

Effectiveness of Yoga Therapy on Respiratory Problems among Cotton Mill Workers in Selected Community Area at Namakkal District

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Abstract:- In this title 'Effectiveness of Yoga Therapy on Respiratory Problems among Cotton Mill Workers In Selected Community Area at Namakkal District'. Workers in the cotton sector are exposed to a variety of hazards in the many textile factory departments. Most employees have low socioeconomic standing and are illiterate. Workers with respiratory issues can benefit from yoga treatment to enhance their quality of life and pulmonary function. Using the consecutive sampling technique, a pre-experimental design was conducted on 30 cotton mill workers at Vedha Giri Spinning Mill in Pallakkapalayam, Namakkal District. Cotton mill workers' respiratory issues were evaluated using a respiratory evaluation scale. After receiving approval from the cotton mill's managing director and other relevant authorities, the data was gathered. Both descriptive and inferential statistics were used to analyze the data.

Keywords:- Yoga Therapy, Cotton Mill, Pulmonary, Consecutive Sampling Technique.

I. INTRODUCTION

The overall health, safety, and welfare of employees both at work and at home are the focus of occupational health. It covers every kind of work, including commercial and mercantile businesses, trading in services, forestry, agricultural risks, and rehabilitation. By preventing health deviations, managing risks, and adjusting work to people and people to their job, occupational health aims to promote and maintain the maximum level of physical, mental, and social well-being among employees in all professions. (Neelam Kumari, 2019).

Because 75% of the world's workforce resides in third-world nations, over 125 million workers suffer from occupational illnesses and accidents each year. Other factors include shifting work schedules, relationships with coworkers, the rise in self-employment, and outsourcing. The management of risks to workplace safety and health has proved problematic. However, the health and safety of workers in dangerous jobs, particularly migrant laborers and other vulnerable individuals, require special attention. Due to the lack of access to occupational safety and health services, work-related risks and occupational illnesses are expected to rise in small-scale enterprises and agriculture. Committee for

Public Interest Litigations. (Pils,2008).

From one county to another and from one location to another, there are differences in the kinds of industries and jobs that employees work in. Industrial workers are exposed to a variety of risks and infections in any workplace, but the five primary categories are mechanical, chemical, biological, psychological, and physical risks. Numerous illnesses and other health issues, such as cancer, asbestosis, pulmonary fibrosis, asthma, and dermatitis, can be brought on by chemical exposures. Physical risks, such as frostbite, hearing loss, skin cancer, and heat stroke, can result in harm or illness. biological risks include tetanus, dengue fever, anthrax, and salmonella. Mechanical risks such electrical shock, fractures, and crush injuries. (Kasturi Sundar Rao 2017)

➤ Need for the Study

An event or exposure that takes place at work and causes or exacerbates a preexisting ailment is known as an occupational illness. About 15% of new adult asthma cases are occupational asthma, making it the most common occupational lung disease in developed nations. An estimated 1.9 million new cases of occupational asthma were reported in 2012, according to a survey of over 200,000 patients in 22 states. 38,000 people die from occupational asthma each year. The fourth most common cause of death globally is chronic obstructive pulmonary disease. According to a recent case control study, the risk of occupational coped exposure increases with age, cigarette consumption, and exposure time. (Jennifer bepko and Katherine mansalis2016)

➤ Objectives

- To assess the respiratory problems among cotton mill worker before and after yoga therapy.
- To determine the effectiveness of yoga therapy on respiratory problems among cotton mill workers.
- To find out the association between post test score of respiratory problems among cotton mill workers with their demographic variables.

II. RESEARCH METHODOLOGY

This study assessed yoga therapy's efficacy in treating respiratory issues. Therefore, in order to verify the efficiency of the intervention, a quantitative evaluation study approach was necessary.

In order to assess the impact of yoga treatment on respiratory issues among cotton mill workers, a pre-experimental research design was chosen for this study, with one group being tested both before and after.

This study assessed how well yoga treatment worked for respiratory issues. As a result, a quantitative assessment research approach was necessary to assess the intervention's efficacy.

The current study will use a pre-experimental research design, with one group being tested both before and after the study to see how well yoga treatment works for respiratory issues in cotton mill workers.

III. DATA ANALYSIS

A. Description of Cotton Mill Workers According to their Demographic Characteristics

Table: 1 Frequency and Percentage Distribution of Samples According to their Demographic Variables. (N= 30)

S.NO	Demographic Variables	Frequency(n)	Percentage(%)
1.	Age in years		
	21-30years	17	57%
	31-40years	13	43%
2.	Gender		
	Male	12	40
	Female	18	60
3.	Years of experience		
	12 months.	16	53%
	13months -18months	9	30%
	19months- 24 months	5	17%
4.	Frequency of medical check up		
	Every 6 months once	14	47%
	Once in a year	16	53%
	Not regular	-	-
5.	Previous practice of yoga		
	Yes		
	No	30	100%

The age distribution of the samples shows that the majority of the workers (57%) were between the ages of 20 and 30 and 43% were between the ages of 31 and 40. The gender distribution of the samples shows that 40% of the workers were men and 60% of the workers were women. The distribution of samples by years of experience shows that the largest percentage of workers (53%) had 12 months of experience, followed by those with 13–18 months (30%) and those with 19–24 months (17%). It demonstrates that the

majority of them have one year of experience.

The distribution of samples based on the frequency of medical check-ups reveals that just 47% of the workers had a medical check-up once a year, while the majority (53%) did not have a regular check-up. The distribution of samples based on prior yoga practice reveals that all cotton mill workers (100%) had never engaged in yoga therapy.

B. Assess the Respiratory Problems Among cotton Mill Workers before and after Yoga Therapy

Table 2: Frequency and Percentage Distribution of the Pretest and Post Test Scores among Cotton Mill Workers (N=30)

Level of Respiratory Function	Cotton Mill Workers			
	Pretest scores		Post test scores	
	Frequency(n)	Percentage (%)	Frequency(n)	Percentage (%)
Grade I	-	-	22	73%
Grade II	-	-	8	27%
Grade III	30	100%	-	-

The frequency and percentage distribution of respiratory problem scores on the pre-test and post- test among cotton mill workers show that all (100%) of them had grade III respiratory problems on the pre-test, while the majority (73%)

of them had grade I respiratory problems on the post-test, and only 27% had grade II respiratory problems. It demonstrates how yoga treatment helped cotton mill workers with their respiratory issues.

C. Determine the Effectiveness of Yoga Therapy on Respiratory Problems among Cotton Mill Workers

Table 3: Paired 't' Test Value of Cotton Mill Workers Pre and Post Test Scores of Respiratory Problems

Respiratory function parameters	Paired 't' test value	Table value	Level of significance
Shortness of breath	7.1	2.045	$p < 0.05$ significant
Attacks of wheezing	0	2.045	$p > 0.05$ Not significant
Breathlessness during physical activity	3.6	2.045	$p < 0.05$ significant
Dry cough	3.2	2.045	$p < 0.05$ significant
Sleep disturbance	5.7	2.045	$p < 0.05$ significant
Hoarseness	0.3	2.045	$p > 0.05$ Not significant
Nasal block	10.7	2.045	$p < 0.05$ significant
Continues sneezing	10.6	2.045	$p < 0.05$ significant
Headache	5.5	2.045	$p < 0.05$ significant
Cough with thick purulent sputum	6.7	2.045	$p < 0.05$ significant
Attacks of chest tightness	8.5	2.045	$p < 0.05$ significant
Night sweats	3.3	2.045	$p < 0.05$ significant
Chills	4.3	2.045	$p < 0.05$ significant
Loss of appetite	5.3	2.045	$p < 0.05$ significant
Continuous fever	0	2.045	$p > 0.05$ Not significant
Total	20.4	2.086	$p < 0.05$ significant

DF:29 $p < 0.05$ significant, $p > 0.05$ not significant

To compare the pre- and post-test results on respiratory issues, a paired "t" test was computed. Yoga therapy was found to be significant for the following respiratory problems: shortness of breath (7.1), breathlessness during physical activity (3.6), dry cough (3.2), sleep disturbance (5.7), nasal block (10.7), persistent sneezing (10.6), headache (5.5), cough with thick purulent sputum (6.7), attacks of chest tightness (8.5), night sweats (3.3), chills (4.3), and loss of

appetite (5.3). In contrast, yoga therapy was not significant for attacks of wheezing (0), hoarseness (0.3), or persistent fever (0). Therefore, the overall paired "t" value for cotton mill workers was 20.4, which was high in comparison to the table values of 2.086. Therefore, it was determined that yoga treatment has a significant impact on respiratory issues among cotton mill workers.

D. Cotton Mill Workers during Pre and Post Test Scores Regarding Respiratory Problems

Table 4: Comparison of Mean, Standard Deviation, and Mean Percentage of Cotton Mill Workers during Pre and Post Test Scores Regarding Respiratory Problems. (N=30)

RESPIRATORY	MAXI-	COTTON MILL WORKERS						Difference
FUNCTION PARAMETERS	MUM SCORE	Pre test scores			Post test scores			in mean %
		Mean	SD	Mean %	Mean	SD	Mean %	
Shortness of breath	4	2.1	1.2	53%	1.3	0.6	33%	20%
Wheezing	4	1	0	25%	1	0	25%	0%
Breathlessness during physical activity	4	2.0	1.14	50%	1.4	0.76	35%	15%
Dry cough	4	1.93	1.3	48%	1.4	0.96	35%	13%
Sleep disturbance	4	2.5	1.27	63%	1.36	0.66	33%	30%
Hoarseness	4	1.2	0.62	30%	1.06	0.24	25%	5%
Nasal block	4	3.3	0.94	83%	1.96	1.2	48%	35%
Continues sneezing	4	3.1	0.88	78%	1.4	0.76	35%	43%
Headache	4	2.2	1.18	55%	1.1	0.3	28%	27%
Cough with purulent sputum	4	2.9	1.7	73%	1.66	1.11	40%	33%
Attacks of chest tightness	4	3.3	0.94	83%	1.76	1.06	43%	40%
Night sweats	4	1.46	1.1	38%	1.03	0.18	26%	12%
Chills	4	2.1	1.4	53%	1.03	0.18	26%	27%
Loss of appetite	4	1.83	1.17	45%	1.1	0.31	28%	17%
Continuous fever	4	1	0	25%	1	0	25%	0%
TOTAL	60	33.3	5.15	56%	19.8	2.0	33%	23%

The average pre-test percentages are as follows: 53% for shortness of breath, 25% for wheezing, 50% for dyspnea during physical activity, 48% for dry cough, 63% for sleep disturbance, 30% for hoarseness, 83% for nasal block, 78%

for continuous sneezing, 55% for headache, 73% for cough with purulent sputum, 83% for chest tightness attacks, 38% for night sweats, 53% for chills, 45% for loss of appetite, and 25% for persistent fever.

In contrast, the post-test mean percentages for shortness of breath was 33%, wheezing was 25%, dyspnea during physical activity was 35%, dry cough was 35%, sleep disturbance was 33%, hoarseness was 25%, nasal block was 48%, persistent sneezing was 35%, headache was 28%, cough with purulent sputum was 40%, chest tightness attacks were 43%, night sweats were 26%, chills were 26%, appetite loss was 28%, and persistent fever was 25%.

Similar to the pre-test, the post-test mean percentage was 33%, indicating a 23% difference from the pre-test's

overall mean percentage of 56%. It appears that yoga treatment was quite successful in treating respiratory issues in cotton mill workers.

E. Find out Association between Post Test Scores on Respiratory Problems among Cotton Mill Workers with their Demographic Variables

Chi-square was calculated to analyze the association between post test scores on respiratory problems among cotton mill workers with their demographic variables.

Table 5: Chi-Square Value of Association between Post Test Scores with their Demographic Variables

Demographic Variables	Df	Chi-Square	Table Value	Level of Significance
Age	1	0.21	3.84	P> 0.05 Not significant
Gender	1	2.84	3.84	P> 0.05 Not significant
Years of experience	2	3.19	5.99	P > 0.05 Not significant
Frequency of medical check up	2	0.4	5.99	P > 0.05 Not significant
Previous practice of yoga	1	0.02	3.84	P > 0.05 Not significant

Chi-square was calculated to ascertain the association between the cotton mill workers' post-test results and their demographic traits in relation to the impact of yoga treatment on respiratory problems. There was no significant link ($P < 0.05$) between the post-test scores of cotton mill workers and variables such as age, gender, years of experience, frequency of medical checks, and previous yoga practice. Because of this, the observed differences in the mean score values were only fortuitous and did not represent a true difference. All cotton mill workers seem to have benefited from yoga treatment, regardless of their demographic traits.

IV. CONCLUSION

The current study found that yoga therapy was very effective in treating respiratory issues in cotton mill workers, including shortness of breath, dyspnea during physical activity, dry cough, sleep disturbance, nasal block, persistent sneezing, headache, coughing up thick purulent sputum, tightness in the chest, night sweats, chills, and appetite loss. Cotton mill workers' respiratory issues, such as wheezing fits, hoarseness, and persistent fever, did not improve with yoga therapy. Cotton mill workers' post-test results for respiratory issues did not significantly correlate with their chosen demographic characteristics, such as age in years, years of experience, frequency of medical check-ups, and prior yoga practice.

➤ Implications for Nursing

The findings of the study have implication in nursing service, nursing administration, nursing education and nursing research.

➤ Recommendations

The following suggestions for more research have been made in light of the study's findings.

- Large sample sizes can be used in a study to help generalize the results.

- The memorial symptoms evaluation scale and the five-point Likert respiratory assessment scale can be used for a comparable study.
- In a large industrial setting with a population of over 1000, a comparable study may be carried out.

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