A Study to Assess Effectiveness of Jacobson Progressive Relaxation Technique on Sleep Quality among Elderly in Selected Old-Age Home of Kheda District

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Abstract

The aim of study is to improve sleep quality of elderly by providing Jacobson progressive technique in which Quantitative approach was adopted with Pre-experimental one group pre-test post- test. Study was conducted in selected old-age home of Kheda district. 30 Sample was selected by Non-probability purposive sampling technique. The Study instrument used by researcher consisted two sections i.e. demographic profile and Pittsburgh sleep quality index. Reliability of the tool was 1.00 with the help of coefficient-correlation Karl Pearson formula. Pilot study was conducted among 3 samples and the study was found feasible. After two weeks of pilot study final study was conducted. Descriptive and inferential statistics was used to analyse the data obtain was tabulated analysed and interpreted in terms of objective of the study. Average score of post test was 0.966 with standard deviation 0.96. Researcher applied t- test for comparison between pre-test and post-test. Calculated t-test vales corresponding to this comparison were 4.52 and table value were 2.05 ($p<0.05$). T Calculated value is more than T Tabulated value hence the Research hypothesis (H1) is accepted and null hypothesis is rejected (H0). So, it reveals that a Jacobson progressive relaxation technique is effective to improve sleep quality among elders.

Keywords: *Jacobson progressive relaxation technique, Sleep Quality, Elderly*

Introduction

Ageing is a physiological process that begins at birth. This biological inevitable process has health related, social, cultural and economic dimension. Ageing is not an illness but the increasing number and severity of the health problems and declining functional abilities are among the potentiality life changing problems of ageing. People experience many changes in physical, mental and social aspects as they age.

Old people are big support for family because they are our base and having better experiences then new age people. Old people know about the society very well and they are the strength of the family. So, do not let them to old age home keep them in family because in this age they need family support and care. Elderly needs smile a kind, polite word, attention and love that they really crave for one of the physical changes in elderly is in the characteristics of their sleep. Changes in sleep duration, pattern and quality occur with ageing.

The difficulty of falling asleep, maintaining sleep, sleep fragmentation, Getting up too early in the morning and more day sleeps are the other changes that occur in elderly with ageing.01 Elderly needs about 7 to 8 hours of sleep normally.

Jacobson progressive relaxation technique is an one type of therapy that focuses on tightening and relaxing of specific muscle groups in sequence and also helpful to relieve stress, anxiety, tension, fatigue and depression. Jacobson relaxation technique was invented by American physician Dr. Edmund Jacobson in the 1920 at Harvard University.2

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Material and Method

Research approach: Quantitive research Approach. Research design: Pre- experiment Pre- experimental one group pre-test post- test. Research setting: selected old-age home of Kheda district by use of Pittsburgh sleep quality index. Sampling technique: Non-probability purposive sampling technique. Sample size was 30. The Study instrument used by researcher consisted two sections i.e. demographic profile and Pittsburgh sleep quality index.

TABLE No.:1 SCORING SYSTEM OF SLEEP QUALITY

Sr.no.	Quality Of Sleep	Score
01	Very Good	0
02	Fairly Good	1
03	Fairly Bad	2
04	Very Bad	3

This tool was validated by 8 experts from nursing field. Reliability of the tool was 1.00 with the help of coefficient-correlation Karl Pearson formula. Pilot study was conducted among 3 samples and the study was found feasible. After two weeks of pilot study final study was conducted. Descriptive and inferential statistics was used to analyse the data obtain was tabulated analysed and interpreted in terms of objective of the study.

Review of Literature

Philippe Voyer et al (2005) conducted this study was to determine the prevalence of insomnia and its associated factors in nursing home residents. A cross-sectional study (n = 2332) was conducted among seniors living in long-term care facilities. The findings indicate that 144 (6.2%) participants had an insomnia disorder according to DSM-IV criteria, 17% displayed at least one symptom of insomnia, and more than half of the subjects were benzodiazepine users. According to multivariate analysis, psychological distress (adjusted odds ratio = 1.51) and disruptive behaviours (adjusted odds ratio = 2.10) were the only factors associated with an insomnia disorder among this population. In conclusion, insomnia is a fairly important problem, as a symptom or a syndrome, among elderly people and deserves attention from caregivers. Alternative interventions to benzodiazepine drugs, which are suited to long-term care residents while tailored to these specific care settings, should be developed.3

Won-Hyoung Kim (2008) This study investigates the prevalence and socio-demographic correlates of insomnia by considering a community sample of elderly individuals in South Korea. A face-to-face household survey was conducted in five regions of South Korea from June 2008 to August 2008. Among a total of 3,074 individuals aged 65 years and over, 2,002 participants were interviewed. The presence of insomnia was defined as having at least one of four sleep complaints that included difficulty in initiating sleep (DIS), difficulty in maintaining sleep (DMS), early morning awakening (EMA), and non-restorative sleep (NRS) more than three times per week in the last month. The Restless Legs Syndrome (RLS) Questionnaire, a short form of the Geriatric Depression scale (GDS), and a medical review of systems were implemented. Insomnia was found in 29.2% of the participants. DIS, DMS, EMA, and NRS accounted for 19.4%, 21.7%, 19.6%, and 8.0% of the participants respectively. Insomnia accompanied by daytime consequences accounted for 17.1% of the participants. The participants who were females, had no education, lived alone, showed symptoms of RLS or depression, and had a lifetime history of physical illness were significantly more likely to report insomnia. The prevalence of DIS, DMS, EMA, or insomnia increased slightly with age, whereas that of NRS decreased slightly.[4]

Senthilkumar Ramasamy (2018) conducted study to assess the effectiveness of Progressive muscle relaxation technique in reducing anxiety & depression among the hospitalized leprosy affected person in a tertiary care centre. This study is a case series of 50 leprosy affected people aged between 18–60 years who were admitted for leprosy complications in tertiary leprosy referral hospital. The Anxiety-Depression scale was developed and validated by the investigators and administered before intervention of PMRT and after 2 weeks. The finding shows that a statistically significant difference was observed on anxiety domain before and after application of PMRT. The anxiety means score showed steady decline from 6.76 at pre-test to 3.0 ($t=25.068$, $P\leq0.001$) at post-test and 1.12 ($t=22.679$, $P\leq0.001$) at follow-up. In depression domain, a statistically significant difference was seen in before and after application of PMRT. The depression means score showed steady decline from 6.92 at pre-test to 3.28 ($t=16.082$, $P\leq0.001$) at post-test and to 1.16 ($t=18.918$, $P\leq0.001$) at follow-up. This

study proved that the PMRT as a valid treatment option for hospitalized person with leprosy in minimizing the anxiety and depression related symptoms and to benefit the psychosocial wellbeing of leprosy affected patients.5

Ray (2014) conducted a prospective cross sectional study to assess the effectiveness of progressive muscle relaxation in female health care professionals in tertiary care hospital in eastern part of India. The 200 sample were recruited by using purposive sampling method. The presumptive life event stress scale was used in the study. The study finding reveals that significant decrease in resting heart rate, blood pressure and perceived stress scale level was seen after PMR training. The study concluded that increase stress among female health care professionals is a cause offer concern and there is a need to adopt early life style modification by practicing relaxation exercises to ameliorate stress.[6]

Bhumi Reddy Chetan Kumar (2017) conducted study to assess the effectiveness of Progressive Muscle Relaxation Technique on inducing sleep among cancer patients and to associate the effect of Progressive Muscle Relaxation Technique with the selected demographic variables. Quantitative approach and Quasi-Experimental one group Pre-test and Post-test research design was employed. Non-probability convenient sampling technique was employed to select 40 samples. Sleep Assessment Scale & Sleep problem assessment tool was used. All the 40 subjects of the study majority of them were falling in Dissatisfied Sleep 31(77.5%), 9[22.5%] subjects were falling under Disturbed sleep and no were falling under Sound Sleep category. There is a significant decrease in the post-test score (mean 30.7) of subjects after administration of Progressive Muscle Relaxation Technique compared to pre- test score (mean 55.62). Hence the Hypothesis H1 is accepted that is Progressive Muscle Relaxation Technique is effective to induce sound sleep. There is no significant association between the Effect of Progressive Muscle Relaxation Technique and the demographic variables. Hence regular muscle relaxation exercise can help the patient induce sleep and maintain in their healthy sleep pattern.[7]

Francis et al (2012) conducted study to evaluate the effectiveness of progressive muscle relaxation (PMR) on quality of sleep of hospitalized medical patients of a selected hospital in Mangalore. Randomized control trial was used to test the effectiveness of Jacobson's Progressive Muscle Relaxation Technique on quality of sleep (QOS) among 60 medical patients. Both the groups (Experimental and Control) were observed with pre-test and post-test. Demographic perfoma, Modified Pittsburgh sleep quality index and 3 point rating scale on assessing factors affecting Quality of sleep were used to collect data from the sample. The QOS was assessed in 84 patients admitted in medical ward out of which 60 (71.4%) had poor QOS and 24 (28.6%) had good QOS. The mean pre-test score of QOS in the experimental (30) and control group (30) were 16.667 and 16.70 respectively. Psychological factors (74.137%) affected QOS more than the environmental factors (65.989%). Repeated measures ANOVA revealed a significant difference in the QOS from Day 1 to Day 5(. F cal=378.38>F tab (1, 4) = 7.71, $p<0.005$). The Bonferri multiple comparison test revealed a significant improvement in the QOS from day 2 onwards. The calculated t-value of QOS was 17.892, was more than the table value t tab (58) = 2.00, $p<0.05$. Hence, the study revealed a significant improvement in the QOS in the experimental group after PMR. No significant association was found between QOS and selected demographic variables. The present study revealed that 5 days of progressive muscle relaxation therapy was very effective for medical patients with poor quality of sleep.[8]

In experimental group: Majority i.e. 33.33% elders were having 74 to 80years of age, 56.66% elders were female, 43.33% elders sleep were affected by Climate, 36.66% elders have Married and Widow, 40.00% elders staying in old-age home due to Misbehavior of son and daughter-in-law, 46.66% elders have not doing any activity, 36.66% elders sleep for 6-7 hours during night, 80.00% elders sleep for 1-1.5 hours during day time, 76.66% do not awake during night time sleep, 66.66% elders have a no any habit, 30.00% elders are suffering from Hypertension.

Demographic variable, Physical activity was found to have a significant association with sleep quality.

Demographic variables, Age, Gender, Factors affecting sleep, Marital status, Reason to stay in old-age home, Hours of sleep during night, Hours of sleep during day, Frequent night-time awakening, Habits and Medical disorders were did not found any significant association with sleep quality. (p value<0.05).

Average score in post-test effectiveness Jacobson progressive relaxation technique was 2.00 with standard

deviation 0.96.

Discussion

The finding of the study was discussed with the objectives and hypothesis stated. The present study was undertaken to assess the effectiveness of Jacobson progressive relaxation technique on sleep quality among elderly. The sleep quality was significantly improved with Jacobson progressive relaxation technique among elderly.

Conclusion

After Jacobson progressive relaxation technique shows that the Jacobson progressive relaxation technique is helpful for improving the sleep quality among the elderly. It concludes that assessment of sleep quality.

Conflict of Interest: None

Source of Funding: No separate funding was received for this study.

Ethical Clearance: The ethical clearance was obtained from our institute.

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