

Original Research Article

Effectiveness of Benson's Relaxation Technique In Stressed PCOD Women

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ABSTRACT

Background: Polycystic Ovary Syndrome (PCOS) is a prevalent endocrinological disorder in women, causing metabolic dysfunction and body composition changes. As of June 30, 2022, WHO estimates indicate over 116 million women (3.4%) globally are affected by PCOS. Stress, defined as worry and mental tension from difficult situations, is a major contributor to reproductive dysfunction. Reports increasingly highlight stress's role in PCOS manifestation. The study aims to assess the Benson relaxation technique's effectiveness in alleviating stress in women with PCOS.

Aim: To determine the effectiveness of Benson's relaxation technique in stressed PCOD.

Methodology: Study Design: Experimental study, Study setting: Dr. B.R. Ambedkar Medical College and Hospital, Department of Physiotherapy, Bangalore -560045 Sample design: Purposive sampling. Sample size: 30 patients.

Result: A significant reduction in stress among PCOD women was observed with the use of Benson's Relaxation Technique. The pre-perceived stress score before the technique was 22.63 ± 5.26 , decreasing to 18.23 ± 5.98 post-intervention. The enhancement score was 4.40, with a t-value of 11.08. The analysis indicates a substantial stress reduction among PCOD women using Benson's Relaxation Technique, as assessed through the Perceived Stress Scale ($p < 0.001$).

Conclusion: The study conclusively demonstrated the efficacy of Benson's Relaxation Technique in alleviating stress among women with PCOD. The analysis revealed a significant shift in stress levels, with 33.4% transitioning from high to moderate stress, 30.3% from moderate to low, and 30% maintaining moderate stress. Only 3.3% had low stress persisting, and the same percentage had persistent high stress. The pre-intervention stress score was 22.63 ± 5.26 , decreasing to 18.23 ± 5.98 post-intervention, yielding a noteworthy enhancement score of 4.40. This signifies a statistically significant reduction in perceived stress ($p < 0.001$), supported by a t-value of 11.08.

KEYWORDS: Benson's relaxation technique, PCOD, Perceived Stress Scale Stress.

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INTRODUCTION

PCOD is the most frequent endocrinological disorder that affects women of reproductive age, leading to metabolic dysfunction and body composition alterations [1]. The most typical hormonal condition affecting women of reproductive age is polycystic ovarian syndrome (PCOS). Hormone swings, obesity, irregular menstrual cycles, male pattern baldness, and excess body and facial hair stress women with PCOD. An increase in androgen secretion causes PCOD. PCOD is a typical problem in women's healthcare that affects both physical and mental health. Our hushed expressions, worry, anxiety, wrath, and negativity might all raise our chances of getting PCOS [2]. Stress is believed to be an important component of PCOD [3].

According to WHO estimation, over 116 million women (3.4%) are affected by PCOD worldwide on 30 June 2022 [4]. During a fight-or-flight condition, cortisol also suppresses unnecessary or disadvantageous developments. The activation of these stress response systems regularly and over time and the subsequent overexposure to cortisol and other stress hormones can affect practically all of your body's systems. Stress plays a major role in the pathogenesis of several diseases [5-7].

It is a common, underappreciated cause of reproductive dysfunction. Stress-induced anovulation leads to infertility. The prevalence of infertility-related stress was overall 92.71% (95% CI, 87-98%) [8]. PCOD affects 4% -20 % of women of reproductive age worldwide [9].

Stress is an invisible factor impacting modern living and is strongly linked to the pathogenesis of various diseases, including polycystic ovarian syndrome (PCOS) in women [10]. Hence, stress can be both a cause and a consequence of PCOS. We aim to reduce stress levels in women with PCOS using Benson's Relaxation Techniques.

Benson's Relaxation Technique serves as a relaxation approach for women with PCOS experiencing stress. Dr. Herbert Benson, a professor, author, cardiologist, and founder of Harvard's Mind/Body Medical Institute, coined

the term "relaxation response" [11].

According to Dr. Benson, learning deep relaxation, involving daily efforts to calm the mind, promotes inner peace and overall health [12]. The four key factors initiating the relaxation response are a calm setting, a mental tool, a passive attitude, and a comfortable position [13]. The relaxation response is associated with lower oxygen consumption and a stronger sympathetic nervous system [14]. Benson's Relaxation Method (BRM) is a non-pharmacological, behavioral approach designed to manage stress and is one of the easiest to learn and apply among relaxation methods [15].

The current study aims to assess the effectiveness of Benson's relaxation technique in alleviating stress in women with PCOS.

METHODOLOGY

Study design: Experimental study

Study setting: Dr B.R. Ambedkar Medical College and hospital, Department of Physiotherapy, Bangalore -560045

Sample design: Purposive sampling.

Sample size: 30 patients

Outcome measures: Perceived Stress Scale

Inclusion Criteria: Age from 18 years to 30 years. Gender: Female, Diagnosed PCOD patients. Treatment duration: 30 minutes.

Exclusion Criteria: No symptoms and undiagnosed PCOD. Age below 18 and above 30 years. The PSS Score <13 is not included in the study.

Procedure: A study was conducted involving 30 women diagnosed with PCOD (Polycystic Ovary Disorder). Participants were selected based on specific inclusion criteria, which required a confirmed PCOD diagnosis and an age range of 18 to 30 years. On the first day of the study, a baseline assessment of stress levels was assessed using the Perceived Stress Scale. Women whose stress levels measured less than 13 were excluded from the study. Additionally, the study employed exclusion criteria that considered the presence of major medical or psychiatric conditions that could potentially confound the results. Subsequently, women with stress

levels exceeding 13 underwent a 6-week intervention using Benson's Relaxation technique. Following the intervention period, a post-intervention assessment using the Perceived Stress Scale (PSS) was conducted to evaluate the efficacy of Benson's Relaxation technique in reducing perceived stress levels among the participants.

All participants were assessed with the Perceived Stress Scale (PSS), a 10-item questionnaire widely used to evaluate young individuals' stress levels. Individual scores on the PSS can range from 0 to 40, with higher scores indicating elevated perceived stress. Scores from 0-13 would be categorized as low stress, 14-26 as moderate stress, and 27-40 as high perceived stress. The PSS was administered before and after the intervention to assess participants' subjective stress perception. This standardized process aimed to acquire quantifiable data on participants' stress levels pre-and post-implementation of the Benson relaxation technique.

The Benson relaxation technique was executed as the stress management intervention. To activate the Relaxation Response, follow the steps mentioned:

STEP 1: Sit down in a comfortable position.

STEP 2: Close both your eyes.

STEP 3: Intensely relax all your muscles.

STEP 4: Inhale through your nose. Sense your breathing. As you breathe, say "ONE" silently to yourself. For example, breathe IN-OUT, "ONE IN-OUT," "ONE," etc. Breathe easily and naturally.

STEP 5: Repeat the same for 10 to 20 minutes. Open your eyes to check the time without an alarm. When you complete, hold for a few minutes, first with your eyes closed and later with your eyes opened. Don't stand up immediately.

STEP 6: For the first time, you may not succeed in the deep relaxation level. When distracting thoughts occur, start from the beginning. With little practice daily, positive results come. Practice the technique once or twice daily but not within two hours after any meal since the digestive process seems to interfere with the elicitation of the Relaxation

Response.

It involved 30 minutes of relaxed breathing exercises, divided into two phases: 15 minutes of closed-eye breathing and 15 minutes of open-eye breathing. The technique was performed twice daily, with a two-hour interval between sessions. The intervention duration spanned 6-8 weeks for a sufficient evaluation period.

Statistics: Statistical analysis of the data was done using SPSS 20.0. Categorical variables were presented using frequency and percent-age, and descriptive statistics of perceived stress scores were expressed using mean and standard deviation. Pre-post comparison was made using a paired t-test. A p-value <0.05 was considered statistically significant.

Table 1: Showing frequency distribution of age Showing frequency distribution of age.

Age in years	Frequency	Percent
19-22 years	12	40
23-26 years	11	36.7
27-30 years	7	23.3
Total	30	100

The study consisted of 30 stressed PCOD women. A majority of 12(40%) were of age between 19 to 22 years followed by 11(36.7%) between 23 to 26 years and 7(23.3%) between 27 to 30 years. The average age was 23.5 ± 2.86 years, with a minimum of 19 years and a maximum of 30 years.



Fig. 1: Representation of age.

Table 2: Showing pre-post stress level

Stress level	Pre		Post	
	Frequency	%	Frequency	%
Low stress	1	3.3	10	33.3
Moderate stress	18	60	19	63.3
High perceived stress	11	36.7	1	3.3
Total	30	100	30	100

The stress level before the Bensons Relaxation Technique shows majority of 60% had moderate stress, 36.7% had high perceived stress and 3.3% had low stress. After the

Bensons Relaxation Technique 63.3% had moderate followed by 33.3% with low stress and 3.3% with high perceived stress.

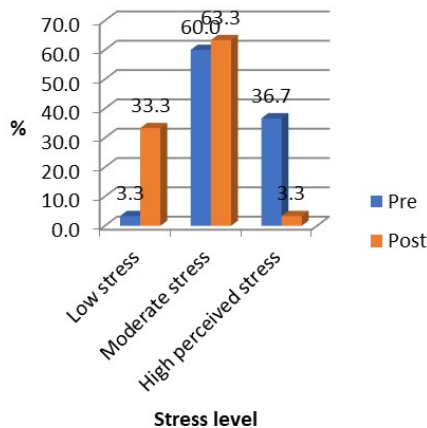


Fig. 2: Representing stress level before and after Bensons Relaxation Technique.

Table 3: Showing changes taking place in stress level among the PCOD women.

Grade	post			Total
	Low stress	Moderate stress	High perceived stress	
pre	1	0	0	1
	3.30%	0.00%	0.00%	3.30%
	9	9	0	18
	30.00%	30.00%	0.00%	60.00%
High perceived stress	0	10	1	11
	0.00%	33.40%	3.30%	36.70%
Total	10	19	1	30

The analysis of stress level before and after the intervention among the PCOD women shows, majority of 33.4% had high perceived level before the intervention which was reduced to moderate stress level after Bensons Relaxation Technique, 30.3% had moderate stress level which had reduced to low stress, 30% had moderate stress level which remained moderate even after Bensons Relaxation Technique, 3.3% had low stress level before and after the Bensons Relaxation Technique and 3.3% had high perceive stress level before and after Bensons Relaxation Technique.

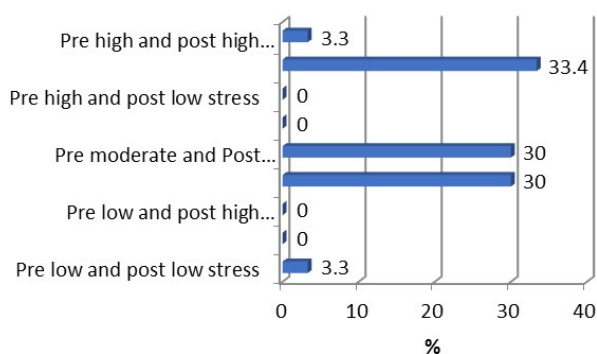


Fig. 3: Representation of changes in stress level among the PCOD women.

Table 4: Showing pre post comparison of perceived stressed scale.

PSS	Mean	S.D	Enhance ment	t value	p value
Pre	22.63	5.26	4.4	11.08	0 (p<0.001)
Post	18.23	5.98			

The pre perceived stress score before the Bensons Relaxation Technique was 22.63±5.26 and post perceived stress score after the Bensons Relaxation Technique was 18.23±5.98. The enhancement score was 4.40 with t value 11.08. The analysis shows there was significant reduction in stress among PCOD women by using Bensons Relaxation Technique and by evaluating through Perceived stress scale. p<0.001.

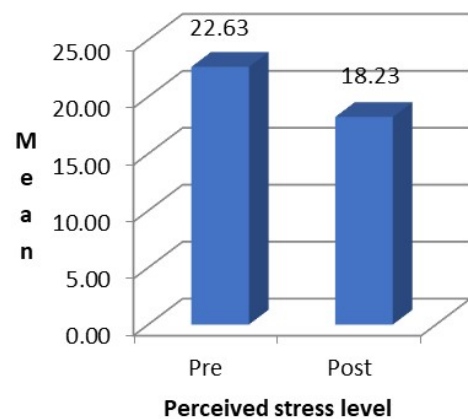


Fig. 4: Representing mean of perceived stressed scale.

DISCUSSION

This study aimed to evaluate the effectiveness of Benson's relaxation technique in reducing stress in women with Polycystic Ovary Disease (PCOD). The study took place at Dr. B.R. Ambedkar Medical College in the departments of Physiotherapy and OBG, Bangalore, India. According to the World Health Organization (WHO), more than 116 million women worldwide (3.4%) are affected by PCOD. Although data on PCOD prevalence in India is limited, the WHO estimates global prevalence to be between 4% and 20% [4,9]. Various studies have indicated that women with PCOD commonly experience stress. Since PCOD is a complex condition, stress can manifest in different ways [16]. PCOD can significantly impact a woman's quality of life and may exacerbate feelings of anxiety and depression, either due to the symptoms of PCOD or the diagnosis of a chronic illness [17].

Research explores managing stress and PCOD. Yoga training for women with polycystic ovarian disease revealed a significant risk reduction score (33.38 ± 7.28 vs. 22.75 ± 12.09 , mean difference 10.63, $F = 236.12$, $P < .001$), enhancing well-being [18]. Another study on Mindfulness-Based Stress Reduction (MBSR) showed moderate effectiveness for anxiety (Hedges' $g = 0.63$) and mood symptoms (Hedges' $g = 0.59$) overall and higher in patients with anxiety and mood disorders (Hedges' $g = 0.97$ and 0.95) [19].

Benson's Relaxation technique, applied in various contexts, reduced pain intensity and enhanced acceptance in adult hemophilia patients. Post-intervention, the intervention group had lower mean scores for pain intensity, pain belief and perception inventory, and pain acceptance (4.26 ± 2.17 , -13.35 ± 1.50 , 67.24 ± 9.49), differing significantly from the control group (5.85 ± 2.61 , -2 ± 1.70 , 56.57 ± 11.04) regarding pain intensity ($P=0.007$), pain belief and perception inventory ($P<0.001$), subscales ($P<0.05$), and total pain acceptance ($P<0.001$).

This study demonstrated that relaxation techniques can effectively reduce patients' pain intensity, improve their pain belief and perception, and enhance their pain acceptance.

The stress levels before Benson's Relaxation Technique varied, with the majority having moderate stress (60%), followed by 36.7% with high perceived stress and 3.3% with low stress. After Benson's Relaxation Technique, the distribution shifted, with 63.3% experiencing moderate stress, 33.3% with low stress, and 3.3% with high perceived stress. The pre- perceived stress score before Benson's Relaxation Technique was 22.63526, and the post-perceived stress score after the technique was 18.231598. The enhancement score was 4.40, with a t-value of 11.08. The analysis revealed a significant reduction in perceived stress scores with $p<0.001$.

Study limitation: The study limitation is that patients with PCOD often hesitate to disclose their positive PCOD status.

Recommendations: This study was conducted with a limited sample size. In the future, larger

studies can be conducted for more robust results. Implementing the relaxation technique over an extended period may yield more effective outcomes.

CONCLUSION

This study concludes that Benson's Relaxation technique effectively alleviates stress in women with PCOD. The majority (33.4%) experienced high perceived stress before the intervention, reduced to moderate stress post-Benson's Relaxation Technique. Additionally, 30.3% had moderate stress, decreasing to low stress, while 30% maintained a moderate stress level post-intervention. Only 3.3% had persistently low stress, and the same percentage had ongoing high stress. Pre-perceived stress scores before and after Benson's Relaxation Technique were 22.63 and 18.23, respectively, with a noteworthy enhancement score of 4.40. This signifies a statistically significant reduction in perceived stress ($p<0.001$), supported by a t-value of 11.08.

ABBREVIATIONS

BMI- Body Mass Index

BRT –Benson's Relaxation technique

OPD-Out Patient Department

PCOD – Polycystic Ovarian Disease

PCOS-Polycystic Ovarian Syndrome

PSS-Perceived Stress Scale

QOL- Quality of Life

SPSS (version 1) – Statistical Package for the Social Sciences

WHO- World Health Organisation

Conflicts of interest: None

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