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Original Research Paper

Yoga

EFFECT OF MIND SOUND RESONANCE TECHNIQUE (MSRT) ON QUALITY OF SLEEP IN CORPORATE SECTOR EMPLOYEES

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ABSTRACT **Background:** Along with a poor quality of sleep the decrease in mean sleep duration is fast becoming a common problem. Around a fifth of apparently healthy population is affected by sleep disorders. As a result of this the quality of work and executive functions is reduced. Evidence suggests that MSRT (yoga- based relaxation technique) significantly improves the sleep quality by reducing stress and anxiety. **Objective:** The aim of the study was to study the effect of MSRT on sleep quality and its various domains like initiation, depth, fragmentation due to physiological arousals. **Materials & Methods:** The research design was single group pre-post experimental design on 35 healthy volunteers working in corporate sector. They were taught MSRT and assessments were carried out on 1st and 30th day of the program, using PSQI and ESS. **Result:** Effect of the practice showed 28.2% significant reduction ($p<0.01$) in sleep disturbances on PSQI scores and 24.3% significant reduction ($P<0.05$) in day sleepiness on ESS scores. **Conclusion:** This study provides evidence that MSRT is an effective, non-invasive, non-pharmacological and zero cost tool that improves the quality of sleep. All that is required is an open mind.

KEYWORDS : MSRT: Mind Sound Resonance Technique, Corporate sector, PSQI: Pittsburgh Sleep Quality Index, ESS: Epworth Sleep Scale.

INTRODUCTION

Technostress is a new word coined for the stress that is generated when the human body fails to cope with the new technologies. Due to globalisation and opening of the economy, corporate sector specially Information Technology industry is on the rise. Stress work is a major health issue and healthy employees mean good productivity and a healthy community too [1]. Working across global time zones, job insecurity, long screen exposure and stationary work style are some stress- inducing factors for corporate employees. These affect their sleep pattern and Sleep Related Disorders may be linked to absenteeism, lack of harmony with colleagues, and physical as well as mental health problems [2]. The repair and rejuvenation of body happens during sleep [3]. Sleep helps to restore the immune, nervous, skeletal and muscular systems [4]. The National Sleep Foundation recommends that healthy adults should sleep 7-9 hours but there is a decrease in the mean sleep duration due to bringing work & communication devices to bed in order to remain available all the time [5]. Quality of sleep affects daytime functioning of individuals [6]. Cognition is all sets of mental abilities & processes like attention, memory & working memory, judgement & evaluation, reasoning & computation, problem solving & decision making [7] and lack of rejuvenating sleep could lead to decline in these. Several Mind-Body techniques have proved to be efficacious in mitigating stress and improving cognitive abilities [8]. Yogic practises increase melatonin levels [9]. MSRT is a yoga-based relaxation technique which uses Mahamrityunjay chant to generate resonance in the body to induce deep relaxation. Well-being, concentration, strength of mind can also be improved [10]. It has improved varied aspects of cognition in different populations [11].

MATERIALS AND METHOD

35 healthy volunteers in the age group 25-45 of both genders volunteered to participate in the month long MSRT study. Age group mean standard deviation for males was 32±7 and 27±3 for females. The procedure was explained, taught and the study was approved by the ethics committee of Lakulish Yoga University of Ahmedabad. Those who had chronic medical disorders or any injury were excluded as it could have contributed to poor sleep. Convenient sampling method was adopted and single group pre-post experimental design was used. Participants were given supine rest and asked to do 20 minutes of MSRT under guidance before bedtime daily. The 30-day program was successfully completed.

INTERVENTION

This is an advanced relaxation technique which uses the power of the Tarak Mantra to generate resonance. Sound is pure energy in the form of waves. The heard sound travels through outer space and the unheard travels through internal space or pure consciousness. Through this technique the matching of frequencies and phase of two sound waves is sought. Resonance is produced in the body which helps to relax the mind. Mind is pure consciousness; Patanjali's Yogsutras consider it a collection of thoughts and controlling its modifications leads to total relaxation. MSRT helps achieve the same by working on the Manomaya Kosha [12]. The technique uses concepts elaborated in ancient Indian texts like the power of OM (Mandukya Upanishad) and Nadanusandhan (Hatha Yog Pradeepika). Mantra is a carefully chosen sequence of words and MSRT uses the power of the energy, frequency and vibration of the mantra to achieve complete relaxation.

OUTCOME MEASURES

Pittsburgh Sleep Quality Index (PSQI): is a self-rated questionnaire which assesses sleep quality and disturbances over a month time interval. 19 individual items generate 7 'component' scores, the sum of which yields 1 global score. The global score has a possible range of 0-21 points. A score of > 5 provided a sensitive and specific measure of poor sleep quality [13].

Epworth Sleepiness Scale (ESS): is a self-administered 8 item questionnaire that measures daytime sleepiness in adults on a scale of 0-3 and based on their response a distinction is made between dozing off and simply being tired [14].

RESULTS

Intervention was given to 35 volunteers working in a software

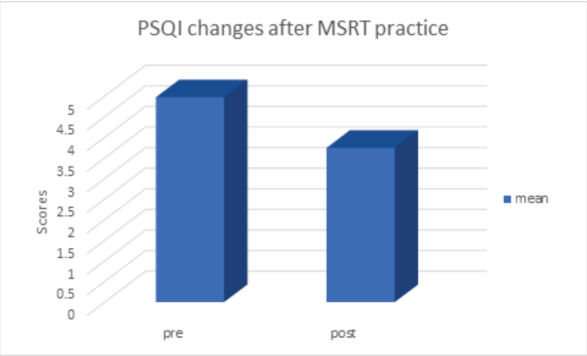
company. The pre and post data was collected, analysed and tables and graphs were prepared to compare the before and after scores. The result showed a significant reduction ($p< 0.01$) on PSQI scores and again a significant reduction ($p<0.05$) in day sleepiness on ESS scores.

Effect of MSRT practice showed that 28.2% significant reduction ($P< 0.01$) in sleep disturbance on PSQI scores. [Table 1].

Table-1: Changes In PSQI Scores After MSRT Intervention

PSQI	MSRT practice		% Change	P- value
	Before	After		
Scores	4.97±2.8	3.74±2.3	28.2%	0.01**

*Significant at P<0.05, ** significant at P<0.01, ***significant at P<0.00 (paired sample test and Wilcoxon Signed Ranks Test)



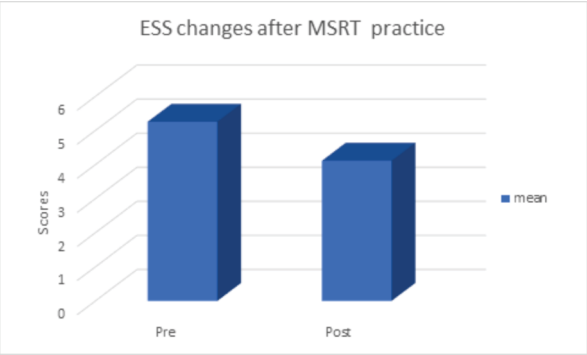
Graph-1: Changes in PSQI scores after MSRT intervention

Effect of MSRT practice showed that 24.3% significant reduction ($P< 0.05$) in day sleepiness on ESS scores. [Table 2].

Table-2: Changes In ESS Scores After MSRT Intervention

ESS	MSRT practice		% Change	P- value
	Before	After		
Scores	5.25±2.6	4.11±2.5	24.3%	0.05*

*Significant at P<0.05, ** significant at P<0.01, ***significant at P<0.00 (paired sample test and Wilcoxon Signed Ranks test)



Graph-2: Changes In ESS Scores After MSRT Intervention

DISCUSSION

Results indicate that after 30 days of yoga intervention, the overall sleep quality of participants increased. Effect of MSRT practice showed significant reduction ($P< 0.01$) in sleep disturbance on PSQI scores. Effect of MSRT practice also showed significant reduction ($P<0.05$) in day sleepiness scores. Analysis of the questionnaires showed that 59.4% had fairly good sleep quality which rose to 66.7% in the post data scores. The analysis also showed that before the intervention, 13.4% of the participants had a problem keeping up their enthusiasm during the day while only 9.4% had a problem with it post intervention. The physiological arousals due to breathing discomfort, sneezing, coughing or toilet break were also less post intervention. The number of participants who fell asleep for 7-8 hours at a stretch also increased. This result is congruent to many previous studies.

Both MSRT and Supine Rest given for 30 minutes before bed time enhance sleep quality [15]. The findings of this pilot study showed statistically significant improvement in sleep quality after MSRT in certain aspects of sleep such as restfulness and also an improvement in insomnia [16]. Positive experiences in sleep quality were seen after 30 minutes of AUM chanting, an integral part of MSRT, for a month [17]. The results are also congruent with a similar study done to see the effect of MSRT on a specific geriatric population [18].

Yoga is an ancient science and its practice strengthens the body, sharpens the mind. It creates internal awareness, heals from within and completely relaxes the senses. Tranquil mind dissipates stress and a stress-free mind can ensure a better quality of sleep. The participants' body and mind were subjected to a guided meditation through the intervention of MSRT and I obtained a result similar to the study of the integrated approach of yoga which included Mind Sound Resonance Technique and stressed its importance to reduce stress and increase awareness [19].

Yoga is a very powerful tool for mind body relaxation. It should be explored further to its full potential. Even in this small pilot study it was seen that episodes of having bad dreams decreased. The number of participants who had sleeping trouble due to physiological arousals decreased. Subjective analysis showed that the quality of sleeping time improved as arousals are simply manifestations of a state of anxiety and stress or overworked mind.

The overall result though significant had a few participants who reported little or no benefit at all. Significant results found in this study were supported by other similar studies. Moreover, in subjective evaluations, the participants expressed their satisfaction with the program and an overall better state of health.

CONCLUSION

Sleep is a naturally occurring condition which is triggered by a complex group of hormones that are active in the brain and is responsible for repairing and rejuvenating the body. Poor sleep quality is a major problem and the present study has shown that MSRT has the potential to bring about positive changes in the domains of sleep quality as indicated by the PSQI and ESS scores. There is a scope for a broader research to prove the efficacy of MSRT, compare MSRT with other tools and create awareness about the importance of a good night's sleep.

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