SJIF Impact Factor: 5.464

WORLD JOURNAL OF ADVANCE HEALTHCARE RESEARCH

ISSN: 2457-0400
Volume: 6.
Issue: 7.
Page N. 99-102
Year: 2022

Research Article www.wjahr.com

EFFECTIVENESS OF ACUPRESSURE ON IMPROVING THE QUALITY OF SLEEP AMONG CANCER PATIENTS IN HCG CANCER CENTER

***Ms. Sampa Mandal, Ms. Manjula P.M., Ms. Lakshmi A., Ms. Ashwini R., Ms. Jyothi Vidya**

Senior Lead-Nursing Research, Corporate Nursing, Health Care Global Enterprises Limited, #3 Ground Floor, Tower Block, Unity Building Complex, Mission Road, Bangalore - 560 027.

Received date: 07 June 2022 **Revised date:** 28 June 2022 **Accepted date:** 18 July 2022

Corresponding Author: Ms. Sampa Mandal
Senior Lead-Nursing Research, Corporate Nursing, Health Care Global Enterprises Limited, #3 Ground Floor, Tower Block, Unity Building Complex, Mission Road, Bangalore - 560 027.

ABSTRACT

Introduction: Cancer occurs when cells grow abnormally and invade other tissue in the body. It is not a singular disease; instead, different types of cancer can have distinct causes, symptoms, and impacts on health. For patients with cancer, sleep is potentially affected by variety of factors such as cancer therapy, biochemical changes and emotional factors. Sleep disturbances lead to a lower quality of life and may even lead to immune dysregulation and increased mortality in these patients. The present study aimed to evaluate the effectiveness of acupressure on improving the quality of sleep among cancer patients and to find out the association between the quality of sleep after intervention among cancer patients with their selected demographic variables. **Methods and materials:** The study was conducted among 60 cancer patients, who were selected by non-probability purposive sampling technique. Data was obtained by sociodemographic proforma and clinical variables. Quality of sleep was assessed by Pittsburg Sleep Quality Index (PSQI) scale before and after intervention. The research design used was pre-experimental one group pre-test post-test design. The data analysis was done by descriptive and inferential statistics. **Results:** Among 60 patients, 40 (66.67%) belongs to age group of 46-50 years and 52 (86.66%) were married. 54 (90%) cancer patients were Hindu and 48 (80%) had less than one year duration of illness. And about 38 (63.33%) of cancer patients were on chemotherapy. Prior to implementation of acupressure 7 (11.67%) of cancer patients only had good sleep and 46 (76.66%) had fairly good sleep and 7 (11.67%) had bad sleep. After intervention majority 50 (83.33%) had good sleep and 10 (16.67%) of cancer patients had fairly good sleep. **Conclusion:** The present study concluded that the score of sleep after acupressure is lower than the score of sleep before intervention.

KEYWORDS: Cancer patients, Acupressure, Sleep, PSQI Scale, Cancer Hospital.

INTRODUCTION

Cancer is a major burden on public health worldwide. In addition, cancer can affect sleep. Symptoms of cancer or side effects of treatment may cause sleeping problems, reducing quality of life in people with the disease.[1] Cancer can also lead to lasting physical and mental changes that hinder sleep, including in cancer survivors who have long completed treatment and may even lead to immune dysregulation and increased mortality in cancer patients. More studies have to elucidate the effectiveness of alternative therapies on their quality of life and outcome. Sleep disturbances occur in about 12% -25% of the general population and are often associated with situational stress, illness aging and drug treatment.[2] It is estimated that 45% of people with cancer experience sleep disturbance. Sleep disorders are reported to be very prevalent in patients with cancer but often unrecognized and unaddressed. Sleep disturbances have been found to affect between 30%-75% of cancer patients.[3] This is twice that seen in patients with psychiatric disorders. These sleep disturbances are extremely troublesome to the patient and decrease the overall quality of life. More than 50% of cancer patients with sleep disturbances reported their symptoms to be moderate, severe or intolerable. The highest rates of sleep disturbances are seen in hospitalized cancer patients and advanced cancer patients with prevalence rates as high 67%-72%.[4]

MATERIALS AND METHODS

The study was conducted among 60 cancer patients who were selected based on inclusion and exclusion criteria. Non-Probability purposive sampling method was used in this study. Pre-experimental (one group pre-test post-test) research study design was used. The Pittsburgh Sleep Quality index (PSQI) questionnaire

was used as a screening tool. Acupressure was given at 3 points (back of the ear, wrist and calf muscle for 3min /acupoint on the same day after completion of pre-test and it was given for 7 days continuously before bedtime.

Procedure

The permission was obtained from the Administrator, Central manager and Nursing service. The number of samples for the main study was 60. Patients were selected who satisfy the inclusion criteria by using non probability purposive sampling technique. The researcher introduced about the study to the subjects and established rapport with them and demographic variables were collected and patient's quality of sleep was assessed by PSQI scale in pretest and acupressure was given at bedtime for about 9 minutes (3min/acupoint) in the HT-7shenmen wrist point, SP-6 sanjinijiao base of calf muscle and Animan I and II back of the ear to induce sleep. 13-14 patients were assessed per week. The purpose of sleep diary has been explained and it was maintained by the investigator from the very next morning for 7 days. This acupressure therapy was given once in a day before bedtime for seven days. Post-test was assessed on the 8th day morning using the PSQI scale. Acupressure self-instructional module was given after post-test to make use of acupressure at home setting.

Statistical Analysis

Descriptive and inferential statistics was used to analyze quality of sleep among cancer patients before intervention, after intervention, and effectiveness of acupressure on improving the quality of sleep among cancer patients.

RESULTS

Distribution of cancer patients according to their age group depicts that the highest percentage 40 (66.67%) of patients belonged to the age group of 46-50 years; 8 (13.33%) were in the age group of 35-40 years, 12 (20%) were in the age group of 41-45 years. Percentage wise distribution of cancer patients according to their sex reveals the higher percentage 35 (58.33%) were females when compared to males 25 (41.67%). Females are more affected than Males. The data showed that most of the patients 52 (86.66%) were married, 4 (6.67%) were single and only 4 (6.67%) were widower/widow. Among 60 cancer patients 54 (90%) were Hindu and only 2 (3.33%) were Christian and 4 (6.67%) were Muslim. In relation to monthly income, 44 (73.33%) were in the income group of Rs.1000-Rs.3000 and 13 (21.67%) were in the income group of Rs. 3001-Rs. 6000 and only 3 (5%) had family income of above Rs. 6000.

Table 1: Frequency and percentage wise distribution of quality of sleep among Cancer patients before intervention. N=60

Quality of Sleep	Before intervention	
	Frequency (N)	Percentage (%)
Good sleep	7	11.67
Fairly good Sleep	46	76.66
Poor sleep	7	11.67

Table 1 showed that among 60 cancer patients, 7 (11.67%) of cancer patients had good sleep, 46 (76.66%) of cancer patients had fairly good sleep and 7 (11.67%) had poor sleep before intervention.

Table 2: Frequency and percentage distribution of quality of sleep among cancer patients after intervention. N=60.

Quality of Sleep	After intervention	
	Frequency (N)	Percentage (%)
Good sleep	50	83.33
Fairly good Sleep	10	16.67
Poor sleep	0	-

Table 2 showed that among 60 cancer patients, 50 (83.33%) of cancer patients had good sleep, 10 (16.67%) of cancer patients had fairly good sleep after intervention.

Table 3: Comparison of mean, standard deviation and "t" test value before and after intervention. N=60

SL. No	Variable	Mean	Standard deviation	Mean Difference	Paired t-test	Table value	Remarks
1	Before Intervention	138.16	3.23	107.65	23.06	1.960	significant
2	After Intervention	30.51	2.30				

df = 59 (P<0.05)

Table 3 showed that the mean scores of quality of sleep among cancer patients before and after intervention were 138.16 (SD + 3.23) and 30.51 (SD ± 2.32) respectively and it represents the scores of sleep after intervention

were significantly lower than the score of sleep before intervention and the mean difference is 107.65. The "t" value is 23.06 (1.960) which was significant at 0.05 level.

DISCUSSION

Sleep problems in cancer patients often go unrecognized because patients do not report them. However, only one-third of those with sleep problems told their health care providers. This highlights the need for physicians to address sleep complaints in cancer patients at every visit and, if needed, to refer them to sleep specialist for further evaluation and management.

Waits et al, conducted a systematic review and a meta-analysis to evaluate the effects of acupressure on the quality of sleep. Results showed that comparison with the sham group (7 trials with 385 patients) yielded low heterogeneity and an overall effect of 13%-19% improvement in the PSQI score (MD = -3.41, 95% CI -4.08, -2.75; I^2 = 12%). Based on data from four trials (n = 250), sleep latency and sleep duration were most affected. No adverse effects were reported in any of the reviewed trials.[5]

Cao H et al, conducted a randomized controlled trials on acupuncture for insomnia among 3811 patients. Results showed a beneficial effect of acupuncture compared with no treatment (MD -3.28, 95% CI -6.10 to -0.46, p = 0.02; 4 trials) and real acupressure compared with sham acupressure (MD -2.94, 95% CI -5.77 to -0.11, p = 0.04; 2 trials) on total scores of Pittsburgh Sleep Quality Index. Acupuncture was superior to medications regarding the number of patients with total sleep duration increased for >3 hours (RR 1.53, 95% CI 1.24-1.88, p < 0.0001). However, there was no difference between acupuncture and medications in average sleep duration (MD -0.06, 95% CI -0.30-0.18, p = 0.63). Acupuncture plus medications showed better effect than medications alone on total sleep duration (MD 1.09, 95% CI 0.56-1.61, p < 0.0001).[6]

A Pilot Randomized Controlled Trial was done by **Zhang et al,** to assess the effectiveness of electroacupuncture plus auricular acupressure for chemotherapy-associated insomnia in patients with breast cancer. Twenty-eight participants completed study (13 in the acupuncture group vs 15 in the wait-list control group). At week-6 post-intervention, ISI score change from baseline showed significant between-group difference favoring acupuncture group of -2.9 points (95% CI: -5.2 to -0.6, *P* =.014). The acupuncture group showed greater improvements in the total sleep time recorded by sleep diary (*P* =.026), scores of PSQI (*P* =.012), HADS-depression (*P* =.020), and FACT-B (*P* <.001) compared with the control group. Improvements were maintained at week-10 and week-14 follow-ups.[7]

All the above-mentioned studies as well as the present study indicated that there was sleep disturbances for patients who were on therapy. So, it is very important to educate cancer patients regarding the management of sleep disturbances with acupressure and to improve the quality of life.

There are some limitations for the current study. The investigator faced difficulty to carry out acupressure therapy when patients were retires from daytime functions at late night.

CONCLUSION

For people with cancer, better sleep may help in feeling better both physically and emotionally, improving their ability to cope with cancer.[8] Acupressure can be done by a professional, a partner or by self and can be administered multiple times per day if desired.[9] Acupressure can significantly improve the sleep quality of sleep among cancer patients with sleep disturbance, with no obvious side effects.

CONFLICT OF INTEREST STATEMENT

The authors declare that they have no conflicts of interest.

REFERENCES

1. Greenlee H, DuPont-Reyes MJ, Balneaves LG, Carlson LE, Cohen MR, Deng G, Johnson JA, Mumber M, Seely D, Zick SM, Boyce LM, Tripathy D. Clinical practice guidelines on the evidence-based use of integrative therapies during and after breast cancer treatment. CA Cancer J Clin, 2017 May 6; 67(3): 194-232. doi: 10.3322/caac.21397. Epub 2017 Apr 24. PMID: 28436999; PMCID: PMC5892208.
2. He Y, Guo X, May BH, Zhang AL, Liu Y, Lu C, Mao JJ, Xue CC, Zhang H. Clinical Evidence for Association of Acupuncture and Acupressure With Improved Cancer Pain: A Systematic Review and Meta-Analysis. JAMA Oncol, 2020 Feb 1; 6(2): 271-278. doi: 10.1001/jamaoncol.2019.5233. PMID: 31855257; PMCID: PMC6990758.
3. Lau CHY, Wu X, Chung VCH, Liu X, Hui EP, Cramer H, Lauche R, Wong SYS, Lau AYL, Sit RWS, Ziea ETC, Ng BFL, Wu JCY. Acupuncture and Related Therapies for Symptom Management in Palliative Cancer Care: Systematic Review and Meta-Analysis. Medicine (Baltimore), 2016 Mar; 95(9): e2901. doi: 10.1097/MD.0000000000002901. Erratum in: Medicine (Baltimore), 2016 May 20; 95(20): e90e6. PMID: 26945382; PMCID: PMC4782866.
4. Dawczak-Dębicka A, Kufel-Grabowska J, Bartoszkiewicz M, Perdyan A, Jassem J. Complementary and Alternative Therapies in Oncology. Int J Environ Res Public Health, 2022 Apr 21; 19(9): 5071. doi: 10.3390/ijerph19095071. PMID: 35564468; PMCID: PMC9104744.
5. Waits A, Tang YR, Cheng HM, Tai CJ, Chien LY.

Acupressure effect on sleep quality: A systematic review and meta-analysis. Sleep Med Rev, 2018 Feb; 37: 24-34. doi: 10.1016/j.smrv.2016.12.004. Epub 2016 Dec 22. PMID: 28089414.

6. Wu Y, Yang L, Li L, Wu X, Zhong Z, He Z, Ma H, Wang L, Lu Z, Cai C, Zhao D, Meng X, Qi A, Yang A, Su G, Guo X, Liu X, Zou C, Lin Q. Auricular acupressure for insomnia in hemodialysis patients: study protocol for a randomized controlled trial. Trials, 2018 Mar 7; 19(1): 171. doi: 10.1186/s13063-018-2546-2. PMID: 29514705; PMCID: PMC5842538.
7. Zou C, Yang L, Wu Y, Su G, Chen S, Guo X, Wu X, Liu X, Lin Q. Auricular acupressure on specific points for hemodialysis patients with insomnia: a pilot randomized controlled trial. PLoS One, 2015 Apr 15; 10(4): e0122724. doi: 10.1371/journal.pone.0122724. PMID: 25874938; PMCID: PMC4398355.
8. Nourizadeh R, Khanipour S, Zamiri RE, Namin MS, Khalili A, Hakimi S. A Comparison of the Effects of Self-Acupressure and Aerobic Exercises on Sleep Disorders of Breast Cancer Survivors: A Controlled Randomized Clinical Trial. Med Acupunct, 2022 Apr 1; 34(2): 131-136. doi: 10.1089/acu.2020.1515. Epub 2022 Apr 19. PMID: 35509876; PMCID: PMC9057882.
9. Ahmadinezhad M, Kargar M, Vizeshfar F, Hadianfard MJ. Comparison of the Effect of Acupressure and Pilates-Based Exercises on Sleep Quality of Postmenopausal Women: A Randomized Controlled Trial. Iran J Nurs Midwifery Res, 2017 Mar-Apr; 22(2): 140-146. doi: 10.4103/1735-9066.205954. PMID: 28584553; PMCID: PMC5442996.
10. Chen IH, Yeh TP, Yeh YC, Chi MJ, Chen MW, Chou KR, Lien YY, Yuan CF. Effects of Acupressure on Sleep Quality and Psychological Distress in Nursing Home Residents: A Randomized Controlled Trial. J Am Med Dir Assoc, 2019 Jul; 20(7): 822-829. doi: 10.1016/j.jamda.2019.01.003. Epub 2019 Feb 20. PMID: 30797692.
11. Zhang J, Qin Z, So TH, Chen H, Lam WL, Yam LL, Yan Chan P, Lao L, Zhang ZJ. Electroacupuncture Plus Auricular Acupressure for Chemotherapy-Associated Insomnia in Breast Cancer Patients: A Pilot Randomized Controlled Trial. Integr Cancer Ther, 2021 Jan-Dec; 20: 15347354211019103. doi: 10.1177/15347354211019103. PMID: 34036813; PMCID: PMC8161840.
12. Zhang J, He Y, Huang X, Liu Y, Yu H. The effects of acupuncture versus sham/placebo acupuncture for insomnia: A systematic review and meta-analysis of randomized controlled trials. Complement Ther Clin Pract, 2020 Nov; 41: 101253. doi: 10.1016/j.ctcp.2020.101253. Epub 2020 Nov 1. PMID: 33186824.
13. Liu C, Xi H, Wu W, Wang X, Qin S, Zhao Y, Zheng S, Wan Q, Xu L. Placebo effect of acupuncture on insomnia: a systematic review and meta-analysis. Ann Palliat Med, 2020 Jan; 9(1): 19-29. doi: 10.21037/apm.2019.11.15. PMID: 32005059.
14. Zhao FY, Fu QQ, Kennedy GA, Conduit R, Zhang WJ, Wu WZ, Zheng Z. Can acupuncture improve objective sleep indices in patients with primary insomnia? A systematic review and meta-analysis. Sleep Med, 2021 Apr; 80: 244-259. doi: 10.1016/j.sleep.2021.01.053. Epub 2021 Feb 2. PMID: 33610071.