Role of Music Intervention on Professional Quality of Life and Work Stress: An Experimental Investigations

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Abstract

Stress and burnout are quite synonymous with the fast-paced work environment of nurses. The purpose of this paper is to empirically investigate the effect of music therapy on perceived stress and professional quality of life (burnout, secondary traumatic stress, compassion satisfaction) among them. Data were collected through a structured questionnaire from a sample of 41 nurses working in a private multi-speciality hospital, in Hyderabad, India. The hypotheses were tested using paired sample t-tests. Perceived stress was measured using the Perceived Stress Scale (Sheldon Cohen). Burnout, Secondary stress, and Compassion Satisfaction were measured by the Professional Quality of Life scale - ProQOL5. Nurses in the experimental group were given live group music therapy in the form of group drumming improvisation for 30 mins followed by directed imagery and music for relaxation for a duration of 15 mins. The script of the imagery was chosen to be generic and safe for everyone to evoke positive and pleasant experiences. The music used for music and imagery was live raga improvisation in the Raga Brindavani Sarang. The findings showed that perceived stress, burnout, and secondary traumatic stress significantly decreased in the experimental group, confirming the positive effect of music therapy on an organizational sample such as nurses. The current research suggests how music and music therapy can be used as a tool for enhancing and maintaining well-being at the workplace. Implications of this study can be extended to see the effects of music therapy with an increased number of sessions and on other organizational samples like doctors, other medical staff, and technicians. Although the study's findings reveal the positive impact of music therapy with nurses, it cannot be generalized to all nurses in India, since the results and sampling area is limited to the hospital where the study was conducted in Hyderabad, India.

Keywords: Workplace intervention, music therapy, music, organisational well-being, stress, burnout

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Music therapy is the use of musical interventions to achieve non-musical goals. Music therapy is at its peak stage of growth in both professional and academic disciplines. It is a full-time profession practiced in many countries worldwide by well-trained and dedicated practitioners. Music therapists practice using standard codes of ethics (Bunt *et al.*, 2013). People take up this profession because it helps them utilize their passion for music to help others. It can be quite gratifying to use music to help others say music therapists around the world (Korb, 2014). Music therapy is practiced in many settings like schools, rehabilitation centers, special needs schools, hospitals, palliative, and hospice care centers, and many more (Bunt *et al*., 2013). An important area of application is among healthcare workers, who form the most important part of the healthcare system.

The health care system or hospital setup is fast-paced; all working staff goes through stress and burnout at various times in their work life. Stress is a condition wherein the resources which are available to an individual at a specific time are incompatible with the physiological and psychological needs at the given time. Job Stress or Occupational Stress is the reaction of the individual due to enormous pressure and demands at the workplace (Qattan, n.d.). The nursing profession is considered a highly stress-inducing occupation and multiple studies have documented the high levels of stress in nurses (Bailey, 1985; Xianyu & Lambert, 2006). Intense stress leads to severe mental, psychological and physical effects. Nurses undergo high levels of stress as healthcare workers. A comparative and descriptive study established that nurses undergo severe stress due to factors such as a negative work environment, negative attitudes of patients or family members, and lack of other medical personnel (Kurt, 2017). Nurses have also identified stress and work overload as their top health and safety concerns in a survey conducted by the American Nurses Association (ANA) (Association, 2017).

A study reported the effect of occupational stress on job burnout and quality of life, between female nurses and female doctors. They elucidate the importance of adopting preventive measures to reduce burnout and improve quality of life (Wu *et al*., 2011). A systematic review and critical analyses on similar lines, studied the effect of nurses' burnout on quality of life and found significant relationships between burnout dimensions and quality of life dimensions, also indicating the need for interventional programs to reduce burnout and improve quality of life (Khatatbeh *et al*., 2022).

There are studies that have documented the effect of music and music therapy on various psychological and physiological variables, especially on variables of stress and burnout (de Witte *et al*., 2020; Thoma *et al*., 2013). A systematic literature review investigates the use of music to manage burnout in nurses and reports music listening, playing instruments, chanting, improvisation, and listening for entertainment facilitated coping, well-being, work engagement, and reduction in burnout outcomes (Finnerty *et al*., 2022). In a study on oncological staff who witnessed music therapy given to patients, staff revealed that they felt helpful emotional, cognitive, and team effects and improved patient care. This effect was seen even though the staffs were not direct participants in music therapy sessions and had been witnessing it as it was being delivered to patients. A substantive grounded theory emerged from this study about how staff witnessing music therapy can also experience better mood, awareness, team spirit, and perceived improvement in patient care (O'Callaghan & Magill, 2009). During the Covid-19 pandemic, remote online receptive music therapy was used on nurses providing covid care which affected their emotional status, stress, and well-being (Giordano et al., 2020; Kacem et al., 2020).

Therefore, the impact of music seems to be positive whether the intervention was done on nurses directly or when they witnessed it vicariously, whether the intervention was delivered

offline or online. A peer-reviewed report exploring current music therapy practices in India (Singh, 2021) throws light on varied settings, and health issues addressed by music therapists in India, and workplace setting or music therapy for the well-being of employees is not one among them. The review of the literature also shed light on the fact that although music therapy studies were conducted on nurses in other countries, no scientific study was conducted to examine such interventions in India. The present study aims at using live group music therapy sessions as an intervention technique for nurses working in a private multispeciality hospital in Hyderabad, India.

Aim

The aim of the study is to find out the effect of music therapy on nurses' perceived stress and Professional Quality of life.

Hypotheses

1. Perceived stress will significantly decrease for the experimental group after participants undergo music therapy session.

2. Burnout will significantly decrease for the experimental group after participants undergo music therapy session.

3. Secondary traumatic stress will significantly decrease for the experimental group after participants undergo music therapy session.

4. Compassion satisfaction will significantly increase for the experimental group after participants undergo music therapy session.

Method

Participants

The study involves nursing staff working in a multi-specialty hospital. After applying the exclusion criteria, the number of nurses selected for the study was n=60. After again excluding those nurses who could not be a part of the study due to shift timings, health issues, and absentees, the final number of nurses included in the study was n= 39. The nurses were allotted to two groups using computer-generated randomization. The final number of nurses included in the study was n= 39. (18 in the experimental group and 21 in the control group). The experimental group was further divided into 2 groups again using a computer-generated random number procedure for the ease of conducting intervention to make sure that each group size does not exceed 9 in number.

Inclusion criteria.

1. Nurses working for at least 1 year
2. Age 20 and above
3. Nurses who have given their consent for the study

Exclusion criteria

1. Nurses who have any chronic health conditions and/or taking medication for such conditions
2. Nurses with hearing impairments

3. Nurses who do not give consent for music therapy intervention.

Tools Used

Perceived Stress Scale (PSS): PSS is a measure of the degree to which situations in one's life are appraised as stressful. It consists of 10 questions that are easy to understand, and the response alternatives are simple to grasp. PSS asks about feelings and thoughts during the last month. In each case, respondents are asked how often they felt a certain way.

Professional Quality of Life (ProQOL)*:* It is the most commonly used measure on the negative and positive effects of helping others who experience suffering and trauma. The ProQOL had sub-scales for Compassion Satisfaction, Burnout, and Compassion Fatigue. The scale consists of 30 questions about the respondent's current work situation. They are asked to reflect how frequently they experience these things in the last 30 days.

Intervention: Music therapy was the intervention used in this study. There are two parts in music therapy intervention. First is drumming improvisation for 30 minutes. Improvisation is one of the four main methods (Re-creating, Composing, Improvising, and Listening) used in music therapy. It is a generative and creative process of musical intervention involving the client's spontaneous creation of sounds and music. It helps the client to explore aspects of self, in relation to others, in an appropriate way. In group drumming improvisation, each member of the group gets a chance to play a pattern on drums that will be mirrored by other members. Grounding, Mirroring, Imitating, and Synchronizing are the methods used.

The second part is directed imagery and music for 15 minutes. A generic script describing nature and pleasant environment is used along with melodious raga improvisation. Brindavani Sarang is used for Alaap which is accompanied by chords gently played on Ukulele.

Procedure

This study is a randomized control trial conducted in Virinchi Hospitals, Hyderabad. The study was conducted on two groups. Consent from all the subjects was obtained using informed consent forms along with their demographic details (age, gender, number of years in service). Privacy and Confidentiality were maintained. Both experimental and control groups' responses were taken for Perceived Stress Scale (Sheldon Cohen) and Professional Quality of Life Questionnaires - ProQOL5 (B. Hudnall Stamm, 2009) two days prior to the intervention was conducted. Later, the experimental group received music therapy and the control group received no intervention. Nurses in the experimental group were given live group music therapy in the form of group drumming improvisation for 30 mins followed by directed imagery and music for relaxation for a duration of 15 mins. The script of the imagery was chosen to be generic and safe for everyone to evoke positive and pleasant experiences. The music used for music and imagery was live raga improvisation in the Raga Brindavani Sarang. This Raga was chosen mainly due to the positive feeling it evokes and also according to the time theory of raga based on the time at which the intervention was being conducted (Sundar, 2016). The perceived stress scale and the Professional quality of life scale were used after music therapy intervention for both the experimental and control groups after two days of conduction of music therapy intervention for all the nurses. All Nurses participating in the study had the freedom to withdraw from the study at any point in time. The control group and the subjects excluded from the study after applying exclusion criteria also received music therapy intervention after the study was over.

Independent Variables

Music therapy

Dependent Variables:

1. Perceived stress

2. Burnout

3. Secondary Traumatic Stress

4. Compassion Satisfaction

Results

The objective of this experimental study is to see the effect music therapy has on the Perceived Stress and the Professional Quality of Life of nurses in a Multi Speciality Hospital. The descriptive and inferential statistics used are Mean, Standard Deviation, and Paired Sample *t*-Test. Following are the observations of the study:

Table 1

Paired- Sample t-Tests for the Experimental Group

Variable	Pre-test		Post-test		*t*-value	*df*	*p*-value
	M	SD	M	SD			
Perceived stress	20	35.647	17.722	55.506	1.768	17	0.047
Burnout	24.333	42	21.833	50.029	2.785	17	0.006
Secondary Traumatic Stress	25.5	43.205	22.166	32.264	2.041	17	0.028
Compassion satisfaction	38.72	37.38	39.61	50.50	-0.638	17	0.265

As Table 1 indicates, the levels of Perceived Stress in nurses in the Experimental group during the Pre-test (*M=20, SD*=35.647) significantly decreased during Post-test (*M*=17.722, *SD*=55.506) after the Music Therapy intervention (*t*=1.739, *p*<0.05). The Hypothesis that Perceived Stress will significantly decrease for the experimental group after participants undergo music therapy session can be accepted on the basis of these results.

Similarly, Table 1 also indicates the levels of Burnout in nurses in the Experimental group during the Pre-test (*M=24.333, SD*=42) which also significantly decreased during the Post-test (*M*=21.833, *SD*=50.029) after the Music Therapy intervention (*t*=2.785, *p*<0.01). The Hypothesis that Burnout will significantly decrease for the experimental group after participants undergo music therapy session can be further accepted on the basis of these Results.

Nurses in the Experimental Group reported significantly decreased levels of Secondary Traumatic Stress after the Music Therapy intervention (*t*=2.041, *p*<0.05) as reported during the Pre-test (*M*=25.5, *SD*=43.205) and Post-test (*M*=22.166, *SD*=32.264) which is shown in Table 1. In reference to Hypothesis 3, which states that Secondary Traumatic Stress will significantly decrease for the experimental group after participants undergo music therapy session can be accepted.

As shown in Table 1, the levels of Compassion Satisfaction in nurses in the Experimental group during the Pre-test (*M*=38.72, *SD*=37.38) showed a nonsignificant increase during Post-test (*M*=39.61, *SD*=50.50) after the Music Therapy intervention (*t*=-0.638, *p*>0.05). The Hypothesis that Compassion satisfaction will significantly increase for the experimental group after participants undergo music therapy session is rejected on the basis of these Results.

Discussion

The results obtained can be supported by the study conducted by Sharma *et al*., (2014) reporting that most nurses are stressed and that their stressful work situations can be attributed to poor doctor's attitudes, busy working environments like ICU or emergency wards, inadequate pay, and less time for rest. They recommend support from managers and conscious strategies to provide interventions to reduce work stress and to provide more support to deal with stress.

Fernandes & Nirmala, (2017) also, elucidate in the review how all the above-mentioned reasons formed the basis for stress in nurses and added the fact that most researchers have not paid attention to the self-health concerns of nurses and their constant fear of falling prey to contagious diseases. Although the current study examines the effects of music therapy in a workplace setting and has investigated only a few variables, it still reported that music therapy was highly effective in reducing perceived stress, burnout, and secondary traumatic stress in a single music therapy session. A study explored the factors that affect compassion fatigue and compassion satisfaction in emergency department nurses and opined that a low level of manager support was a significant predictor of higher levels of burnout and compassion fatigue whereas, whereas a high level of manager support contributed to a higher level of compassion satisfaction (Hunsaker et al., 2015).

However, it can be considered that music-based interventions were highly beneficial in healthcare settings, particularly for nurses working in the private hospital. Attention needs to be given to the articles that suggest music therapy as a preventative and health-promotive aspect/intervention for improving the quality of life of nurses and also reducing anxiety and depression that could arise due to stressful working conditions (Charu *et al*., 2020; Khatatbeh *et al*., 2022; Wu *et al*., 2011).

Conclusion

Present study points out how music therapy can be beneficial to reduce perceived stress, secondary traumatic stress, and burnout among nursing professionals. It also sheds light on the fact that music therapy has the effect of positively influencing psychological parameters in a single session. Therefore, future research can be focused on the design of music therapy

interventions for nurses' well-being and their effectiveness with more sessions and long-term follow-ups. The benefits of music therapy can be researched by other healthcare staff like administrative staff, medical technicians, housekeeping staff, and doctors.

Limitations

Present study was conducted on a small sample making it challenging to generalize the findings to other samples or work settings. This is a study designed to see the effectiveness of music therapy on nurses using just a single session and nurses in just one study setting were included in the study.

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