

Music Therapy as an Adjunct to Pain Management in Burn Patients

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Abstract

Profound pain and anxiety is associated with burn management. This study outlines our experience with using music as a therapy to assist the patient in managing the pain and anxiety along with the usual pharmacological adjuncts. This descriptive prospective study was performed from Jan 2017 to March 2017 on eight patients admitted in JIPMER Tertiary Burns Care Center. The study group was defined and analyzed first without music therapy and then with the same. The parameters assessed were the pulse rate and blood pressure after the dressing change with and without music therapy, standard self-report scales for pain and a tension rating form for anxiety. There was a definite benefit of music therapy noted and a larger randomized control trial is needed to validate the same. Music is a valuable, inexpensive and efficacious modality for burn wound care.

Keywords: Music Therapy; Burns; Pain Management.

Introduction

Music therapy and its use with burn patients was first outlined by Christenberry [1] in 1979. Miller et al. [12] later in 1992 concluded that music and videos enhanced the effectiveness of pain and anxiety interventions with burn patients. Others have substantiated the effectiveness of music therapy with various study populations [3,19]. Although these articles suggest music therapy is effective, scientific research in music therapy and burns is limited;

particularly with adult burn patients. We would like to present the effectiveness of music therapy on the experience of pain and anxiety of burn patients during dressing changes and wound debridement.

Materials and Methods

The study has been conducted on 8 patients admitted in the JIPMER tertiary burn center from the period of January 2017 to March 2017. There were 3 males and 5 females included in the study. The mean age of the study population was 29 years (ranging from 22 to 45 years), the extent of burns varied from 20% to 48% TBSA and varied from superficial to deep burns. The inclusion criteria included adult patients older than 18 years admitted in the JTBC. The patients were alert and able to comprehend the music being played. The music selected was according to the patients liking and was chosen by the patient himself. The dressing changes were conducted in the Burn OR under local anesthesia and the music was played in a portable music device connected to the patient through earphones. The dressing changes/ procedures were done over a three-month period every 3rd to 5th day as per department protocol. The parameters assessed were the pulse rate and blood pressure after the dressing change with and without music therapy, self-report scales for pain (combined Wong/Baker Faces Rating Scale [4] and visual analog scale [4]), and a tension rating form (adapted from Trippett Objective Muscle Relaxation Inventory; Codding PA. 1982). The surgeon and the nursing staff assessed the outcomes separately to eliminate the bias.

The study was conducted on a descriptive basis and only descriptive analysis was done. The patients with altered mental status and inability to comprehend the music were excluded.

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The music therapy was explained to the patient before the procedure and the music to be played was chosen according to the patient's demands. The surgeon instructed that while the music was playing, the patient was to

1. Be in a comfortable posture
2. Maintain deep breathing exercises and concentrate on the music
3. Preferable, close the eyes

Self-relaxation ideas were instilled into the patient while the procedure was done.

The procedures performed under this therapy included wound debridement; skin grafting, hetero grafting of the wounds and dressing change.

The data was collected 3 times, before the procedure in the OR, after the procedure in the OR, after the procedure on shifting the patient to the ward and a mean was taken.



Fig. 1: Music therapy being given during a dressing procedure

Result

The music therapy was highly effective in reducing the pain and anxiety associated with the procedure measured using the combined Wong/Baker faces rating scale and the VAS. There was a slight decrease in the pulse rate measurement before and after the procedure. The details of the patients parameters are attached in Table 1 and 2.

Discussion

Pain management by music therapy is a well-defined field in the vast reaches of medicine, and particularly in the management of burned patients during their rigorous dressing changes and debridement [5-15]. The surgeon generally ignores the use and efficacy of non-pharmacological aspects of pain management. There are many articles describing responses to non-pharmacologic methods of acute pain management.

These have been examined in two distinct areas. Firstly, psychological approaches which include hypnosis, guided imagery and music. The second are complementary therapies, like massage, aromatherapy, reflex zone therapy, acupuncture and transcutaneous electric nerve stimulation [15]. Ohrbach [16] had presented a study using hypnosis in patients for pain control in a burn unit and concluded that hypnosis supplemented by little or no opioid medication resulted in excellent pain control, absence of need for supplemental anxiolytic medication, and shortened length of wound care. This was achieved by the activation of non-opioid inhibitory mechanisms in a highly effective manner using hypnosis.

Many authors [17,18,19] have reported that analgesic therapy alone is inadequate for pain relief for a majority of burn patients. It was objectified by an interesting study by Miller et al. [17]. They have compared the use of video recordings composed of scenic beauty accompanied by music to analgesia alone during burn dressing changes. Profoundly reduced pain and anxiety was documented and that analgesics be augmented by the use of video recordings as a form of alternative engagement during burn dressing changes was recommended.

Apart from the above-discussed benefits, music therapy led to a better inter-personal communication between the patient and the medical staff from our experience.

Table 1: Parameters assessed for each patient without music therapy

	Case 1	Case 2	Case 3	Case 4	Case 5	Case 6	Case 7	Case 8
Pulse Rate (mean) (bpm)	110	104	99	114	124	118	109	114
Mean Blood Pressure (Mean) (mm hg)	104	114	108	94	106	102	116	104
Wong-Baker scale/ VAS (Mean)	7.4	6.8	8.6	6.8	5.4	7.4	5.9	6.8
Tension rating index form ^{**} (mean)	-	-	-	-	-	-	-	-

Table 2: Parameters assessed for each patient with music therapy

	Pt 1	Pt 2	Pt 3	Case 4	Case 5	Case 6	Case 7
Pulse Rate (mean) (bpm)	104	106	84	94	102	106	94
Mean Blood Pressure (Mean) (mm hg)	92	99	104	96	105	94	112
Wong-Baker scale/ VAS (Mean)	5.7	3.5	6.4	5.8	3.2	5.6	5.2
Tension rating index form ^{**} (mean)	7.2	7.8	6.4	5.4	8.2	5.8	6.2

** - Assessed only post music therapy

Conclusion

This study is a step to affirm the efficacy of music therapy and document our experience with the modality.

In our study we found that music therapy has definite benefits with respect to pain and anxiety however, a large multicenter trial would be needed to further validate our experience.

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