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Harnessing asana and pranayama: A holistic approach to Chronic Obstructive Pulmonary Disease (COPD) relief for Indian women

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Abstract

Chronic Obstructive Pulmonary Disease (COPD) poses a significant health challenge, particularly for Indian women, given their exposure to indoor air pollution and other risk factors. While modern medicine offers treatments, integrating traditional practices like yoga can provide complementary relief. This article explores the efficacy of Asana and Pranayama in managing COPD symptoms among Indian women.

Keywords: Pranayama in managing, symptoms, among

Introduction

Understanding COPD and Its Impact on Indian Women

COPD encompasses chronic bronchitis and emphysema, characterized by progressive airflow limitation and respiratory symptoms. Indian women, often exposed to indoor smoke from cooking fuels, face heightened risks. Additionally, societal roles may limit their access to healthcare, making holistic approaches vital.

The Role of Asana in COPD Management: Asana, or yoga postures, offers physical benefits such as improved lung function, posture, and flexibility. For Indian women with COPD, gentle asanas like Sukhasana (Easy Pose) and Bhujangasana (Cobra Pose) can enhance respiratory muscle strength and alleviate breathlessness. Moreover, asanas like Setu Bandhasana (Bridge Pose) promote relaxation, reducing stress-induced exacerbations.

Pranayama: Breathing Techniques for COPD Relief

Pranayama, the practice of breath control, holds promise in COPD management. Techniques like Anulom Vilom (Alternate Nostril Breathing) and Bhramari (Humming Bee Breath) enhance lung capacity and oxygenation. Regular practice can mitigate symptoms, decrease anxiety, and improve overall quality of life for Indian women with COPD.

Cultivating a Holistic Lifestyle: Beyond Asana and Pranayama, holistic COPD management involves dietary modifications, stress reduction, and environmental awareness. Indian women can benefit from incorporating antioxidant-rich foods, mindfulness practices, and smoke-free cooking alternatives into their daily routines.

Methodology

The selected candidates were separated into 4 groups. Experimental group namely EWA, EWP, EWAP and Control Group. Each group trained accordingly with only asana (EWA), only Pranayama (EWP) and combination of Asana and Pranayama (EWAP) and Control Group with no intervention.

Analysis and interpretations of data

Introduction

The data's are analyzed by valid, adequate and reliable records. Analyzed data are processed, classified, tabulated, systematically shifted, intelligently interpreted and concluded. The data were analyzed by using univariate analysis.

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The finding and discussion of the results of the treatment effects comparatively and individually explained in this chapter.

Level of Significance

The level of significance at 0.05 was considered and chosen for this study to obtain the accurate result. The selected independent variables were compared with the level of significance.

Table 1: Significance of mean gains /losses between pre and posttest of asana on physiological factors among patients of Chronic Obstructive Pulmonary Disease (COPD).

Variables	Test	Mean	Std. Deviation	M.D	S.D.E	't' ratio
Systolic Blood Pressure	Pre-Test	132.9600	5.51876	2.16000	.13760	15.698
	Post test	130.8000	5.45436			
Diastolic Blood Pressure	Pre-Test	90.8400	2.70308	1.96000	.10770	18.198
	Post test	88.8800	2.75862			
Resting Pulse Rate	Pre-Test	72.0400	3.04795	1.32000	.11136	11.854
	Post test	70.7200	3.04850			
Breath Holding Time	Pre-Test	13.2800	1.83757	1.08000	.17243	6.263
	Post test	14.3600	1.65529			
Fev1/fvc	Pre-Test	15.2314	1.43323	1.07565	.17021	6.021
	Post test	12.2345	1.32214			

*Significance at 0.05 levels (2.06)

Table 1 indicates the results of 't' value of physiological factors of Systolic Blood Pressure (15.69), Diastolic Blood Pressure (18.19) Resting Pulse Rate (11.85), Breath Holding Time (6.26). The obtained tabulated t value was 2.06 statistically significant difference at the 95% confidential level, D.F. (1, 19). It was found that statistically significant at 0.05 level of confidence. It was

Results of Treatment Effects

The treatment data was analyzed on mean gain or losses between the pre and posttests. The selected Asana pranayama program guided variance among four groups. The Result of the Study Showed that Combinations of Asana, Pranayama shows significant improvement on selected physiological variables better than Asana only, Pranayama only and control group.

observed that the mean gains and losses made from pre and post test were showed significant improvement in Systolic Blood Pressure (2.16 $p < 0.05$), Diastolic Blood Pressure (1.96 $p < 0.05$), Resting Pulse Rate (1.32 $p < 0.05$), Breath Holding Time (1.08 $p < 0.05$), thus the formulated hypothesis No 1 was partially accepted.

Table 2: Significance of mean gains /losses between pre and posttest of pranayama on physiological factors among patients of Chronic Obstructive Pulmonary Disease (COPD).

Variables	Test	Mean	Std. Deviation	M.D	S.D.E	't' ratio
Systolic Blood Pressure	Pre-Test	132.8800	4.11623	3.08000	.17243	17.862
	Post test	129.8000	3.97911			
Diastolic Blood Pressure	Pre-Test	90.3600	3.75144	3.60000	.31623	11.384
	Post test	86.7600	3.90811			
Resting Pulse Rate	Pre-Test	72.3600	2.34307	2.04000	.15790	12.919
	Post test	70.3200	2.42762			
Breath Holding Time	Pre-Test	13.3200	2.39305	1.80000	.10000	18.000
	Post test	15.1200	2.35089			
FEV1/FVC	Pre-Test	19.6021	2.34101	2.80000	.18521	16.720
	Post test	17.2351	2.07512			

*Significance at 0.05 levels (2.06)

Table 2 indicates the results of 't' value of physiological factors of Systolic Blood Pressure (17.86), Diastolic Blood Pressure (11.38), Resting Pulse Rate (12.92), Breath Holding Time (18.00). The obtained tabulated t value was 2.06 statistically significant difference at the 95 % confidential level, D.F. (1, 19). It was found that statistically significant at 0.05 level of confidence. It was observed that the mean gains and losses made from pre and posttest were showed significant improvement in Systolic Blood Pressure (3.08 $p < 0.05$), Diastolic Blood Pressure (3.60 $p < 0.05$), Resting Pulse Rate (2.04 $p < 0.05$), Breath Holding Time (1.80 $p < 0.05$), thus the formulated hypothesis No 1 was partially accepted.

Table 3 indicates the results of 't' value of physiological factors of Systolic Blood Pressure (1.45), Diastolic Blood

Pressure (1.809) Resting Pulse Rate (1.809), Breath Holding Time (-1.45), lipid profiles of LDL (-1.80), HDL (-1.45) and TC (1.00). The obtained tabulated t value was 2.06 statistically significant difference at the 95 % confidential level, D.F. (1, 19). It was found that statistically significant at 0.05 level of confidence. It was observed that the mean gains and losses made from pre and post test does not show significant improvement in Systolic Blood Pressure (1.45), Diastolic Blood Pressure (1.809) Resting Pulse Rate (1.809), Breath Holding Time (-1.45), The variables failed to reach the tabulated value of 2.06. So it was statistically insignificant.

Table 3: Significance of mean gains /losses between pre and posttest in combination of asana and pranayama on physiological factors among patients of Chronic Obstructive Pulmonary Disease (COPD).

Variables	Test	Mean	Std. Deviation	M.D	S.D.E	't' ratio
Systolic Blood Pressure	Pre-Test	132.7600	3.62031	.08000	.05538	1.445
	Posttest	132.6800	3.63685			
Diastolic Blood Pressure	Diapre	90.9200	3.35311	.12000	.06633	1.809
	Diapos	90.8000	3.43996			
Resting Pulse Rate	RPRpre	72.7600	2.87634	.12000	.06633	1.809
	RPRpos	72.6400	3.01220			
Breath Holding Time	BHTpre	13.2400	2.22261	-.08000	.05538	-1.445
	BHTpos	13.3200	2.28619			

*Significance at 0.05 levels (2.06)

Table 4: Significance ZX of MEANZX GAINS /LOSSESZX BETWEEN ZXPRE AND ZXPOST TESTZX of control ZX group on ZX physiological factors Z among patients of Chronic Obstructive Pulmonary Disease (COPD).

Variables	Test	Mean	Std. Deviation	M.D	S.D.E	't' ratio
Systolic Blood Pressure	Pre-Test	132.8400	4.02782	4.72000	.48484	9.735
	Post test	128.1200	4.07554			
Diastolic Blood Pressure	Diapre	90.0800	4.34856	6.04000	.83363	7.245
	Diapos	84.0400	3.18172			
Resting Pulse Rate	RPRpre	72.8800	2.94845	3.12000	.19425	16.062
	RPRpos	69.7600	2.97602			
Breath Holding Time	BHTpre	13.5600	2.84429	-2.96000	.27976	10.580
	BHTpos	16.5200	2.87402			
FEV1/FVC	Pre-Test	9.8400	4.02782	4.72000	.68484	0.935
	Post test	9.1200	4.07554			

*Significance at 0.05 levels (2.06)

Table 4 indicates the results of 't' value of physiological factors of Systolic Blood ZX Pressure (9.74), Diastolic ZX Blood Pressure (7.25) ZX Resting Pulse Rate (16.06), ZX Breath ZX Holding Time (10.58). The obtained tabulated t value was 2.06 statistically significant difference at the 95 % confidential level, D.F. ZX (1, 19). It ZX was found ZX that statistically ZX significant ZX at 0.05 level ZX of

confidence ZX. It was ZX observed that the mean ZX gains and ZX losses made from ZX pre and post ZX test were showed significant ZX improvement in Systolic Blood Pressure (2.16 $p < 0.05$), Diastolic Blood Pressure (1.96 $p < 0.05$), Resting Pulse Rate (1.32 $p < 0.05$), Breath Holding Time (1.08 $p < 0.05$), thus the formulated hypothesis No 1 was partially accepted. So it is statistically insignificant.

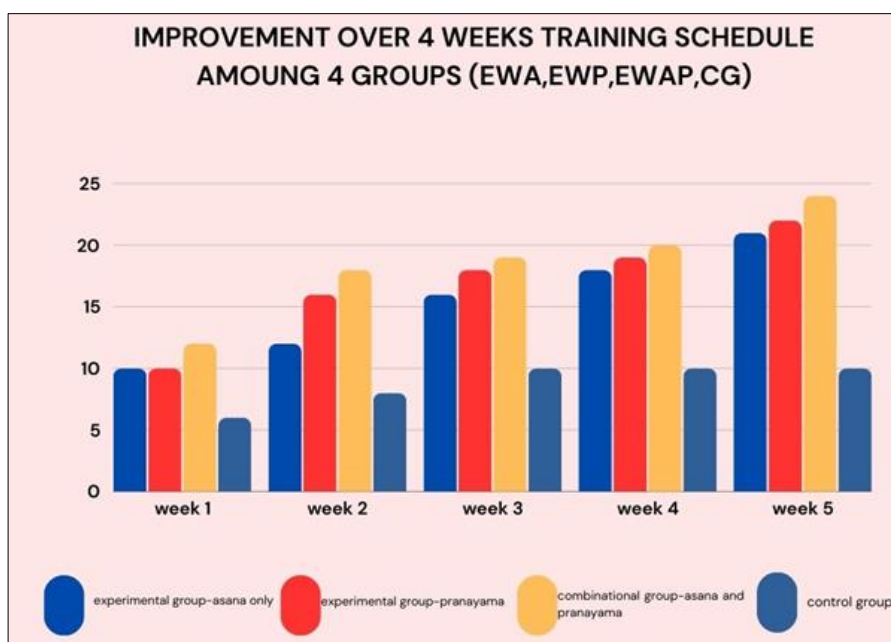


Fig 1: Bar graph Showing Significant Improvement in Combinational Group (EWAP) compared to other experimental group and Control Group

Conclusion

Incorporating Asana and Pranayama into COPD management offers Indian women a holistic approach to symptom relief and improved quality of life. By embracing traditional practices alongside modern treatments, women can empower themselves to better manage their health and well-being.

Conflict of interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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