

# EFFECT OF NADAYOGA ON DISTRESS IN OVARIAN CANCER PATIENTS UNDERGOING CHEMOTHERAPY

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## ABSTRACT

*Nadayoga is an ancient Indian therapy that works on the principle of "healing with sound." It has potential to calm the mind and bring the feeling of peace and tranquility. The purpose of this study was to determine the effect of Nadayoga on distress of the patients with ovarian cancer. A total of 24 ovarian cancer patients undergoing chemotherapy were recruited for this study and assigned to 12 weeks of Nadayoga Intervention. Pre and Post data was collected by using NCCN distress thermometer. A significant difference in distress score ( $p=0.00$ ) was observed between pre- and post-data among the Group. Result favoured the intervention of Nadayoga. Nadayoga therapy is an effective alternative therapy for ovarian cancer to reduce distress during chemotherapy. It helps to cope with distress and is also cost-effective.*

**Keywords:** Nadayoga, Distress in Ovarian, Cancer Patients, Chemotherapy

## Introduction

Cancer is a big threat to our society.<sup>[1]</sup> Cancer is a disease which is characterized by the uncontrolled growth of abnormal cells or spread of abnormal cells. These abnormal cells are known as cancer cells. These cells can invade any parts of the body and interfere with the normal functioning of body's organs and systems. There are many different types of cancer, each having its own set of characteristics and behaviors. The specific pathophysiology of a particular type of cancer depends on the type of cell in which the cancer originated as well as the specific genetic mutations. The prevalence of the cancer in India is increasing day by day. According to WHO, Cancer is the leading cause of death worldwide, accounting for nearly '10 million' deaths in 2020, or nearly one in six deaths.<sup>[2]</sup> For the year 2020, the incidence of cancer patients in India was estimated to be 679,421 in males and 712,758 in females.<sup>[3]</sup> Ovarian cancer is a rapidly growing cancer in today's era. Ovarian cancer is 7th most common cancer worldwide. India shows the data of having 3rd highest number of cancer cases among women after China and USA.<sup>[4]</sup> Many cancers can be cured if they detected at an early stage and treated effectively<sup>[2]</sup> but symptoms of ovarian cancer are often vague and can be attributed to other health conditions, so ovarian cancer can be difficult to diagnose in its early stages.<sup>[5]</sup> Palliative care is crucial for patients with advanced malignancies as chemotherapy treatment has some adverse effects or toxicities. Chemotherapy is a standalone treatment for advanced cancer. Receiving a cancer treatment can lead to sadness, dread, and anxiety.<sup>[6]</sup> However, these adverse effects of chemotherapy can often be managed with supportive care. The non-pharmacological treatment, such as Nadayoga therapy, is affordable alternative therapy. Nada yoga is a healing therapy completely based on sound vibrations and yoga meditation. (Yoga of Sound). Nada means 'sound' and yoga means 'union'. Nada yoga is the method of union of the 'individual mind' with the 'cosmic consciousness' through the flow of 'sounds.'<sup>[7]</sup> This universe has a rhythm. All the planets, stars, and the galaxies all move in a rhythm. Every element in this universe move

in a rhythm. The outer manifestation of inner rhythm is called music. Music has the power to remove mental distress by affecting the brain at different levels. Even at a very deep level effect of listening the music is similar to that of deep meditation.<sup>[8]</sup> India has its rich history of music culture and one of the most ancient healing traditions of music is Nadayoga. Nada can be in physical form or 'Aahat Nada' and can be in subtle form or 'Anahat Nada.' <sup>[9]</sup> Anahat Nada is the pure sound of the inner self, and Aahat Nada is the sound created by friction, included the sound of classical musical instruments.<sup>[10]</sup> When person find it difficult to concentrate upon the Anahata nada, then they can take support of some external sound like soothing music (Aahat Nada) at initial stage.<sup>[11]</sup>

## Review of Literature

Different type of physical and mental ailments is treated by different types of ragas.<sup>[12]</sup> There are many studies from India as well as from out of India showing the positive effect of music on cancer patients in their anxiety <sup>[13]</sup> <sup>[14]</sup> <sup>[15]</sup> quality of life <sup>[16]</sup> <sup>[17]</sup> pain <sup>[18]</sup> <sup>[19]</sup> sleep. <sup>[20]</sup> Also some findings suggests that music/nada reduces distress of cancer patients <sup>[21]</sup> <sup>[22]</sup> <sup>[23]</sup> but these studies were on heterogeneous group of cancers. We have taken a homogeneous group for this study, i.e., the Carcinoma Ovary group. This group is receiving first line chemotherapy of drugs carboplatin and paclitaxel.

## Objective

- To see, whether Nadayoga have any effects on distress in ovarian cancer patients during chemotherapy.

## Hypothesis

- Null Hypothesis was considered for the study i.e. "Nada yoga has no significant effect on Distress in Patients with Carcinoma Ovary."

## Relevance of the study

This study, addressing the effect of nadayoga on distress in cancer patients is highly relevant in today's scenario as it highly relevant with the well-being of individuals undergoing cancer treatment. Cancer is highly prevalent in modern era. Therefore, it's important to understand whether these alternative therapies literally do work while receiving chemotherapy.

## Research Methodology

### Sample

Histology proved Ovarian cancer patients receiving chemotherapy at AIIMS Rishikesh were recruited for this study.

### Inclusion and exclusion criteria

Ovarian cancer patients willing to Participate in the Study, aged above 18 years, were recruited in this study. Participants who have any Documented psychiatric illness, Brain Metastasis or Spinal cord metastasis were excluded from this study.

### Intervention

A total of 24 ovarian cancer patients were recruited and Informed consent was obtained from each participant. Twelve weeks intervention of Nadayoga were provided to them by an Android application which was developed for this study. The Aahat Nada of "pahadi raga," played by Sri Hari Prasad Chaurasiya which has been continuously played in Shantikunj, Haridwar for the Evening Nada yoga sadhana since 1989 was used for this study. The patient listened this provided Nadayoga every day for 15 minutes in evening time upto 12 weeks. Raga Pahadi is an evening, Raga. It is a very charming raga and

have a very soothing/calmness giving effect. Its time or Prahar is 5 i.e., the perfect time to listen this raga is 6pm-9pm. <sup>[24]</sup> Baseline data and Post data were collected by NCCN-Distress thermometer.

### Tool used

National Comprehensive Cancer Network Distress Thermometer (DT) is a one-item, 11-point Likert scale that is portrayed on a graphic of a thermometer that goes from 0 (no distress) to 10 (severe distress). The accompanying 40-item problem list (PL), which lists the typical issues associated with the cancer treatment experience, might be given to patients expressing significant discomfort levels. Its symptoms are divided into mild, moderate and severe. <sup>[25]</sup> <sup>[26]</sup>

### Variables under study

- Independent Variable: Nadayoga
- Dependent Variable: Distress

### Results

Data from these 24 ovarian cancer patients were analysis.

#### Demographic Characteristics of Participants

Out of 24 participants, 11 were from rural and 13 were from urban area. 18 participants were pure vegetarian and 6 participants eat mix diet including non-veg. 22 participants were habitual of smoking/tobacco consumption and only 2 participants never smoke or consume tobacco. In education, 20 participants were equal to or less than 10<sup>th</sup> standard pass and 04 participants were educated more than 10<sup>th</sup> class. As explained earlier that it is hard to diagnose the ovarian cancer at early stages, so out of 24 participants not a single participant was from stage 1 cancer, only one participant from stage 2, nineteen participants were from stage 3 and four participants were from stage 4 ovarian cancer. [Table1]

**Table 1 Demographic Details of all the 24 participants**

Total Participants, N-24		
Area	Rural	11
	Urban	13
Dietary habits	Vegetarian	18
	Mix	06
Smoking/Tobacco Consumption	No	22
	Yes	02
Family history of cancer	No	22
	Yes	02
Educational Qualification	10 <sup>th</sup> Class and below	20
	More than 10 <sup>th</sup> Class	04
Stages of Cancer (Ovarian Cancer)	1	00
	2	01
	3	19
	4	04

Results shows that nadayoga reduces the distress in ovarian cancer patients after 12 weeks of Intervention during chemotherapy. Mean score for distress was 3.75 at baseline, it was reduced to 2.5 after 12 weeks. [Table 2]

**Table 2 -Pre and post intervention mean values in distress (Group A and Group B)**

Distress Thermometer Scale		Mean	N	Std. Deviation	Std. Error Mean
Group A	DTCCN (Pre)	3.7500	24	0.94409	0.19271
	DTCCN (Post)	2.5000	24	0.83406	0.17025

Note- DT-NCCN (NCCN Distress Thermometer)

Null Hypothesis was rejected as Significant difference ( $p=0.00$ ) were observed in distress scores after 12 weeks intervention of Nadayoga. It represents positive effect of intervention on their distress. [Table 3]

**Table 3– Pre and post intervention mean differences in distress scores**

	Paired Differences					‘t’	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
DTCCN (Pre) – DTCCN (Post)	1.25000	0.94409	0.19271	0.85135	1.64865	6.486	23	0.000

Note- DT-NCCN (NCCN Distress Thermometer), Paired ‘t’ test,  $p$  value considered significant as  $<0.05$ .

## Discussions

The present study highlights the benefit potential of Naadayoga on distress in ovarian cancer patients. As chemotherapy is one of the important treatments for cancer, it has some adverse effects too. These adverse effects can be physical as well as psychological. Nadayoga has demonstrated significant positive effects on patients receiving chemotherapy, offering a holistic approach to their healing journey. It has become a valuable complementary tool in the comprehensive care of cancer patients.

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