet index for BMI, Part C: USG for size of ovarian cyst, D: Modified Seldom Cohen Standardized Scale for stress and Part D: blood sample for FSH, LH and Prolactin. **Intervention:** The nursing care includes hip soak for 15 to 20 minutes once a day in the morning, and advised a woman to take high fluid, food rich in fiber and protein with less carbohydrate and fat diet for 3 months respectively. After the assessment of pretest level of physical, and physiological, parameters in study and control group, Routine care was followed by the control group. All ethical principals were followed during the process of data collection.

4. Results and Discussion

Comparison of pre and post test level of physical parameters among married women with polycystic ovarian syndrome in study and control group.

The overall analysis of pre and post test level of physical parameters among women In the pretest of majority 42% in study group and 40% in the control group were obese indicating the need for cluster of care. In the post test 1 41% were obese and in post test 2 49% were overweight in study group whereas in the control group 39% were obese in both post test 1 and 2 which infers that there was a significant difference in post test 1 and high significant difference was there in post test 2 level of BMI in the study group.

Comparison of pre and post test 1 and 2 physical parameter mean score among married women with polycystic ovarian syndrome in study group.
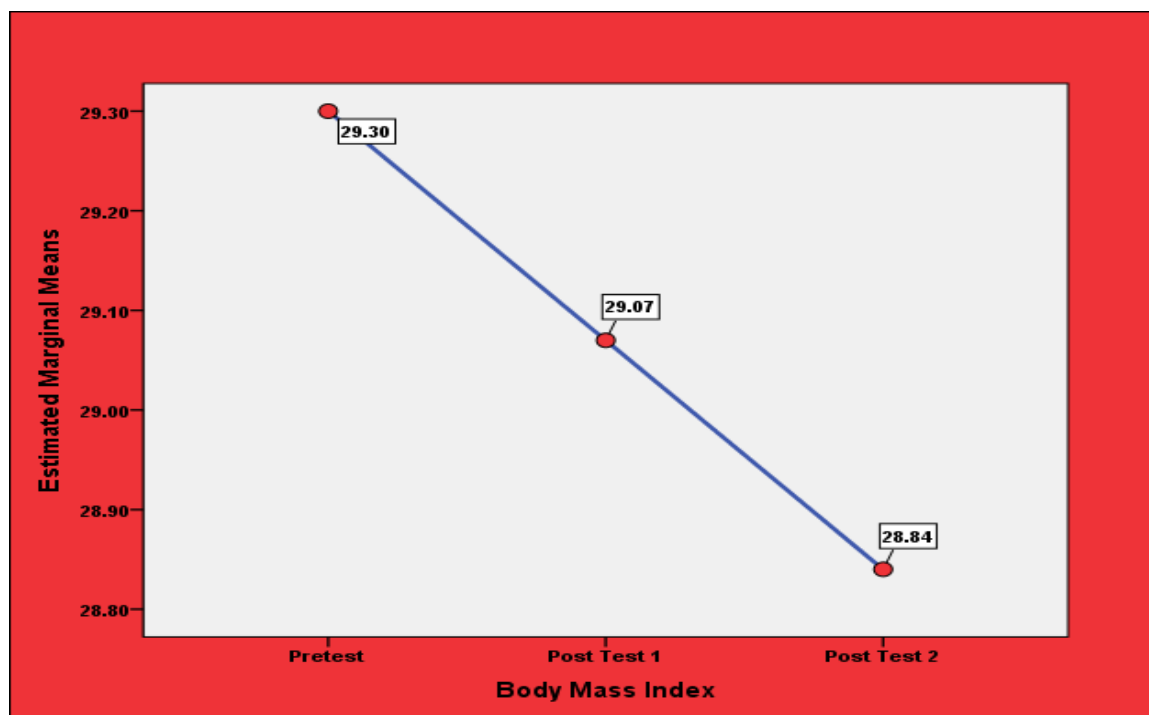
Comparison of pretest, post test 1 and post test 2 Physical Parameter - Weight among married women with polycystic ovarian syndrome in the study group.

N=100

Physical Parameters		Mean	S.D	RMANOVA & p-value
Pretest		74.84	10.94	F=793.583 p=0.001 (S)***
PostTest1		69.75	10.50	
PostTest2		64.19	9.82	
Bonferroni Pairwise Comparison				
Physical Parameters		Mean Difference		Significant
Pretest	PostTest1	5.090		**P=0.001(s)***
	PostTest2	10.645		**P=0.001(s)***
PostTest1	PostTest2	5.555		**P=0.001(s)***

***p<0.001, *p<0.05, S– Significant

Comparison of pretest, post test 1 and post test 2 Physical Parameter - Weight among married women with polycystic ovarian syndrome in control group.

N=100

Physical Parameters	Mean	S.D	RMANOVA & p-value
Pretest	74.12	11.27	F=2.747
PostTest1	74.11	11.28	p=0.084
PostTest2	74.09	11.28	(NS)
Bonferroni Pairwise Comparison			
Physical Parameters		Mean Difference	Significance
Pretest	Post Test 1	0.015	P=0.777(NS)
	Post Test 2	0.030	P=0.172(NS)
PostTest1	Post Test 2	0.015	P=0.250(NS)

NS–Not Significant

Comparison of pre and post test 1 and 2 physical parameter score among married women with polycystic ovarian syndrome between study and control group

N=200

Physical Parameter-BMI	Experimental Group		Control Group		One Way ANOVA & p-value
	Mean	S.D	Mean	S.D	
Pretest	29.95	3.79	29.30	4.09	F=1.353 p=0.246 (NS)
PostTest1	27.92	3.39	29.16	4.06	**F=2.340 p=0.020 (S)***
PostTest2	26.91	3.40	29.18	4.07	**F=4.274 p=0.0001 (S)***

***$p<0.001$, *$p<0.05$, S– Significant

Comparison of pre test, post test 1 and post test 2 Physiological Parameters (Follicles) among married women with polycystic ovarian syndrome between study and control group.

N=200

Physiological parameters	Test	Group				One way ANNOVA
		Study (n=100)		Control (n=100)		
		Mean	SD	Mean	SD	
Menstrual frequency	Pre test	0.53	0.56	0.43	0.49	F=1.786 p=0.183 (NS)
	Post test-I	1.00	0.00	0.46	0.50	**F=116.217 p=0.001 (S)***
	Post test-II	1.00	0.00	0.47	0.50	**F=111.638 p=0.001 (S)***
Menstrual duration	Pre test	0.63	0.48	0.68	0.46	F=0.549 p=0.460 (NS)
	Post test-I	0.99	0.10	0.70	0.46	**F=37.862 p=0.001 (S)***
	Post test-II	1.00	0.00	0.72	0.45	**F=38.500 p=0.0001 (S)***
Flow of menstruation	Pre test	0.01	0.10	0.01	0.10	F=1.786 p=0.183 (NS)
	Post test-I	0.67	0.47	0.00	0.00	**F=116.217 p=0.0001 (S)***
	Post test-II	0.97	0.17	0.00	0.00	**F=111.638 p=0.0001 (S)***
Ovarian cyst per ovary	Pre test	0.00	0.00	0.00	0.00	-
	Post test-I	0.21	0.41	0.00	0.00	**F=26.316 p=0.0001 (S)***
	Post test-II	0.44	0.49	0.00	0.00	**F=77.786 p=0.0001 (S)***

***$p<0.001$, *$p<0.05$, S– Significant NS- Not significant

5.Conclusion

Cluster of care is an effective interventional strategy in reduction of weight, BMI regulation of normal menstrual cycle & hormone like FSH, LH and prolactin among women with PCOS. Hip soak, and diet, is a simple and easy to follow and by practicing these interventions, polycystic ovarian syndrome is effectively managed and further complication likes infertility, types II Diabetes, improving reproductive health can be prevented. This

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study shows that after implementation of cluster of care, there is significant difference in physical and physiological, psychological parameters between study and control group. Hence nurses play a vital role in educating, implementing a hip soak, diet among adolescent girls and women with PCOS in colleges, hospitals and community setting also. This study will also form a basis for alternative medicine in nursing curriculum.

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