

## INTRODUCTION

In this study, music therapy was offered as a novel approach to help deal with workplace stressors in the critical care environment of NICU.

Meta-analyses have demonstrated benefits of music therapy in pain relief, stress management, hospice and palliative care, and assisting in the development of premature infants.

This study explored how music therapy affected NICU nurses' mood and how it impacted on noise level, work performance and interactions with family and staff. Results showed support for music therapy's safe and effective use in the NICU environment and overwhelmingly positive effects on nurses' mood.

## BACKGROUND

Music therapy is the skillful use of music and musical elements by an accredited music therapist to promote, maintain, and restore mental, physical, emotional, and spiritual health.

(Canadian Association for Music Therapy / Association de Musicothérapie du Canada Annual General Meeting, Vancouver, BC 1994)

In neonates, music therapy:

- ♪ improves weight gain in premature neonates
  - ♪ induces sucking behaviour
  - ♪ reduces maternal anxiety during kangaroo care\*
  - ♪ reduces the length of stay – up to 3 days
- \*skin-skin, chest-chest contact with infant held prone & upright

Among health professionals, music therapy:

- ♪ reduces burnout and improves mood states in long term care workers
- ♪ is used as a therapeutic tool in caregiver burnout and team building
- ♪ is a cost effective and enjoyable strategy...improves empathy and compassion without interfering with hospital and NICU work routine

## METHODS

**Purpose:** The purpose of this study was to explore whether music therapy has effects (positive or negative) on NICU nurses' mood and/or other aspects which are important for them in the delivery of care to patients and families.

**Subjects:** n=78 nurses (surpassed the requisite 51 subjects for medium-large effect size). These nurses work in a 56 bed capacity NICU with 145 full and part-time nursing staff. The NICU is within a tertiary care center covering the 3 Maritime provinces.

**Music Therapy Sessions:**

- ♪ 30 minutes of acoustic guitar music provided by a certified music therapist
- ♪ Music was improvised based on interactions with nursing staff and the ambient environment
- ♪ Music demonstrated to be within safe levels for neonates (< 70 decibels)
- ♪ Sessions were held during all shifts

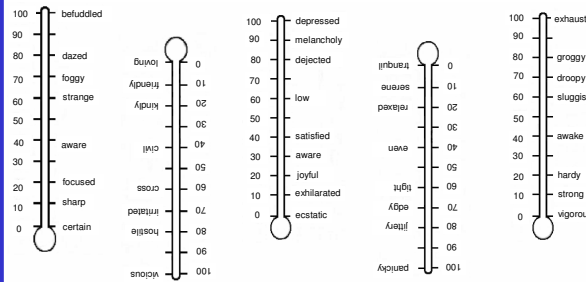
**Questionnaires:**

- ♪ **Mood Thermometer:** © 1988 Tuckman, BW  
Validated measure of tension, confusion, fatigue, depression, anger and overall mood  
Completed before and after each music therapy session
- ♪ **Workplace Performance Survey,** developed by the investigators to measure self-reported effects, completed after each music therapy session

**Analysis**

- ♪ Descriptive statistics summarized data derived from the mood thermometers
- ♪ Wilcoxon Signed Ranks test compared pre and post music therapy median scores - applied to each mood determinant and an overall mood state (sum of 4 mood scores)
- ♪ Frequencies and valid percents calculated for workplace performance survey
- ♪ Qualitative analysis of nurses' written comments for prominent themes

## MOOD THERMOMETERS



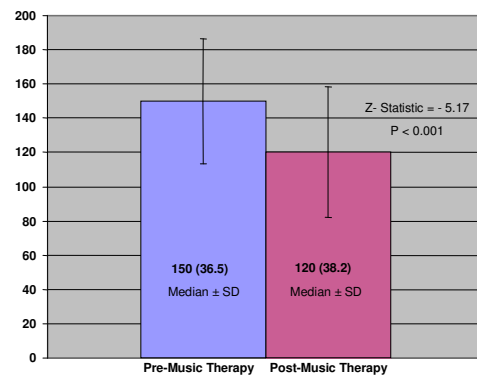
Lower Score = Better/Improved Mood

Note: The upside down thermometers reduce the potential for response set.

© 1988 Tuckman, BW

## RESULTS

Effect of Music Therapy on Overall Mood State (Summed Mood Scores)



MOOD STATE	MEDIAN (± SD)		RANGE		p-VALUE
	Pre	Post	Pre	Post	
<b>Overall Mood State Sum 1-4</b>	150 (36.5)	120 (38.2)	75 - 252	30 - 230	< 0.001
<b>1 - Confusion</b>	30 (15.2)	25 (14)	12-70	0-70	< 0.05
<b>2 - Depression</b>	40 (9.3)	35 (9)	20-90	5-41	< 0.01
<b>3 - Fatigue</b>	40 (14.4)	40 (13.2)	0-82	10-70	< 0.02
<b>4 - Tension</b>	40 (14.2)	20 (12.5)	10-70	0-60	< 0.001
<b>5 - Anger</b>	20 (13.6)	10 (12.2)	10-70	0-70	< 0.001

## WORKPLACE PERFORMANCE SURVEY

EFFECT %

Positive None Negative

Did the music affect the noise level in the unit?	56	42	1
Did the music affect your voice level?	58	42	0
Did the music affect your mood?	87	12	1
Did the music affect your work performance?	33	65	1
Did the music affect your interactions with patients and families?	46	54	0
Did the music affect your interactions with staff?	55	45	0
Did the music affect your ability to focus?	46	53	1
Did the music affect your stress level?	69	31	0

## COMMENTS FROM NICU NURSES

- ♪ Very soothing to have a focus to decrease the "white noise" of the unit
- ♪ Environment felt a bit more "human" and a bit less "mechanical"
- ♪ ...music relaxing yet did not interfere with my train of thought. I was still much alert and focused even though the music was mellow.
- ♪ ...others who normally speak quite loudly interacted more softly during the music therapy. I would love to see or hear music therapy become part of the routine in NICU.
- ♪ Creates a warm and relaxing environment. Promotes a quiet environment because people want to hear the music.
- ♪ I greatly appreciate the peace and serenity the music brought. Hope it continues.

## CONCLUSIONS

- ♪ A single intervention of music therapy had an overall positive effect on the determinants of mood in NICU nurses
- ♪ Music therapy did not interfere with or distract from performance of workplace duties
- ♪ In many instances, the presence of music had a positive effect on workplace performance
- ♪ The data suggest that Music Therapy is an acceptable and appropriate modality to positively affect mood states in the NICU

**Future Research Directions**

- ♪ Can music therapy assist in communication between patients and staff?
- ♪ How might music therapy be incorporated into a wellness initiative for staff support and workplace satisfaction?
- ♪ What effect does music therapy have on staff in other disciplines (medicine, social work, etc)?

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