

Original article:

The Effect of Religious Relaxation Therapy on Improving Sleep Quality of Patients Chronic Kidney Failure: A Pilot Study in Surabaya

Rini Purwanti¹, Ah. Yusuf², Hanik Endang³, Siti Nur Qomariah⁴, Abu Bakar⁵

Abstract:

Objective: It is discovered that approximately 80% patients with chronic kidney failure undergoing haemodialysis treatment experience a difficulty to sleep. Such issue could decrease the patients' living quality. The relaxation therapy using spiritual approach based on the patients' religion to improve sleep quality has not been scientifically proven yet. This study aims to analyze the effect of religious relaxation therapy on patients with chronic kidney failure undergoing haemodialysis treatment. **Materials and methods:** The research was quasi experiment with pre-post test control group design. The subjects of the research are the entire patients with chronic kidney failure who undergo haemodialysis treatment in the Islamic Hospital. The samples are taken from sixty clients recruited by random sampling allocation technique. Those clients aged 20-65 years old, Moslem and no complications. Patients' sleeping quality is determined by The Pittsburgh Sleep Quality Index (PSQI). Meanwhile, the data is analyzed by using Wilcoxon sign rank statistic test and Mann Whitney U test. **Results and Discussion:** The research showed that the religious relaxation therapy is proven to have a more improved good sleep quality (73.3 %) while the control group tends to be stagnant. The religious therapy is proven to have a positive effect on sleep quality by $p = 0.000$ **Conclusion:** The religious relaxation therapy gives positive effects in improving the sleep quality for patients with chronic kidney failure who undergo haemodialysis treatment.

Keyword: Chronic kidney failure; Religious relaxation therapy; Sleep quality; Haemodialysis

Bangladesh Journal of Medical Science Vol. 19 No. 01 January'20. Page : 48-52
DOI: <https://doi.org/10.3329/bjms.v19i1.43872>

Introduction

It has been commonly known that trouble of sleep happens to most patients undergoing haemodialysis¹. For the patients with chronic kidney failure, the rate of such trouble could go as high as 50 – 80 %². It could lead to a decreasing productivity for patients in doing their daily routine and a degrading quality of their health as well, which could increase the rate of patient suffering illness and death³. Therefore,

such condition is in need to be resolved. The most common methods to overcome this issue are by applying pharmacological and non-pharmacological therapy. The former one, however, might need to be limited for patients with chronic kidney failure due to the possibility of distracting either the function of kidney itself or haemodialysis process^{4, 5}. Meanwhile, the latter form of therapy can be given to them by improving biofeedback, sleep hygiene,

1. Rini Purwanti, S.Kep., Department of Urology, Dr. Soetomo Hospital, Surabaya, Indonesia, Email: rini.purwanti81@gmail.com
2. Dr. Ah. Yusuf, S.Kp., M.Kes. Faculty of Nursing, Airlangga University, Surabaya, Indonesia. Email: ah.yusuf@fkip.unair.ac.id
3. Dr. Hanik Endang Nihayati, S.Kep., Ns., M.Kep, Faculty of Nursing, Airlangga University, Surabaya, Indonesia. Email: azzam_psik@yahoo.com
4. Siti Nur Qomariah, S.Kep., Ns., M.Kep, Faculty of Health Science, Gresik University, Gresik, Indonesia. Email: snurq18@gmail.com.
5. Dr. Abu Bakar, M.Kep., Ns.Sp.Kep.M.B. Faculty of Nursing, Airlangga University, Surabaya, Indonesia. Email: abu.bakar@fkip.unair.ac.id

Correspondence to: Dr. Abu Bakar, M.Kep., Ns.Sp.Kep.M.B, Department of Medical Surgical Nursing, Faculty of Nursing, Airlangga University, Mulyorejo Road, C Campus, Surabaya, East Java, 60115, Indonesia. Email: abu.bakar@fkip.unair.ac.id

cognitive therapy and relaxation technique ⁶.

This research is related to relaxation technique to decrease the anxiousness and distress effectively ⁷. Such technique has been developed to a religious relaxation, which is a combination of relaxation and the religion they believe in ⁸. Furthermore, other supporting researches has shown that such technique needs to be adjusted with the patients cultural and religious background in order that they will be able to gain its benefit effectively ⁹. The effect of this relaxation technique on previous study has not been explained in details. Thus, this research is focusing on religious relaxation therapy to the improving quality of sleep chronic kidney failure clients.

Materials and methods

Design:

The research is designed by using Quasy Experiment along with pre-post test control group design. The subjects of the experiment will be divided into two groups, religious relaxation therapy and control group. The patients in the first group will be taken care of by applying religious relaxation therapy while the latter one was given a standard hospital therapy. Religious relaxation therapy were applied to the patients for two days. They were trained for doing such relaxation therapy based on the booklet available, which includes preparation before sleeping, relaxation technique and saying prayers as apart of the ritual. The patients involved in this therapy every night before sleeping in fourteen days, and once in three days for strengthening therapy. Those two groups will be observed focusing on their sleep quality before and after intervention. The research statement is the effect of religious relaxation technique on the sleep quality for patients undergoing haemodialysis with chronic kidney failure.

Sample:

The sample data for this experiment is taken from the patients undergoing haemodialysis with chronic kidney failure who have issues in sleep quality. There were 60 patients recruited by allocation random sampling technique. Such technique was given to the patients in the intervention group, who underwent haemodialysis on Mondays and Thursdays. Meanwhile, the patients in the control group would be given on Tuesdays and Fridays. Next, the allocation random sampling was applied. The data was collected accordingly based on the patient's criteria, which includes undergoing haemodialysis regularly twice a

week for the past three months, within the age 20-65 years old, Moslem, and without any complications in their lung and heart. The data collection had been done in two months, during November-December 2017.

Research instrument:

The variable for sleep quality is determined by using The Pittsburgh Sleep Quality Index (PSQI) questionnaire. It includes seven aspects or domain in it such as subjective sleep quality, sleep latency, duration of sleep, distractions while sleeping at night, the sleeping pills consumption and distraction on routines during the daylight. The original version of PSQI questionnaire was designed in English by Buysse, Reynolds, Monk, Berman and Kupfer back in 1989 ¹⁰. Such questionnaire has been proven for its internal consistency and coefficient of reliability (Cronbach's Alpha 0.83) for its component ¹¹. Meanwhile, its Indonesian version has been used for other research and proven for its validity and reliability ^{12, 13}.

Data analysis:

All data is analyzed by considering frequency and percentage. Main data analysis is done by the two statistic tests, Wilcoxon Signed Rank Test and Mann Whitney U Test with level of significance $\rho \leq 0.05$.

Ethical clearance:

The research procedure has been examined and regarded properly used by The Committee of Ethics on November 2nd, 2017 legalized by the official letter of accordance number 073/49/KOM. ETIK/2017. The principle of ethic applied in this research is that the respondents were informed and filled in the informed consent agreement before data collection process. They have the rights to have their data remain confidential and only be published by their initials only.

Results

The result of data collection shows the details of research subjects in table 1. There is a difference in terms of gender dominance in each group. The intervention group mostly consists of females, while the control group mostly consists of males. The research subjects are within the age of 46-65 years old. In addition, the intervention group undergo haemodialysis for 3-5 years whereas the control group undergo haemodialysis for 1-3 years. Same characteristic between two groups have rather negative habit before sleeping, watching TV.

Table 1 Sample Characteristics (N=60)

No	Characteristics	Control group n (%)	Intervention group n (%)
	Gender		
1	a. Male	18 (60)	13 (43.3)
	b. Female	12 (40)	17 (56.7)
	Age		
2	a. 17- 25 years old	1 (3.3)	0 (0)
	b. 26- 45 years old	10 (33.3)	9 (30)
	c. 46- 65 years old	19 (63.3)	21 (70)
	Period of undergoing Haemodialysis		
3	a. Less than a year		
	b. 1- 3 years	2 (6.7)	1 (3.3)
	c. 3- 5 years	14 (46.7)	8 (26.7)
	d. More than five years	10 (33.3)	17 (56.7)
	Habits before sleeping		
4	a. Using mobile phone	1 (3.3)	0 (0)
	b. Watching TV	22 (73.3)	24 (80)
	c. Reading books	0 (0)	0 (0)
	d. Listening to music	0 (0)	0 (0)
	e. Thinking about disease	7 (23.3)	6 (20)

The research shows that the majority of clients in both groups had bad sleep quality before being given a therapy (table 2). The changes in sleep quality could only be seen in the intervention group. There has been significant effect in them after doing religious relaxation therapy compared to before the therapy by the value $p = 0.000$ ($\alpha \leq 0.000$). Furthermore, there has been considerable difference of sleep quality after such therapy between the clients in the control group and the intervention group by the value $p = 0.000$.

Discussion

For patients with chronic kidney failure who undergoes haemodialysis, low sleep quality is quite common since all of them have experienced it. Such issue on sleep quality can be due to physical or non-physical factors. The physical factors can include the disease itself (in this case chronic kidney failure) or the high rate of uremik while the non-physical factors can be anxiousness, tense or depression ¹⁴.

Based on the data, the result shows the case on the elderly patients who have undergone haemodialysis for less than a year. Patients in that age are the most common ones with low sleep quality ¹⁵. The period of undergoing haemodialysis does not affect the sleep quality. Yet, it can lead to anxiousness, which may affect the sleep quality ¹⁶. The sleep quality issue could also be from the patients' habit before going to bed, watching TV ¹⁷. Such circumstance indicates that patients suffer from low sleep quality because of their mistaken habit before going to bed. Such wrong habit can lead to the wrong time to start sleeping, which causes a low sleep quality ¹⁸.

Religious relaxation therapy can improve the sleep quality of patients undergoing haemodialysis with chronic kidney failure. It has the similar result to the previous research which has proven on improving sleep quality for the patients undergoing haemodialysis by using relaxation massage therapy ¹⁹. Religious relaxation therapy effectively helps in initiating sleep, which is shortening the time span from lying down on the bed and beginning to sleep. Initiating sleeping process easily gives a positive impact on the duration of sleep. By starting to sleep earlier, the duration of early stage of sleep is shorter and eventually lengthen the subject's sleeping hours ¹⁸. Such is a proof that religious relaxation helps the patients to feel relaxed and trouble of sleeping does not occur to them ²⁰.

Religious aspect is included into the relaxation therapy as chronic kidney failure is one of the terminal diseases which could affect on patients' quality of life, including in terms of spiritual matter ¹⁴. Previous study strengthening that spirituality or religious influences coping mechanism and patients perception ²¹⁻²⁴. In general, patients' spiritual condition in Indonesia is closely-related to their religious ritual habits ²⁴. Such religious ritual leads to their self-submission to The Almighty God to be more relaxed. This has given an effect on improving their sleep quality.

Conclusion

The religious relaxation therapy has been able to resolve the sleep quality of patients undergoing hamodialysis with chronic kidney failure. Religious relaxation can lead to a peace of mind and convenience which help to trigger drowsiness so that the respondents can begin to sleep earlier and feel good when they rise in the morning. The next research can be done to assess this religious relaxation therapy on the stage of inflammation and leptin serum on haemodialysis patients.

Table 2 The Patient's Sleep Quality (N=60)

Measure	Contro Group		Intervention Group		Mann Whitney U Test (p value)
	Pre Test n (%)	Post Test n (%)	Pre Test n (%)	Post Test n (%)	
Sleep Quality					
a. Bad	30 (100)	30 (100)	30 (100)	8 (26.7)	(0.000)
b. Good	0 (0)	0 (0)	0 (0)	22 (73.3)	
Wilcoxon Signed Rank Test (p value)	(0.102)		(0.000)		-

Acknowledgments:

We would like to acknowledge all of the participants, nurse, and other hospital staff who cooperated in the present study.

Conflict of interest

We have no conflicts of interest to disclose

Authors Contribution

Rini Purwanti, Ah.Yusuf, Abu Bakar, and Hanik Endang were participated in performing the concept

theory, wrote the introduction, methodology (research sample, developing research instruments), results, discussion and conclusion, each part written by any of the authors was reviewed and edited by the other authors. Rini Purwanti were responsible for selecting the study sample, and collecting the data. Abu Bakar and Siti Nur Qomariah helped in the content analysis and manuscript.

References:

1. Afshar R, Emany A, Saremi A, Shavandi N, Sanavi S. Effects of intradialytic aerobic training on sleep quality in hemodialysis patients. *Iran J Kidney Dis*. 2011;5(2):119-123. doi:360/272 [pii].
2. Sabry AA, Abo-Zenah H, Wafa E, et al. Sleep disorders in hemodialysis patients. *Saudi J Kidney Dis Transpl*. 2010;21(2):300-305. doi:10.3732/ajb.0800250.
3. Collins AJ, Foley RN, Gilbertson DT, Chen S. The state of chronic kidney disease, ESRD, and morbidity and mortality in the first year of dialysis. In: *Clinical Journal of the American Society of Nephrology*. Vol 4. ; 2009. doi:10.2215/CJN.05980809.
4. Zafari M, Aghamohammady A, Mosavy M. Renal function in Thalassemia major patients who treated by Desferal. *Bangladesh J Med Sci*. 2018;17(1):58-61. doi:http://dx.doi.org/10.3329/bjms.v17i1.35281.
5. St. Peter WL. Improving Medication Safety in Chronic Kidney Disease Patients on Dialysis Through Medication Reconciliation. *Adv Chronic Kidney Dis*. 2010;17(5):413-419. doi:10.1053/j.ackd.2010.06.001.
6. Potter P, Perry A, Stockert P, Hall A. *Fundamentals of Nursing*. 8th ed. St. Louis Missouri: Mosby Elsevier; 2012.
7. Tetti S, Yeni R. The Reduction of Anxiety level with Benson Relaxation at Cibabat Cimahi Hospital. *GSTF J Nurs Heal Care (JNHC)*. 2014;1(2):167-171. doi:10.5176/2345-718X.
8. Joshi S, Kumari S, Jain M. Religious Belief and Its Relation to Psychological Well-being. *J Indian Acad Appl Psychol*. 2008;34(2):345-354.
9. Momennasab M, Moattari M, Abbaszade A, Shamshiri B. Spirituality in survivors of myocardial infarction. *Iran J Nurs Midwifery Res*. 2012;17(5):343-351.
10. Buysse DJ, Reynolds CF, Monk TH, et al. The Pittsburgh Sleep Quality Index: a new instrument for psychiatric practice and research. *Psychiatry Res*. 1989;28(2):193-213. doi:10.1016/0165-1781(89)90047-4.
11. Azri MA, Dahlan A, Masuri MG, Anuar K. Sleep Quality among Older Persons in Institutions. *Procedia - Soc Behav Sci*. 2016;234:74-82. doi:10.1016/j.sbspro.2016.10.221.
12. Alim IZ. Test validity and reliability of the instrument pittsburgh sleep quality index Indonesia language version. 2015. http://lib.ui.ac.id/detail?id=20404062&lo kasi=lokal.
13. Fandiani YM, Wantiyah, Juliningrum PP. The Effect of Dzikir Therapy on Sleep Quality of College Students at School of Nursing University of Jember. *Nurseline J*. 2017;2(1):52-60.
14. Rambod M, Rafii F, Hosseini F. Quality of Life in Patients with End Stage Renal Disease. *tums-hayat*. 2008;14(2):51-61. http://hayat.tums.ac.ir/article-1-147-en.html.
15. Tribl GG, Schmeiser-Rieder A, Rosenberger A, et al. Sleeping habits in the Austrian population. *Sleep Med*. 2002;3(1):21-28. doi:10.1016/S1389-9457(01)00117-4.
16. Hmwe NTT, Subramanian P, Tan LP, Chong WK. The

- effects of acupressure on depression, anxiety and stress in patients with hemodialysis: A randomized controlled trial. *Int J Nurs Stud.* 2015;52(2):509-518. doi:10.1016/j.ijnurstu.2014.11.002.
17. Nag C, Pradhan RK. Impact of television on sleep habits. *Biol Rhythm Res.* 2012;43(4):423-430. doi:10.1080/09291016.2011.599630.
18. Lawrence G, Muza R. Assessing the sleeping habits of patients in a sleep disorder centre: a review of sleep diary accuracy. *J Thorac Dis.* 2018;10(S1):S177-S183. doi:10.21037/jtd.2017.12.127.
19. Shariati A, Jahani S, Hooshmand M, Khalili N. The effect of acupressure on sleep quality in hemodialysis patients. *Complement Ther Med.* 2012;20(6):417-423. doi:10.1016/j.ctim.2012.08.001.
20. Noghani F, Mohtashemi J, Vasegh Rahimparvar F, Babaei G. Effect of education of religious values on the rate of depression. *tums-hayat.* 2005;10(4):49-56. <http://hayat.tums.ac.ir/article-1-248-en.html>.
21. MOHAMED, Mahmood Nazar; MARICAN, S. Treatment and Rehabilitation of Substance Use Disorder: Significance of Islamic Input in Malaysia. *International Journal of Human and Health Sciences (IJHHS)*, 2018; 2(4), p. 209-216. doi:<http://dx.doi.org/10.31344/ijhhs.v2i4.57>.
22. AHMAD, Wafa 'a Qasem. Spiritual Care at The End Of Life: Western Views and Islamic Perspectives. *International Journal of Human and Health Sciences (IJHHS)*, 2018; 2(2), p. 65-70. doi:<http://dx.doi.org/10.31344/ijhhs.v2i2.28>.
23. Permana I. How Religiosity and/or Spirituality Might Influence Self-Care in Diabetes Management : A Structured Review. *Bangladesh J Med Sci.* 2018;17(2):185-193. doi:<http://dx.doi.org/10.3329/bjms.v17i2.35869>.
24. Bakar A, Kurniawati ND, Laily H. Islamic Nursing Process in Fulfilling Immobilized Patients' Spiritual Need (Prayer). In: Iwasaki Y, Soebarniati R, Nursalam, Wijarnako B, Yusuf A, eds. *The 1st International Nursing Conference (INC) Complementary Nursing Issues and Updates in 2015*. Surabaya: Stikes Hang Tuah Surabaya; 2015:111-119. <http://www.stikeshangtuah-sby.ac.id/wp-content/uploads/2017/04/Proceeding-INC-1st-STIKES-Hang-Tuah-sby.pdf>.
-