

## **Distress Screening of Chemotherapy Patients According to NCCN Guidelines in the LVPG Hematology-Oncology Clinic Demonstrates a Statistically Significant Reduction in Subjective Distress**

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# Distress Screening of Chemotherapy Patients According to NCCN Guidelines in the LVPG Hematology-Oncology Clinic Demonstrates a Statistically Significant Reduction in Subjective Distress

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## Introduction

The National Comprehensive Cancer Network (NCCN) has issued guidelines for patients to be screened for distress at the nadir of chemotherapy regiments. The LVPG hematology-oncology clinic is working to adhere to this recommendation by instituting clinical visits to address distress.

## Problem Statement

It is unverified whether our clinical intervention will produce a statistically significant decrease in the distress experienced in our chemotherapy patient population.

## Methods

Our project is a single-armed prospective study to examine the effect of clinical intervention on the subjective distress experienced by our patients. A distress clinical appointment consists of a visit with our nurse practitioner, with or without an MS4 medical student. Areas of distress in the patient's life are reviewed, with interventions and recommendations distributed as seen fit by the clinician.

Our project utilized the Distress Thermometer (DT) tool published by the NCCN, which allows the patient to grade their level of distress on a scale of 0 – 10 (Image 1). An initial DT score is compared to a follow-up DT score following our clinical intervention.

Our project received human subject research exemption from the IRB panel at LVHN.

## Results

A total of 28 patients were seen for both an initial and follow-up DT score assessment. These data points are represented in a distribution graph (Image 2), which demonstrate a general decrease in the DT scores reported by patients following our clinical intervention.

The statistical analysis of these pre- and post-intervention DT scores are shown using the paired T-Test analysis and demonstrate a statistically significant reduction in distress (Table 2).

Therefore, our study supports our hypothesis that clinical intervention can reduce the subjective distress experienced by patients undergoing chemotherapy.

Table 1: Demographic Data	
Median Age	64
(range) Yr	(35-86)
Participants, n	28
Male	10
Female	18
Types of Cancer (% patient population)	
Lung	25.0%
Breast	21.4%
Pancreatic	17.9%
Lymphoma	14.3%
Colon	3.6%
Other	17.9%

Table 1: Demographics of patients screened for distress over the course of this project.

Table 2: Distress Thermometer (DT) Scores and Paired T-Test Analysis	
Mean Pre-Intervention DT Score (Subjective, 0-10 scale)	4.4
Mean Post-Intervention DT Score	2.2
Mean Decrease in DT Scores	2.2
Standard Deviation of Decreases	2.2
Number of Participants, n	28
Paired T-Test Score	5.33
P-Value	1.2 * 10 <sup>-5</sup> (< 0.0001)

Table 2: Paired T-test analysis of distress thermometer (DT) scores before and after distress intervention. Results show a statistically significant (p-value < 0.0001) decrease in DT scores.

**NCCN Distress Thermometer for Patients**

SCREENING TOOLS FOR MEASURING DISTRESS

Instructions: First please circle the number (0-10) that best describes how much distress you have been experiencing in the past week including today.

Second, please indicate if any of the following has been a problem for you in the past week including today. Be sure to check YES or NO for each.

YES NO Practical Problems

- ☐ Child care
- ☐ Housing
- ☐ Insurance/financial
- ☐ Transportation
- ☐ Work/school
- ☐ Treatment decisions

Family Problems

- ☐ Dealing with children
- ☐ Dealing with partner
- ☐ Ability to have children
- ☐ Family health issues

Emotional Problems

- ☐ Depression
- ☐ Fears
- ☐ Nervousness
- ☐ Sadness
- ☐ Worry
- ☐ Loss of interest in usual activities
- ☐ Spiritual/religious concerns

Other Problems: \_\_\_\_\_

YES NO Physical Problems

- ☐ Appearance
- ☐ Bathing/dressing
- ☐ Breathing
- ☐ Changes in urination
- ☐ Constipation
- ☐ Diarrhea
- ☐ Eating
- ☐ Fatigue
- ☐ Feeling Swollen
- ☐ Fevers
- ☐ Getting around
- ☐ Indigestion
- ☐ Memory/concentration
- ☐ Mouth sores
- ☐ Nausea
- ☐ Nose dry/congested
- ☐ Pain
- ☐ Sexual
- ☐ Skin dry/itchy
- ☐ Sleep
- ☐ Substance abuse
- ☐ Tingling in hands/feet

Figure 1: The distress thermometer, published by the NCCN, was utilized at each patient's clinical visit to address patient distress and to generate objective data for analysis.

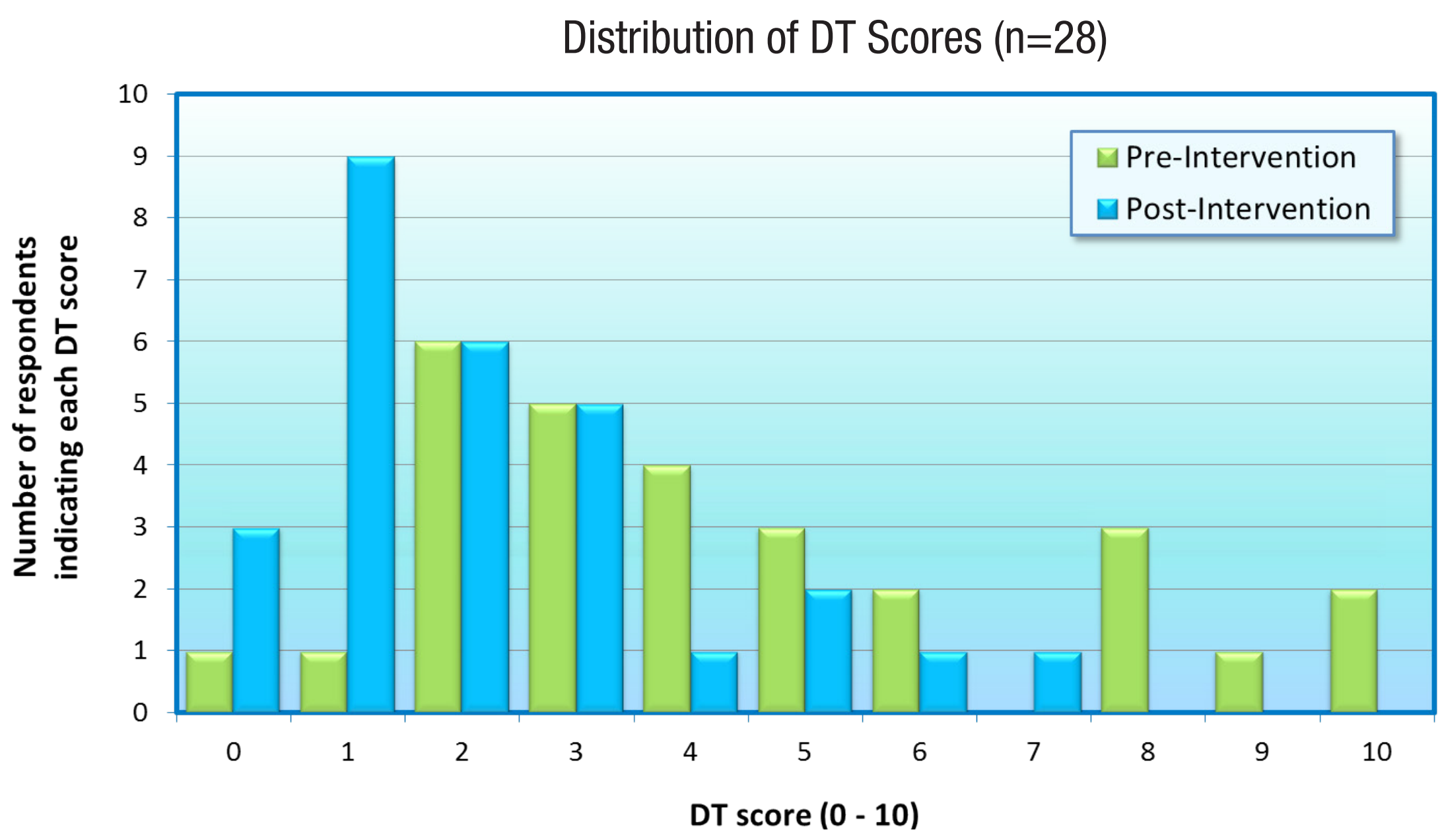


Figure 2: Distribution of distress thermometer (DT) scores reported by patients before our clinical intervention ("Pre-Intervention", shown in green) and following our clinical intervention ("Post-Intervention", shown in blue). A shift to the left, representing lower DT scores, is seen in patients following our intervention.

## Conclusions and Future Implications

We present our project as an initial affirmation of our clinic's ability to reduce the distress experienced by patients at the nadir of chemotherapy. Aspects of SELECT curriculum covered by this project include the study of health systems, emotional intelligence and patient-centered care. Further aims of the project will be three-fold; (1) to continue to see patients and analyze pre- and post-intervention distress thermometer scores, (2) to understand the sources of distress in our patients' lives by analyzing pre- and post-intervention patient surveys that have been included at each patient visit (and have remained sealed thus far), and (3) to formalize recommendations regarding distress screening to the general community of oncologists.