

“EFFECT OF WARM WATER FOOT BATH THERAPY ON QUALITY OF SLEEP AMONG ELDERLY”

Mrs. Sonal Patel¹, Ms. Parul Baria¹

¹Assistant Professor, Department of Medical Surgical Nursing, Sumandeep Nursing College, SumandeepVidyapeeth Deemed to be University, Vadodara, Gujarat, India.

¹Post Graduate Nursing Student, Medical Surgical Nursing (Cardiovascular & Thoracic Nursing), Sumandeep Nursing College, SumandeepVidyapeeth Deemed to be University, Vadodara, Gujarat, India.

Corresponding Author

Ms. Parul Baria

Post Graduate Nursing Student, Medical Surgical Nursing (Cardiovascular & Thoracic Nursing), Sumandeep Nursing College, SumandeepVidyapeeth Deemed to be University, Vadodara, Gujarat, India.
Email: paruldbaria29@gmail.com

ABSTRACT

Background: This present research study conducted to assess the quality of sleep after providing warm water footbath therapy among elderly people. Sleep is one of the major problem among elderly. The immersion of the foot in warm water at 35-40 °c which results effective fruitful sleeping pattern.

Objectives: (1) Assess the pre interventional quality of sleep in experimental & control group. (2) Assess the post interventional quality of sleep in experimental & control group. (3) Determine effectiveness of warm water footbath therapy in experimental group. (4) Comparison post quality of sleep in experimental & control group.

Methods: The study involves quantitative research approach with quasi experimental design. Using non probability purposive sampling technique were 120 elderly people was selected from the old age home in Vadodara. The Groningen Sleep Quality Scale was used. Obtained data was analyzed & interpreted by using mean, standard deviation & ‘t’ test.

Result: The present study results show that, in experimental group 5 elderly had poor sleep, 25 elderly had disturbed sleep, 30 elderly had normal sleep after providing warm water footbath therapy. While, in control group 24 elderly had poor sleep , 31 elderly had disturbed sleep, 5 elderly had normal sleep. Indicated that warm water footbath therapy is effective for improvement of fruitful sleep. (p<0.05).

Conclusion: Therefore, warm water footbath therapy had great effective on improve the quality of sleep of the elderly people.

Key words: Sleep, Elderly, Warm water foot bath, Effect

INTRODUCTION

Sleep refers to state in which human body resting resulting distorted consciousness; affected by external environment and stimuli influence when human arouse from sleep. Human suffering sleep trouble during time of illness which require more time to get better from ill health. Therefore sleep may be measured as one of the important elements for ill patient during their treatment.

Ageing refer to a physiological progression that is beginning from birth. This biologically inevitable development has related to dimensions like social, cultural, economical and related to health.

Warm water footbath therapy is hydrotherapeutic procedures, application of warm water to the foot results the expanding blood vessels and congested blood run away from the distal parts of the body to

proximal parts, relaxation of muscle and connective tissue, improves warmth, reduce pain & drowsiness, neutralize acid and killing bacteria and provide calming and curative result.

Thus, seeing some statistically research data sleep disturbance is common problem in elderly people. So, it is needful to avoid these problem by providing nursing intervention like warm water footbath therapy which is positive result on quality of sleep and they enjoyed their livelihood. Therefore, the investigator has chosen this study to see the effect of warm water footbath therapy on quality of sleep.

MATERIAL AND METHODS

The research study was conducted were Quasi Experimental design with control & experimental group used. Population for the study are old age home, Vadodara, Gujarat. Through Non Probability Purposive Sampling Technique. 120 elderly people were recruited. The study included Old age people who having partial ability in doing daily activities, no night shift job, and possessing health in all dimensions of sense, temperature, audition, vision, and mental health according to health document in the health center, insomnia and Old age people who having enuresis, using complementary and alternative medicine except sleep drugs, and reduced sense of touch or Hypoesthesia, chronically ill were excluded. Data collected by a GSQS (Groningen Sleep Quality Scale) for assess the sleep quality followed by a warm water foot bath therapy for 7 consecutive days & data collection process completed within 3 weeks. Data were analyzed by Descriptive & Inferential Statistics.

RESULTS

Frequency and percentage distribution of demographic variables within Experimental and control group

S. No	Demographic Variables	N=120			
		Experimental Group		Control Group	
		F	%	f	%
1.	Gender				
	a. Male	35	58.3	40	66.7
	b. Female	25	41.7	20	33.3
2	Age (in Years)				
	a. 60-65	33	55	27	45
	b. 65-70	12	20	16	26.7
	c. 70-75	9	15	12	20
	d. 75 and above	6	10	5	8.3
3	Education				
	a. Primary	26	43.4	29	48.3
	b. Secondary/Higher	11	18.3	14	23.3
	c. Graduation	12	20	10	16.7
	d. Illiterate	11	18.3	7	11.7
4	Duration of stay at old age home				
	a. 1-3 years	28	46.8	26	43.3
	b. 3-6 years	16	26.6	20	33.3
	c. More than 6 years	16	26.6	14	23.4
5	Your hobbies				
	a. Reading Newspaper	37	61.7	31	51.7
	b. Watching TV	14	23.3	12	20
	c. Chatting with friends	9	15	17	28.3
6	Comorbidity				
	a. Heart diseases	11	18.3	16	26.7
	b. Hypertension	16	26.7	11	18.3
	c. Diabetes	11	18.3	7	11.7
	d. Joint pain	9	15	7	11.7
	e. Others	13	21.7	19	31.6

According to their gender 40(66.7%) male and 20(33.3%) female were found major part in control group. 35(58.3%) male and 25(41.7) female were found major part in experimental group.

Data on age of elderly show that in experimental group greater part 33(55%) were in 60-65 years, 12(20%) were in 65-70 years, 9(15%) were in 70-75 years and 6(10%) were 75 years and above. In control group greater part 27(45%) were in 60-65 years, 16(26.7%) were in 65-70 years, 12(20%) were in 70-75 years and 5(8.3%) were 75 years and above.

With view to education of elderly in experimental group greater part 26(43.3%) had primary education, 12(20%) had completed graduation and post graduation, 11(18.3%) had secondary and higher secondary education and 11(18.3%) were illiterate. In control group greater part 29(48.3%) had primary education, 14(23.3%) had secondary and higher secondary, 10(16.7%) had completed graduation and post graduation education and only 7(11.7%) were illiterate.

Data on duration of stay in old age home 26(43.3%) for 1-3 years, 20(23.3%) for 3-6 years and (23.4%) for more than 6 years were found in control group. 28(46.8%) for 1-3 years, 16(26.6%) for 3-6 years and 16(26.6%) for more than 6 years were found in experimental group.

Data on hobbies of elderly at old age home discovered that in experimental group greater part 37(61.7%) reported reading newspapers, 14(23.3%) report watching TV and 9(15%) reported chatting with friends. In control group majority 31(51.7%) reported reading newspapers, 17(28.3%) reported chatting with friends and 12(20%) reported watching TV.

With regard to Co morbid diseases of elderly in experimental group majority 16(26.7%) had hypertension, 13(21.7%) had other diseases, 11(18.3%) had heart diseases, 11(18.3%) had diabetes and 9(15%) had joint pain. In control group majority 19(31.6%) had other Comorbid diseases, 16(26.7%) had heart diseases, 11(18.3%) had hypertension, 7(11.7%) had diabetes and 7(11.7%) had joint pain.

Pre-test and post-test interventional quality of sleep in experimental and control group.

N=120

Quality of sleep	Experimental group				Control group			
	Pre-test		Post-test		Pre-test		Post-test	
	f	%	F	%	F	%	f	%
Normal	4	6.7	30	50	3	5	5	8.3
Disturbed	31	51.7	25	41.7	27	45	31	51.7
Poor	25	41.6	5	8.3	30	50	24	40

The quality of sleep in control group pre-test result found that greater part 30(50%) for poor sleep, 27(45%) for disturbed sleep and 3(%) for normal sleep where as in post test result 31(51.7%) for disturbed sleep, 24(40%) for poor sleep and 5(8.3%) for normal sleep.

The quality of sleep in experimental group pre-test result found that greater part 31(51.7%) for disturbed sleep, 25(41.6%) for poor sleep and 4(6.7%) for normal sleep where as in post test result 30(50%) for normal sleep, 25(41.7%) for disturbed sleep and 5(8.3%) for poor sleep

Effectiveness of warm water foot bath therapy in experimental group

N=60

Quality of sleep	Mean	SD	Mean D	't' value	df	'p' value
Experimental Group						
Pre-Test	9.97	2.442	3.83	7.439	59	0.001*
Post-test	6.58	2.540				

***p<0.05 level of significance**

Table 3 depicts the effectiveness of warm water foot bath therapy in experimental group revealed that the pre-test mean was 9.97±2.442 and post-test mean was 6.58±2.540 with mean difference of 3.83. In experimental group both pre & post quality of sleep compared using paired t-test revealed that (t=7.439, df=59, p=0.001), suggested that warm water foot bath was effective in improving the quality of sleep in experimental group.

Comparison of post quality of sleep within experimental and control group

N=120

Quality of sleep	Mean	SD	Mean D	't' value	df	'p' value
Experimental Group	6.58	2.540	3.32	7.324	118	0.001*
Control Group	9.90	2.420				

*p<0.05 level of significance

Table 4 depicts the comparison of post quality of sleep within experimental and control group revealed that the mean post-test quality of sleep in experimental group was 6.58 ± 2.540 , control group was 9.90 ± 2.420 , mean difference of 3.32. Post- test quality of sleep in both groups were compared using unpaired t-test exposed that ($t=7.324$, $df=118$, $p=0.001$), suggested that warm water foot bath was effective in improving the quality of sleep among elderly people in experimental group as compared to control group.

DISCUSSION

The present study results show that, warm water footbath therapy is effective for improvement of fruitful sleep. ($p<0.05$). These results findings discussed with the other studies conducted by Hassan Talebi etal's & Hyun-Joo Kim etal's found that warm footbath had a great positive impact on patient's suffering from severe sleep disorders ($p<0.05$).

CONCLUSION

The study showed that there is a positive statistically significant improvement in the Experiment Group compare to the Control Group in the Post data. Result of the study indicates providing warm water footbath therapy be greater effective on quality of sleep in elderly staying at old age home.

FINANCIAL SUPPORT AND SPONSORSHIP

Self

ETHICAL CONSIDERATION

A formal ethical approval received from institutional ethical committee. Informed consent was obtained from participants and assured for anonymity.

CONFLICT INTEREST

There is no conflict of interest

REFERENCE

1. Modaber A. Evaluation of Insomnia in Medical Students of Kurdistan University. Scientific Journal of Kurdistan University of Medical Sciences. 2007;12(3):58–63. (Persian) [Google Scholar]
2. Amagai Y, Ishikawa S, Gotoh T, Kayaba K, Nakamura Y, Kajii E. Sleep duration and incidence of cardiovascular events in a Japanese population: the Jichi Medical School cohort study. J Epidemiol. 2010;20(2):106–10. [PMC free article] [Pub Med] [Google Scholar]
3. International Journal of Science and Healthcare Research (www.ijshr.com) 88 Vol.4; Issue: 4
4. AlleheSeyyedrasooli (2013).Effectiveness of footbath on level of fatigue among elderly, it was conducted by a blinded randomized clinical trial on 50 old men. Journal of Caring Sciences: 2(4): 305-311
5. ArshpreetKaur C. Naveen Kumar (2017) Effectiveness of Warm Water Foot Bath on Quality of Sleep among Hospitalized Patients, International Journal of Health Sciences & Research, Vol.7; Issue: 10; October 2017.
6. Hatice Tel; Sleep quality and quality of life among the elderly people; Neurology, Psychiatry and Brain Research Volume 19, Issue 1, February 2013, Pages 48-52; Available from : <https://www.sciencedirect.com/science/article/pii/S0941950012000917>
7. GülserenDağla, Selma Sabancıoğulları ; Sleep quality in the elderly either living at home or in a nursing home: research paper ; AUSTRALIAN JOURNAL OF ADVANCED NURSING Volume 31 Number 4 ; available from: <http://www.ajan.com.au/Vol31/Issue4/1Kav.pdf>
8. Claudia Lysia de Oliveira Araújo, Maria FilomenaCeolim; Sleep quality of elders living in long-term care institutions ; Print version ISSN 0080-6234 Rev. esc. enferm. USP vol.44 no.3 São Paulo Sept. 2010availablefrom:http://www.scielo.br/scielo.php?pid=S008062342010000300010&script=sci_arttext&tlng=en

9. Kim, Hyun-Joo et al. "The effects of footbath on sleep among the older adults in nursing home: A quasi-experimental study." *Complementary therapies in medicine* vol. 26 (2016): 40-6.
10. Mulder-Hajonides Van DerMeulen et al. "Groningen Sleep Quality Scale". (1980)[<http://links.lww.com/QAD/A105>]
11. Suresh Sharma,"Nursing Research and statistics"; second edition; elisever publication; 2014.