

ICU Nurses Orchestrate a More Instrumental Ventilator Weaning Procedure



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Background

- Mechanical ventilation is one of the most frequently used treatment modalities in Intensive Care Units (Fontaine 1994)
- Studies have demonstrated that continuous use of sedation is associated with delayed weaning from mechanical ventilation, which in turn increases hospital stays as well as hospital costs.
- Music can have a substantial positive healing influence on patient's lives. Music is a meaningful stimulus for releasing thoughts and feelings and can have a powerful impact on patients who are actually critically ill (Fischer, 1990; Chlan, 1998).
- According to Bunt (1994), music with steady slow and repetitive low pitched rhythms is thought to exert a hypnotic effect which contributes to relaxation and anxiety reduction through cognitive quieting, and inducing altered state of consciousness.
- Providing music therapy is a way of filtering out unpleasant and unfamiliar sounds which in turn can reduce the need for sedative drugs thus leading to a quicker recovery
- Music is shown to be a safe, effective, inexpensive intervention and is easy to implement (Gillen, 2008).

PICO

In the adult ICU mechanically ventilated patient, does implementing music therapy during the weaning process decrease patients anxiety and need for sedation thus making the weaning process a smoother transition to removing the patient from the ventilator?

Measurable Outcomes

Nursing Knowledge:

To identify whether staff know the details of how to perform the new evidence based practice change, a pre and post knowledge test was given.

Nursing Practice/ Process:

To determine whether the new practice was carried out as intended, data collected by staff was reviewed and verified whether it was collected in the proper manner.

Measurable Outcomes:

- Patients' level of anxiety using RASS
- Patients' blood pressure, heart rate and respiratory rate
- Number of patients extubated with music therapy as opposed to without music therapy

Results

Nursing Knowledge (n=20)

Pre knowledge survey average = 52.5%

Post knowledge survey average = 89%

Increase knowledge of 69.7%

Music Therapy During the Weaning Process

Patients in the music therapy group showed a decrease

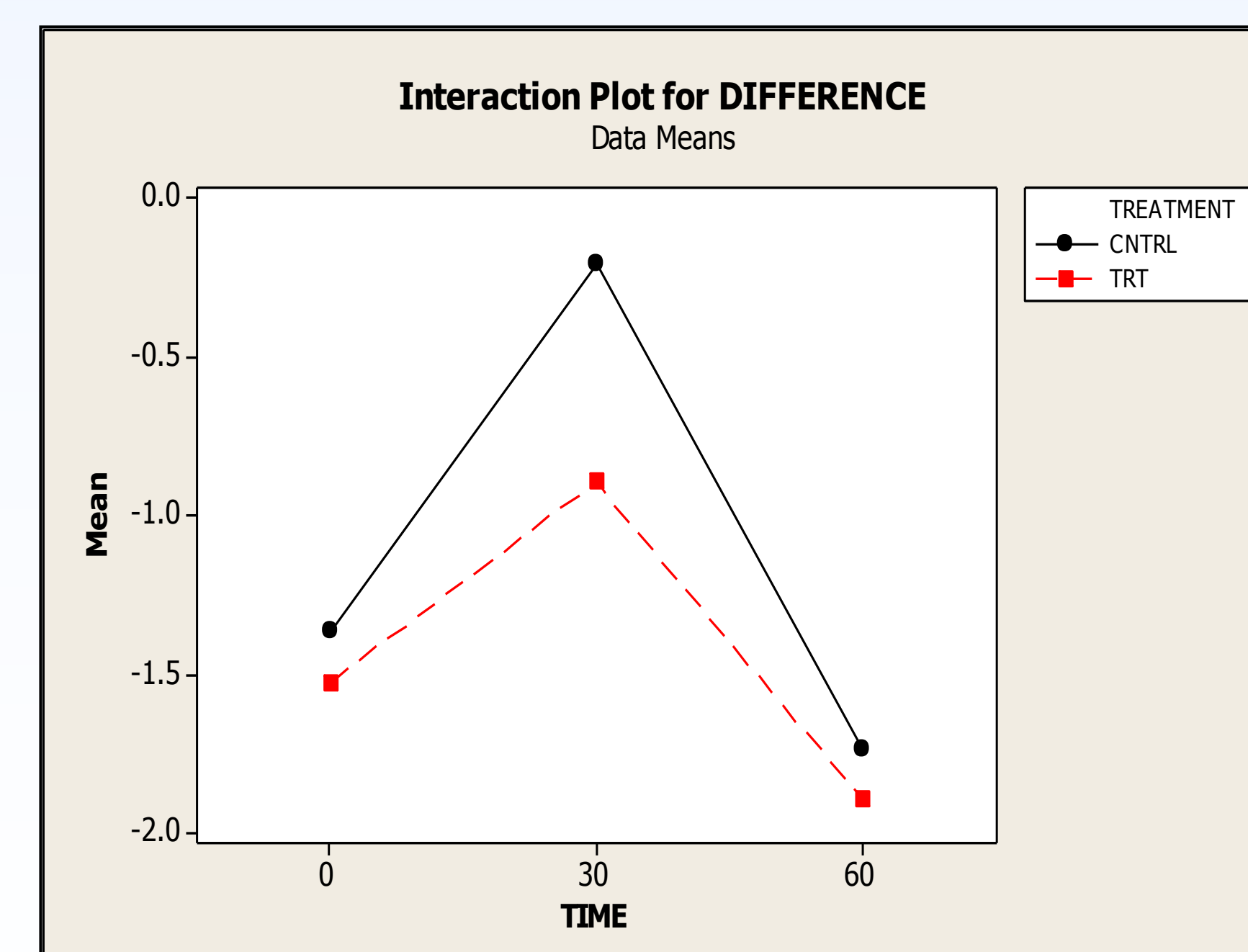
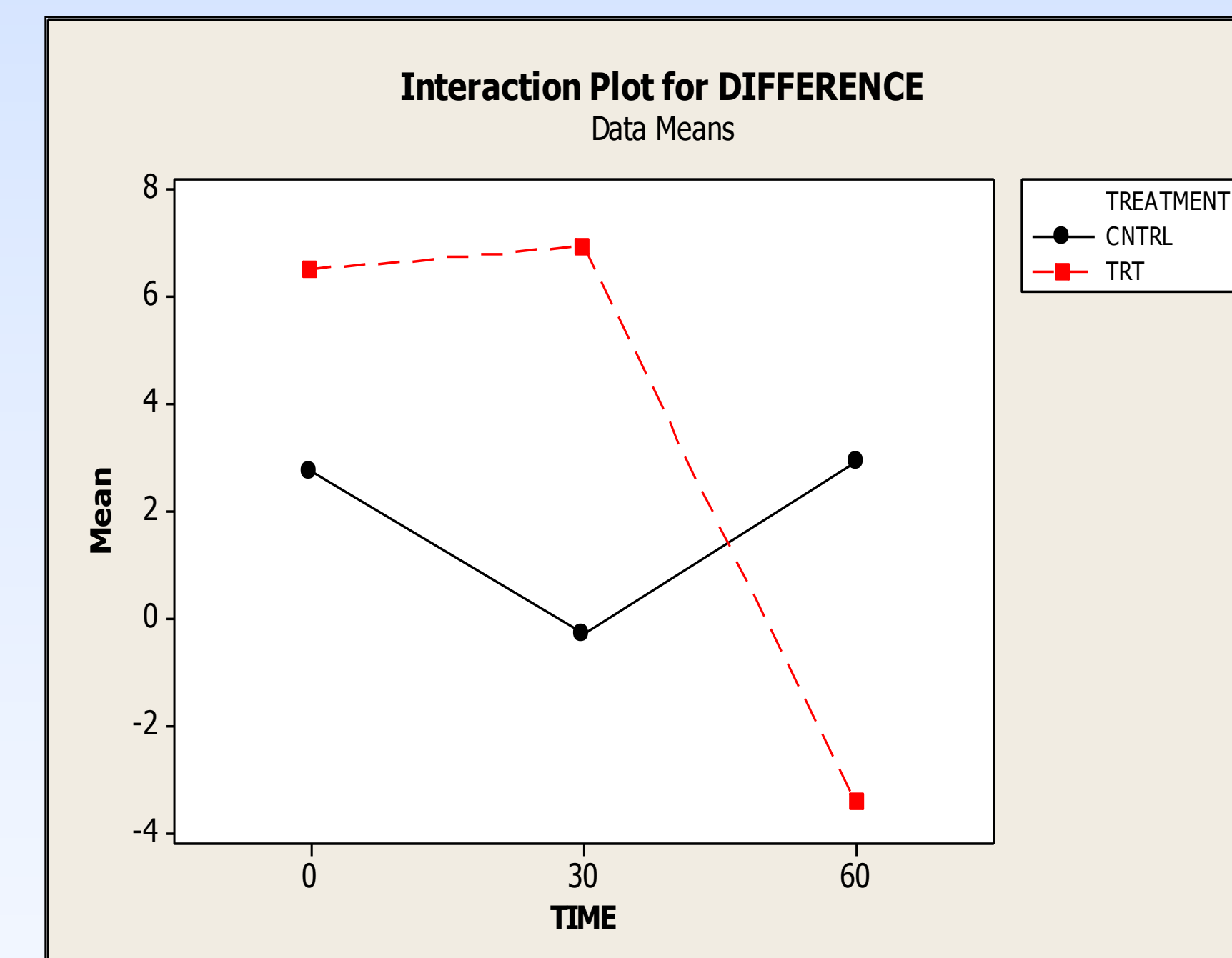
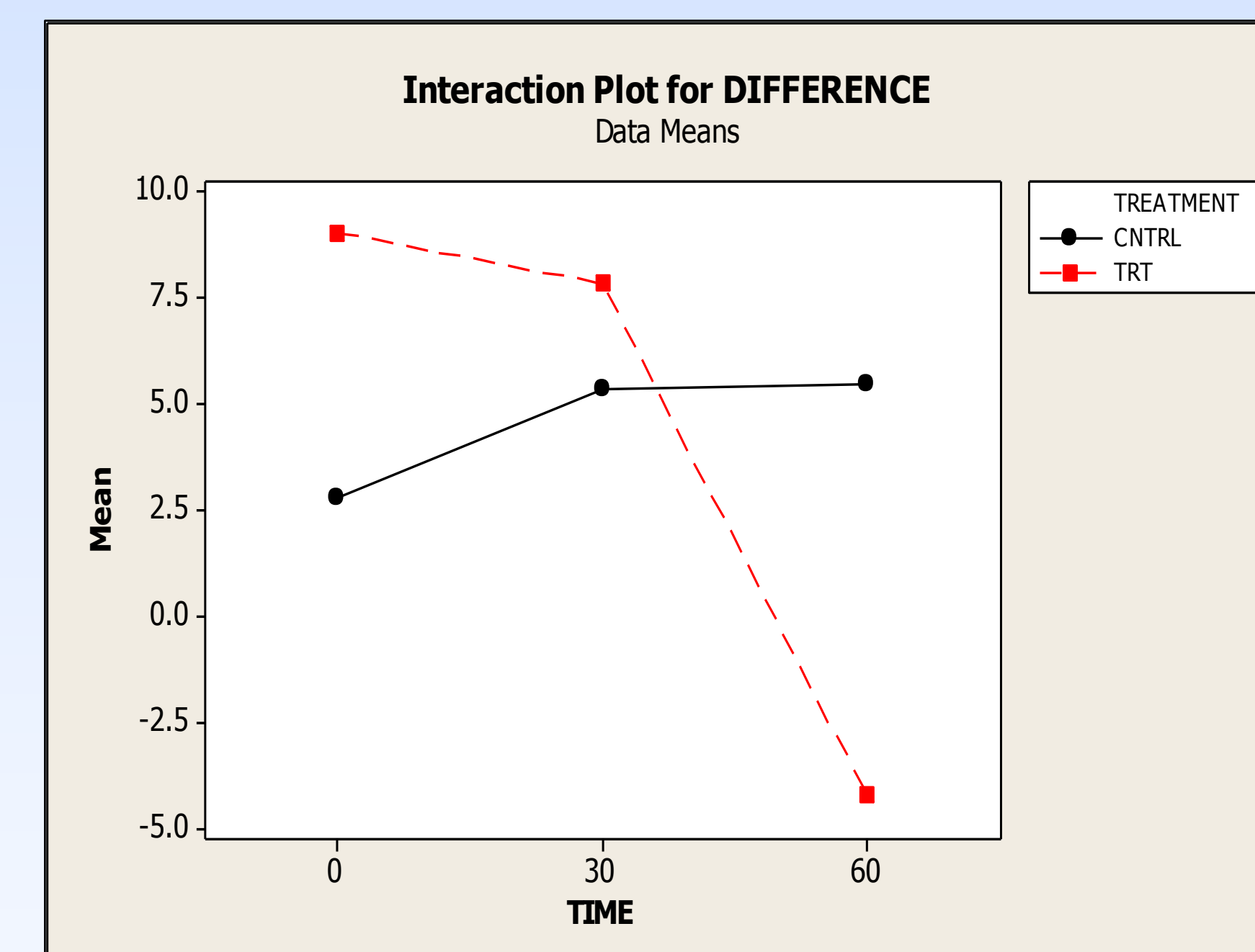
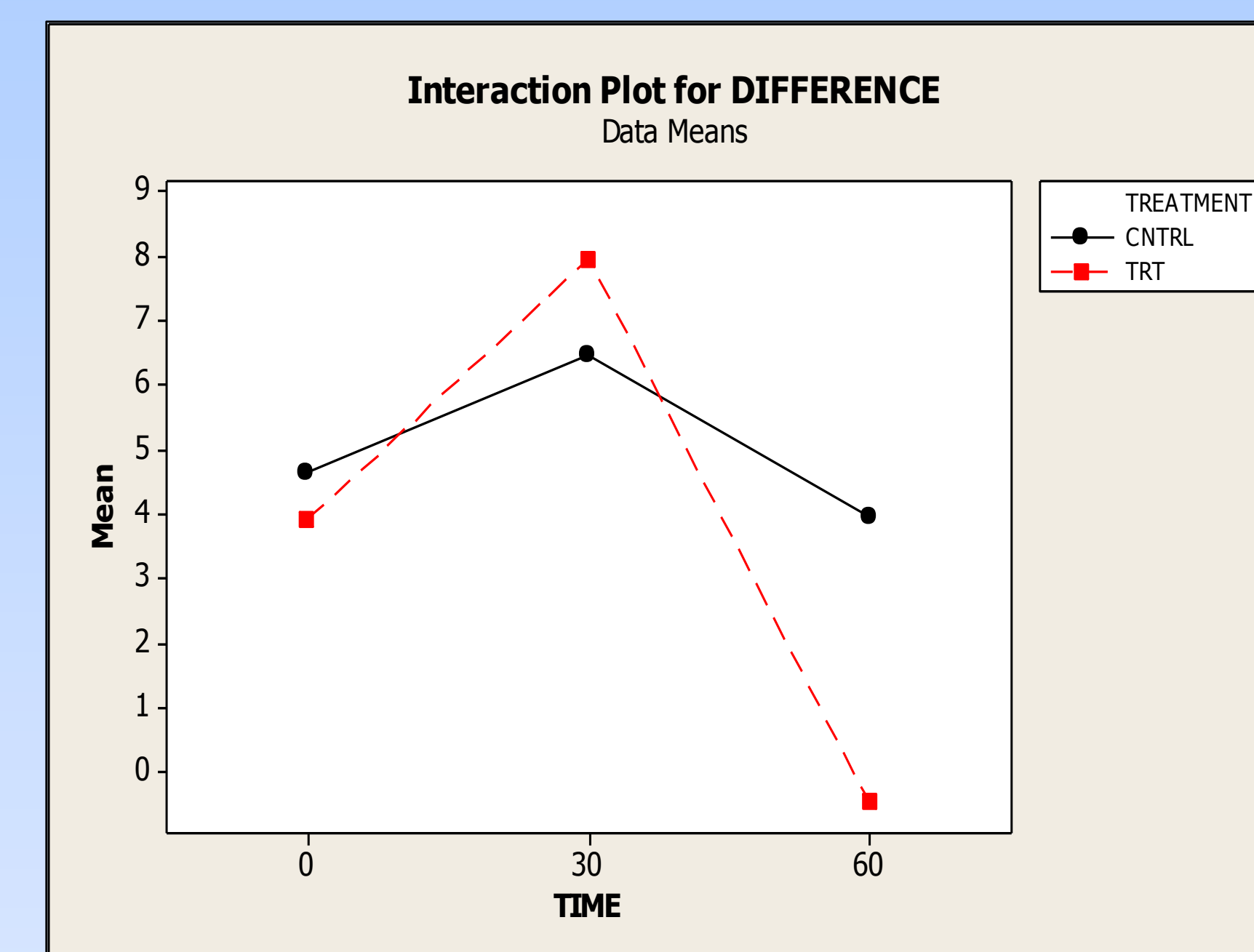
in anxiety, heart rate, blood pressure and respiratory rate.

Patients in control group: 8 of the 24 patients were extubated

Patients in intervention group: 14 of the 24 were extubated

Statistical Analysis: two sample t-test

P-Value = 0.036



Methods

Collaboration among nursing staff, respiratory therapists, management and physicians was central to developing and executing the music therapy in weaning the mechanically ventilated patient in the Intensive Care Unit.

- Step-by-step procedure of how music therapy was to be used was developed
 - Assess patient's readiness for weaning/sedation vacation
 - Application of music via disposable headphones and a MP3 player
 - Music is non-lyrical of 60-80 beats per minute
 - Low tone with minimal brass percussion
 - Volume no higher than 60 dB
 - Maintain RASS of 0 or -1 to move to Spontaneous Breathing Trial
 - If successfully weaned and extubated, music therapy was continued for 15 min or per patient request

Conclusion

- Decreased number of ventilator days resulting in decreased ICU LOS
- Decreased incidences of VAP (ventilator acquired pneumonia)
- Decreased costs
- Evidence shows that adding music therapy during the weaning process to the ventilated patient in the ICU increases their chance of weaning and extubation
- Music therapy is a low cost non-pharmacological way to alleviate patients' fears and anxiety during the weaning process

Implications for Practice

A music cart is now provided in the ICU containing disposable headphones, CD players and a selection of non-lyrical low tone music for the staff to select. Staff are encouraged to implement music therapy during the weaning process and during sedation vacation.

Acknowledgements

I wish to acknowledge the nurses, respiratory therapists, physicians and management of NorthBay Medical Center ICU for their help in making this evidence-based practice project possible.