

Efficacy Of Mind Sound Resonance Technique On Burnout Syndrome Among Health Care Professionals – A Study Protocol For A Randomized Controlled Trial

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Abstract:

Background: Burnout is a psychosocial syndrome characterized by exhaustion, depersonalization, and personal accomplishment caused by prolonged response to stressors on the job. It is common in India among healthcare professionals due to a lack of human resources and infrastructure.

Aim: To explore the efficacy of mind sound resonance technique (MSRT) on burnout syndrome among healthcare professionals.

Methodology: A total of 80 subjects between 21 to 50 years will be recruited. This study adopted a randomized controlled trial. The study has 2 groups with 40 subjects in each group. Study group subjects will be recommended to practice MSRT for 6 sessions.

Results: Baseline and post-intervention assessment will be done for all subjects. The outcome variables are the Maslach Burnout Inventory and the Professional Quality of Life scale.

Conclusion: MSRT can be used as relaxation technique among healthcare professionals to reduce burnout.

Ethics

Ethical clearance obtained (IEC-IIYNMS/018/2023) and registered in a clinical trial (CTRI/2023/11/059504).

Key Word: Stress, Yoga, Relaxation technique, Health care Professionals, Psychological syndrome.

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I. Introduction

Burnout is a psychosocial syndrome characterized by exhaustion, depersonalization, and personal accomplishment caused by prolonged response to chronic stressors on the job. It causes damage at cognitive, emotional, and perspective level which consequence negative behavior towards work, affairs and circumstances.^[1] Burnout is common among professionals especially in health care providers who are at an increased risk of developing burnout due to chronic exposure to high work stress. Health Professionals comprises of doctors, trainees, nurses and health educators who work continuously to take care of the different health-related needs of the society both physically and mentally.^[2] Increased patient load, long and unsociable working hours, lack of a supportive work environment, high expectations, unavailability of resources, daily confrontation with death, and lack of appreciation are some of the factors that has contributed to the development of burnout in Health Professionals.

Prevalence of burnout among health professionals worldwide was 36% in the emotional exhaustion domain, 34% in the depersonalization domain, and 25% in the personal accomplishment domain. In India about 83% of the nurses had high level of burnout, 3% had very high level of burnout and 14% had moderate level of burnout.^[3] Due to its vague in nature and inability to detect can have severe consequences on the health care professionals. It may affect the sense of well-being, institutions performance, and patient outcomes which can result in medical errors, and difficult working environment.^[4] In order to ameliorate the consequences stress management programs, cognitive-behavioural therapy, relaxation and mindfulness techniques have been used. Yoga, have been found efficiently reducing psychological distress and significantly enhancing physicians' quality of life and build emotional resilience.^[5]

Yoga, a mind-body therapy, can be used as an alternative medicine. The science of yoga has its origin thousands of years ago in India. Yoga combines specific physical postures, breathing techniques, relaxation and meditation that improve mental and physical health. In recent decades, based on scientific studies several derived techniques have been formulated to produce desirable effect to promote positive health. Mind sound resonance technique (MSRT) is one among the derived technique developed by *Swami Vivekananda Yoga Anusandhana Samsthana (S-VYASA)*. It is an advanced style of guided yoga relaxation technique, works on the aspect of the mind that is related to sound and involves chanting incantations and feeling the resonance of the sound. MSRT pertains to the *manomayakosha* (mental layer). It was developed using the concepts of traditional texts of *nada yoga*, it talks about the power of A, U, M (*Mandukya Upanishad*) and *Nadanusandhana (Hatha Yoga Pradipika)* and *Mahamrityunjaya mantra* from *Rig veda* for achieving internal mastery over modifications of the mind and promote healing.^[6]

MSRT is categorized as a relaxation technique which may reduce stress and anxiety by improving autonomic functions.^[7] Since it induces relaxation, it may be used to reduce the exhaustion, depersonalization and enhance personal accomplishment by creating a sense of well-being among health care professionals. Previously there was no study conducted using MSRT on burnout syndrome among health care professionals. Hence, we have planned this research study to explore the effect of MSRT on burnout syndrome among health care professionals.

II. Material And Methods

This randomized controlled study will be conducted on health professionals from the International Institute of Yoga and Naturopathy Medical Sciences and Government Medical College and Hospital, Chengalpattu. In this trial we have planned to recruit 80 participants after taking into consideration of drop out or loss of follow-up.

Study Design: Randomized controlled trial

Study Location: This study will be done at the International Institute of Yoga and Naturopathy Medical Sciences and Government Medical College and Hospital, Chengalpattu.

Study duration: 6 days/week

Sample size: 80 patients.

Sample size calculation:

In a feasibility trial, estimation of formal sample size calculation is not required.^[8] It is recommended to recruit minimum 50 participants in a feasibility trial. Thus, in this trial we have planned to recruit 80 participants after taking into consideration of drop out or loss of follow-up.

Subjects & selection method: The study population includes 80 samples will be recruited from International Institute of Yoga and Naturopathy Medical Sciences and Government Medical College and Hospital, Chengalpattu. The participants will be randomized using the envelop method.

Study group: MSRT (40 participants)

Control group: supine rest (40 participants)

Inclusion criteria:

1. Health care professionals
2. Aged between 21 to 50 years of both genders,
3. who have mild to high burnout level as per Maslach Burnout Inventory (MBI) will be included in the study.

Exclusion criteria:

1. Participants under any long-term illness,
2. systemic issues like hypertension, diabetes mellitus, any psychiatry problems
3. pregnant women will be excluded.

Intervention Procedure:

After written informed consent was obtained, a well-designed questionnaire was used to collect the data of the recruited patients retrospectively. The questionnaire included socio-demographic characteristics such as age, gender, nationality, height, weight along with burnout assessment will be taken. The intervention group

will be given Mind Sound Resonance Technique (MSRT), is one of the advanced yoga-based mindful relaxation techniques that involves experiencing with closed eyes the internal vibrations and resonance developed while chanting the syllables A, U, M, Om and *Mahamrityunjaya mantra* sounds. The details of MSRT practice including the steps involved are described elsewhere.^[9] Subjects will be practicing MSRT daily once for 6 sessions. The Control group subjects will not receive any intervention; they will be advised to rest in supine position.

Outcome variables:

Primary outcome: Maslach Burnout Inventory (MBI) The Maslach Burnout Inventory (MBI) encompasses 3 scales: emotional exhaustion, depersonalization, and personal accomplishment. The Maslach Burnout Inventory (MBI) is a 22-item instrument that is considered the “gold standard” for assessing burnout.^[10]

Secondary outcome: Professional quality of life scale (ProQOL) The Professional Quality of Life Scale (ProQOL) is a 30 item self-report questionnaire designed to measure compassion fatigue, work satisfaction and burnout in helping professionals. It is useful for workers who perform emotional labour and professionals who are exposed to traumatic situations.^[11]

Statistical analysis

All the data set will be assessed for normality using Shapiro-Wilk Test and based on the distribution parametric test or non-parametric test of preference will be performed to find the intra and inter group variation using statistical package for the social science version ^[16]

III. Discussion

The current study is to explore the effect of MSRT on burnout syndrome and professional quality of life among health professionals. Scientific studies on MSRT shows that increased state mindfulness, awareness, attention, and working memory in school children and also improve the cognitive performance among medical students.^[12] A RCT study concluded that MSRT facilitated a reduction in the levels of stress, anxiety, fatigue, and psychological distress and also enhanced self-esteem and quality of sleep among female teachers working in primary schools.^[13]

Another study suggested that MSRT may have a potential role in reducing state anxiety and enhancing psychomotor performance in patients suffering from generalized anxiety disorder immediately after the practice.^[14] A pilot functional magnetic resonance imaging study found that significant deactivation in bilateral orbito frontal, anterior cingulate, parahippocampal gyri, thalami, hippocampi and right amygdala was observed bilaterally during ‘OM’ chanting. Similar observations have been recorded with vagus nerve stimulation treatment used in depression and epilepsy.^[15]

MSRT involves both slow paced breathing and chanting of *Mahamrityunjaya mantra* and ‘OM’ which are recognized to have physiological and psychological effects. Loud chanting of mantra produces a resonance in the body and the individual experiences deep relaxation state and a sense of calmness, which might help to turn their concentration. The expression of aggressiveness and impulsivity was reduced gradually and mindfulness was increased as their mind was less destructed. Possible mechanisms could be due to increases parasympathetic nervous system activity, promoting serenity and relaxation.^[14] Thus this study can be efficient in reducing the burnout in health care professionals.

IV. Conclusion

The present study findings will provide high quality clinical evidence on the efficacy of MSRT on burnout syndrome among health care professionals. If the observations of this study ascertain the improvement in burnout syndrome, it could be recommended as one of the relaxation technique to reduce the exhaustion, depersonalization and enhance personal accomplishment by creating a sense of well-being among health care professionals.

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