

Effectiveness of acupressure on sleep disorders in breast cancer patients: A mini review

Finta Isti Kundarti¹, Ririn Indriani¹

¹Department of Health, Midwifery, Poltekkes Kemenkes Malang, Indonesia

Corresponding Author: Ririn Indriani; ririnindriani2025@gmail.com

Abstract:

Breast cancer is the most common cancer among women and is often accompanied by sleep disturbances as a side effect of therapy. This condition can lead to fatigue, depression, anxiety, and decreased quality of life. This mini review aims to examine the effectiveness of acupressure in managing sleep disorders among breast cancer patients. Literature searches were conducted through PubMed, Cochrane, Elsevier, and Google Scholar using inclusion criteria of international randomized controlled trials (RCTs), published in the last eight years, with the keyword's acupressure and sleep disorders in breast cancer patients. Out of 4,567 identified articles, 10 studies met the criteria and were further analyzed. The review revealed that acupressure, auricular acupressure, and the combination of electroacupuncture with auricular acupressure were effective in improving sleep quality, reducing chemotherapy-related insomnia, and alleviating accompanying symptoms such as depression and fatigue. These interventions were also relatively safe, with only minor side effects such as local skin irritation. In conclusion, acupressure can be considered a feasible and safe non-pharmacological intervention to improve sleep quality in breast cancer patients.

Keywords:

acupressure; sleep disorders; breast cancer

Article Info:

Submitted:

16-09-2025

Revised:

01-11-2025

Accepted:

03-11-2025

DOI: <https://doi.org/10.53713/ijh.vxix.xxx>

This work is licensed under the CC BY-SA License.



INTRODUCTION

Sleep disorders are common health problems experienced by breast cancer patients. More than 60% of breast cancer patients have poor sleep quality, where 22% report difficulty falling asleep, 42% report frequent awakenings, and 23% report daytime sleepiness (Perrier et al., 2022). Sleep disturbances, partly caused by cancer treatments, tend to be long-term and persistent. A systematic review reported that during chemotherapy, breast cancer patients tend to experience more severe sleep disorders and may continue to suffer from them throughout chemotherapy cycles (W. L. Wang et al., 2020). Sleep disorders are also associated with an increased risk of comorbidities, higher levels of depression and anxiety, daytime sleepiness and fatigue, as well as decreased quality of

life. Therefore, modifying clinical care for breast cancer patients with sleep disorders is very important to facilitate recovery and improve quality of life (Wang et al., 2022).

Several factors potentially confound the relationship between sleep characteristics and breast cancer risk: education, body mass index (BMI), alcohol intake, smoking, heavy physical activity, family history of breast cancer, age at menarche, parity, use of oral contraceptives, menopausal status, and hormone replacement therapy (Richmond et al., 2019).

Sleep disturbances and fatigue are commonly reported by breast cancer patients. Up to 80% of breast cancer patients report sleep disorders (such as difficulty initiating or maintaining sleep, waking up earlier than desired, and being unable to return to sleep, excessive daytime sleepiness), and up to 99% report cancer-related fatigue (corticotropin-releasing factor/CRF) (Chen et al., 2020). Unlike fatigue typically experienced by individuals without cancer (Fox et al., 2020). Breast cancer is the most common cancer among women and can threaten patients' psychological well-being, employment, and society, and has serious impacts on both physical and mental health (Y. Li et al., 2021).

Breast cancer is considered one of the leading causes of death worldwide. Currently, most women with breast cancer will recover or continue to live with the disease along with complications due to ongoing treatment and early diagnosis (Hajj et al., 2021). Sleep disorders are among the common complications faced by cancer patients, caused by pain or cancer treatments such as chemotherapy and selective estrogen administration (Nourizadeh et al., 2022).

Chemotherapy plays an important role in the development of insomnia problems in cancer patients. The proportion of patients undergoing chemotherapy reporting insomnia is three times higher than in the general population. More than 36% of breast cancer patients experience post-chemotherapy insomnia (Cho & Hwang, 2021). Factors contributing to insomnia during chemotherapy include psychological stress associated with cancer diagnosis and treatment, pre-treatment chemotherapy effects (e.g., corticosteroids), menopause onset, and neurotoxicity symptoms due to chemotherapy. Negative consequences of cancer-related insomnia include depression, anxiety, fatigue, severe pain, impaired immune function, decreased quality of life, and even increased cancer mortality. If not treated properly, this condition can persist for years or become chronic after chemotherapy ends (Zhang et al., 2021).

Breast cancer patients often report sleepiness accompanied by fatigue. During chemotherapy, 38% of women reported EDS as measured by the Epworth Sleepiness Scale. Among newly diagnosed women, physical fatigue and attention predicted daytime sleepiness trajectories, assessed using the General Sleep Disorder Scale, during treatment (Redeker et al., 2022).

Acupuncture involves stimulation of specific points (i.e., acupoints) by inserting thin solid metal needles into the skin (Shuyi, 2022). Variations include electroacupuncture, in which a small electric current is passed through the acupuncture needles to provide stronger stimulation than acupuncture alone, with different effects suggested by functional MRI. Acupuncture has been practiced in Asia for thousands of years as part of traditional medicine systems (e.g., Chinese, Japanese, and Korean traditional medicine) and is believed to stimulate the flow of an energy form called qi throughout the body (Greenlee et al., 2017).

Acupressure and massage are generally similar, except acupuncture requires the use of needles. The specific composition of blood vessels, mast cells, and nerve fibers at meridian acupoints allows them to be easily activated in acupuncture signal mediation. The mechanism of acupressure at point P6 can prevent nausea and vomiting in pregnant women. It has been found that acupuncture stimulates the release of endorphins into the cerebrospinal fluid, thereby enhancing the endogenous antiemetic tone (Vallim et al., 2019).

To the best of the researchers' knowledge, this is the first study to review complementary care, namely acupressure, for sleep disturbances in breast cancer patients. The aim of this study is to review the effect of acupressure on sleep quality in patients.

METHODS

This review was conducted based on predefined inclusion and exclusion criteria to ensure the selection of relevant and high-quality studies. The inclusion criteria were as follows: (1) studies employing the keywords acupressure, postpartum, benefits, sleep disorders, and breast cancer; (2) published in international peer-reviewed journals; (3) utilizing a cross-sectional research design; and (4) available in full-text PDF format. The exclusion criteria included: (1) studies published more than eight years prior to the review period, and (2) studies that were not accessible in full text.

Relevant literature was retrieved from several major electronic databases, including PubMed (n = 13), Cochrane Library (n = 11), Elsevier (n = 3), and Google Scholar (n = 4,540). After removing duplicates and applying the inclusion and exclusion criteria, a total of four studies met the eligibility requirements and were included in the final review.

RESULTS

Table 1. Summary of Non-Pharmacological Interventions to Improve Sleep Quality

No	Author (Year)	Country	Participants	Study Design	Intervention	Instrument	Main Findings
1	Wang et al., 2022	China	99 women with breast cancer	Randomized controlled trial (single-blind)	Oral and written sleep hygiene education and aerobic exercise 3 times per week for 8 weeks	Actiwatch; 19-item sleep component scale	Significant improvements in sleep latency and efficiency were observed in the intervention group compared with the control.
2	Nourizadeh et al., 2022	Iran	74 women	Randomized controlled trial (single-blind)	Self-administered acupressure on HE7, HE GU, and SP6 points, 3 times daily for 8 weeks	Pittsburgh Sleep Quality Index (PSQI)	Both acupressure and exercise reduced sleep disturbances; no significant difference between groups, though exercise showed slightly higher improvement.
3	Zhang, Qin, et al., 2021	China	68 breast unit patients across three Class A hospitals	Randomized controlled trial	Acupuncture (EA + AA) twice weekly for 6 weeks	PSQI, Hospital Anxiety and Depression Scale (HADS), Functional Assessment of Cancer Therapy–Breast (FACT-B)	The acupuncture group demonstrated significant improvements in total sleep time, PSQI score, depressive symptoms, and quality of life.
4	Zhang et al., 2023	Turkey	41 patients (mean age = 50 ± 14 years)	Randomized controlled trial	Auricular Point Acupressure (APA) with magnetic pellets pressed 4 times daily for 3 weeks; all received sleep hygiene education	Actiwatch Spectrum; PSQI	The APA group showed significant reductions in PSQI total score and sleep latency and increases in sleep duration and efficiency ($p < 0.05$).
5	Larkey et al., 2019	United States	87 women	Double-blind randomized controlled trial	Qigong/Tai Chi Easy (TCE) for 12 weeks with 3-month follow-up	4-item Vitality Scale (SF-MOS)	Fatigue significantly decreased in the QG/TCE group post-intervention ($p = 0.005$) and at 3-month follow-up ($p = 0.024$); no

No	Author (Year)	Country	Participants	Study Design	Intervention	Instrument	Main Findings
							significant effect on sleep outcomes.
6	Kuo et al., 2018	Australia	47 women with breast cancer undergoing chemotherapy	Randomized controlled trial	Sleep hygiene education plus APA across three chemotherapy cycles	PSQI	Participants in the APA group showed greater reductions in PSQI scores compared with the control group after chemotherapy cycles.
7	Ko et al., 2019	Taiwan	30 postpartum women with insomnia	Randomized controlled trial	Auricular acupressure using ferrite magnets pressed 4 times daily for 14 days	PSQI	PSQI total score decreased by 36%, with significant improvements in sleep quality, latency, duration, and disturbance subscales ($p < 0.05$).
8	Zhang, Qin, et al., 2021	Hong Kong	30 women with breast cancer	Randomized controlled trial	Electroacupuncture (EA) plus auricular acupuncture (AA) twice weekly for 6 weeks	PSQI, HADS, FACT-B, Actiwatch, Sleep Diary	Significant improvements in ISI and PSQI scores were observed in the acupuncture group compared with the wait-list control ($p = 0.014$).
9	Abasi et al., 2022	South Korea	51 older adults (>65 years)	Randomized controlled trial	Acupressure monitored with Fitbit Charge HR™ over 6 weeks	PSQI; Fitbit sleep data; melatonin assay	No significant changes in PSQI or melatonin levels; however, significant improvements were observed in light, deep, and REM sleep durations ($p < 0.05$).
10	Garland et al., 2017	United States	58 breast cancer survivors (stages 0–III)	Randomized controlled trial	Electroacupuncture (EA) 10 sessions over 8 weeks vs gabapentin	PSQI (19 items)	The EA group showed greater reductions in PSQI total score (-2.6 vs -0.8 ; $p = 0.044$), and improved sleep latency and efficiency ($p < 0.05$).

Of the ten reviewed journals, all were homogeneous in design, using Randomized Controlled Trials (RCTs) with random sampling to avoid bias. Breast cancer is the most diagnosed cancer in women worldwide. Although survival rates continue to increase, breast cancer is often associated with long-term psychological stress, chronic pain, fatigue, and reduced quality of life.

Yoga was applied in some studies as complementary therapy, offering lifestyle advice, spiritual practice, physical exercise, breathing techniques, and meditation. It is often recommended for breast cancer-related disorders and has been shown to improve physical and mental health (Sherman et al., 2020).

Several studies confirmed the safety and effectiveness of acupuncture for insomnia. Electroacupuncture (EA) and auricular acupressure (AA) showed promising efficacy in improving sleep quality and reducing depressive symptoms. EA is well-tolerated and effective in treating chemotherapy side effects such as cognitive impairment in breast cancer patients (Zhang, Qin, et al., 2021).

DISCUSSION

The reviewed interventions confirm that acupressure and related modalities such as auricular acupressure (AA) and electroacupuncture (EA) are effective in managing sleep disorders among women with breast cancer and other chronic conditions. Across multiple randomized controlled trials, acupressure was associated with significant improvements in sleep onset latency, total sleep time, and sleep efficiency compared with sham or control groups (Nourizadeh et al., 2022; Zhang, Qin, et al., 2021; Ko et al., 2019; Kuo et al., 2018). These findings align with other evidence demonstrating that stimulation of multiple meridian points for approximately two months can significantly enhance both subjective and objective sleep quality indicators (Zhang et al., 2023; Wang et al., 2022).

The studies collectively support the therapeutic value of acupressure as a complementary approach to managing cancer-related sleep disturbances. For instance, Nourizadeh et al. (2022) reported that women who performed self-acupressure three times daily for eight weeks exhibited a marked reduction in sleep disturbances, comparable to those who engaged in aerobic exercise. Similarly, Kuo et al. (2018) found that women receiving auricular point acupressure during chemotherapy experienced significant improvements in PSQI scores, highlighting its practical utility even in intensive treatment contexts. Furthermore, Zhang and colleagues (2021, 2023) demonstrated that electroacupuncture combined with auricular acupressure (EA + AA) produced substantial gains in sleep quality, duration, and latency, along with reductions in anxiety and depression as measured by the Hospital Anxiety and Depression Scale (HADS). These results suggest that acupressure-based therapies not only target sleep regulation but also support emotional well-being and overall quality of life.

Safety and acceptability were also consistent across the reviewed studies. Most trials reported minimal or no adverse effects associated with acupressure or acupuncture interventions

(Nourizadeh et al., 2022; Ko et al., 2019), reinforcing their potential as safe, low-risk alternatives or adjuncts to pharmacologic sleep aids. Compared with medications such as gabapentin—used in Garland et al.'s (2017) study—electroacupuncture yielded comparable or superior improvements in PSQI total scores and sleep efficiency, without the side effects commonly associated with sedatives or anticonvulsants. This comparison highlights the potential for integrating acupressure and acupuncture into evidence-based complementary cancer care programs that prioritize holistic and patient-centered approaches.

The physiological mechanisms underlying these effects may involve modulation of the autonomic nervous system, increased parasympathetic activation, and potential regulation of melatonin secretion (Abasi et al., 2022). Although melatonin levels did not differ significantly in some trials, improvements in light, deep, and REM sleep phases were observed, suggesting that acupressure's influence may operate through neural or psychosomatic pathways rather than purely hormonal ones.

From a midwifery perspective, these findings highlight the broader implications for women's health practice. Non-pharmacological interventions such as auricular acupressure, acupuncture, and structured exercise can be safely integrated into care plans for women experiencing sleep disturbances due to hormonal, psychological, or oncological factors. Midwives and women's health professionals play a vital role in patient education, adherence monitoring, and ensuring safe implementation of such techniques within multidisciplinary care frameworks.

Future research should extend beyond short-term efficacy to explore the sustainability, safety, and cost-effectiveness of acupressure interventions across diverse populations and stages of illness. Incorporating mixed-method or participatory approaches could further elucidate patient experiences and cultural perceptions, thereby enriching the evidence base for holistic, woman-centered, and culturally congruent sleep interventions in oncology and midwifery practice.

CONCLUSION

This mini review concludes that acupressure for sleep disorders in breast cancer patients expands our understanding of its feasibility, efficacy, and safety. Electroacupuncture plus auricular acupressure (EA+AA), if proven effective, can be integrated into standard care to manage chemotherapy-related insomnia.

Adverse effects of auricular therapy are rare, usually mild (skin irritation, local discomfort, dizziness). No strong evidence shows auricular acupuncture is superior to auricular pressing, but both appear safe and tolerable.

REFERENCES

- Choudhari, SK, Potdar, N., Hiremath, P., & Kharat, D. (2017). Sebuah penelitian untuk menilai efektivitas pijat refleksi kaki terhadap kecemasan pasien yang menjalani hemodialisis di rumah sakit tersier, Karad. *Jurnal Penelitian Farmasi dan Klinis Asia*, 10(7), 345–348. <https://doi.org/10.22159/ajpcr.2017.v10i7.18602>
- Abasi, S., Akbari, H., & Sabery, M. (2022). The effects of acupressure on sleep quality and compassion fatigue among emergency and critical care nurses during the coronavirus disease 2019 pandemic: A clinical trial. *Nursing and Midwifery Studies*, 11(2), 79–84. https://doi.org/10.4103/nms.nms_97_21
- Chen, Z., Ye, X., Shen, Z., Chen, G., Chen, W., He, T., & Xu, X. (2020). Effect of Pilates on Sleep Quality: A Systematic Review and Meta-Analysis of Randomized Controlled Trials. *Frontiers in Neurology*, 11(March), 1–7. <https://doi.org/10.3389/fneur.2020.00158>
- Cho, O. H., & Hwang, K. H. (2021). Association between sleep quality, anxiety and depression among Korean breast cancer survivors. *Nursing Open*, 8(3), 1030–1037. <https://doi.org/10.1002/nop2.710>
- Fox, R. S., Ancoli-Israel, S., Roesch, S. C., Merz, E. L., Mills, S. D., Wells, K. J., Sadler, G. R., & Malcarne, V. L. (2020). Sleep disturbance and cancer-related fatigue symptom cluster in breast cancer patients undergoing chemotherapy. *Supportive Care in Cancer*, 28(2), 845–855. <https://doi.org/10.1007/s00520-019-04834-w>
- Frangé, C., Banzoli, C. V., Colombo, A. E., Siegler, M., Coelho, G., Bezerra, A. G., Csermak, M., Naufel, M. F., Cesar-Netto, C., Andersen, M. L., Girão, M. J. B. C., Tufik, S., & Hachul, H. (2017). Women's sleep disorders: Integrative care. *Sleep Science*, 10(4), 174–180. <https://doi.org/10.5935/1984-0063.20170030>
- Garland, S. N., Xie, S. X., Li, Q., Seluzicki, C., Basal, C., & Mao, J. J. (2017). Comparative effectiveness of electro-acupuncture versus gabapentin for sleep disturbances in breast cancer survivors with hot flashes: A randomized trial. *Menopause*, 24(5), 517–523. <https://doi.org/10.1097/GME.0000000000000779>
- Greenlee, H., DuPont-Reyes, M. J., Balneaves, L. G., Carlson, L. E., Cohen, M. R., Deng, G., Johnson, J. A., Mumber, M., Seely, D., Zick, S. M., Boyce, L. M., & Tripathy, D. (2017). Clinical practice guidelines on the evidence-based use of integrative therapies during and after breast cancer treatment. *CA: A Cancer Journal for Clinicians*, 67(3), 194–232. <https://doi.org/10.3322/caac.21397>
- Ha, B., Kim, J., So, W. Y., & Kim, S. (2023). Effects of Nonpharmacological Interventions on Sleep Quality and Insomnia in Perimenopausal and Postmenopausal Women: A Meta-Analysis. *Healthcare (Switzerland)*, 11(3). <https://doi.org/10.3390/healthcare11030327>
- Hajj, A., Hachem, R., Khoury, R., Hallit, S., EIJEBAWI, B., Nasr, F., El Karak, F., Chahine, G., Kattan, J., & Rabbaa Khabbaz, L. (2021). Clinical and genetic factors associated with anxiety and depression in breast cancer patients: a cross-sectional study. *BMC Cancer*, 21(1), 1–11. <https://doi.org/10.1186/s12885-021-08615-9>
- He, Y., Guo, X., May, B. H., Zhang, A. L., Liu, Y., Lu, C., Mao, J. J., Xue, C. C., & Zhang, H. (2020). Clinical Evidence for Association of Acupuncture and Acupressure with Improved Cancer Pain:

- A Systematic Review and Meta-Analysis. *JAMA Oncology*, 6(2), 271–278. <https://doi.org/10.1001/jamaoncol.2019.5233>
- Hervik, J., & Mjaland, O. (2018). Examining the relationship between traditional Chinese medicine and conventional medicine in breast cancer patients medicated with estrogen antagonists. *Alternative Medicine Studies*, 2(1), 11. <https://doi.org/10.4081/ams.2012.e11>
- Jia, L., & Hu, Y. (2022). Self-Management About Adjuvant Therapy in Breast Cancer Survivors: A Qualitative Study. *Patient Preference and Adherence*, 16, 2663–2681. <https://doi.org/10.2147/PPA.S379435>
- Karimi, F. Z., Miri, H. H., Khadivzadeh, T., & Maleki-Saghooni, N. (2020). The effect of mother-infant skin-to-skin contact immediately after birth on exclusive breastfeeding: A systematic review and meta-analysis. *Journal of the Turkish German Gynecology Association*, 21(1), 46–56. <https://doi.org/10.4274/jtgga.galenos.2019.2018.0138>
- Ko, Y. L., Lin, S. C., & Lin, P. C. (2019). Effect of auricular acupressure for postpartum insomnia: An uncontrolled clinical trial. *Journal of Clinical Nursing*, 25(3–4), 332–339. <https://doi.org/10.1111/jocn.13053>
- Kuo, H. C., Tsao, Y., Tu, H. Y., Dai, Z. H., & Creedy, D. K. (2018). Pilot randomized controlled trial of auricular point acupressure for sleep disturbances in women with ovarian cancer. *Research in Nursing and Health*, 41(5), 469–479. <https://doi.org/10.1002/nur.21885>
- Larkey, L. K., Roe, D. J., Weihs, K. L., Jahnke, R., Lopez, A. M., Rogers, C. E., Oh, B., & Guillen-Rodriguez, J. (2019). Randomized Controlled Trial of Qigong/Tai Chi Easy on Cancer-Related Fatigue in Breast Cancer Survivors. *Annals of Behavioral Medicine*, 49(2), 165–176. <https://doi.org/10.1007/s12160-014-9645-4>
- Li, W., Sun, M., Yin, X., Lao, L., Kuang, Z., & Xu, S. (2020). The effect of acupuncture on depression and its correlation with metabolic alterations A randomized controlled trial. *Medicine (United States)*, 99(43), 1–11. <https://doi.org/10.1097/MD.00000000000022752>
- Li, Y., Zhang, X., Zhang, L., & Wang, W. (2021). Effects of evidence-based nursing on psychological well-being, postoperative complications and quality of life after breast cancer surgery. *American Journal of Translational Research*, 13(5), 5165–5173.
- Mangesi, L. (2019). Treatments for breast engorgement during lactation (Review) SUMMARY OF FINDINGS FOR THE MAIN COMPARISON. *Cochrane Database Syst Rev*, 6. <https://doi.org/10.1002/14651858.CD006946.pub3.www.cochranelibrary.com>
- Mehta, P., Dhapte, V., Kadam, S., & Dhapte, V. (2017). Contemporary acupressure therapy: Adroit cure for painless recovery of therapeutic ailments. *Journal of Traditional and Complementary Medicine*, 7(2), 251–263. <https://doi.org/10.1016/j.jtcme.2016.06.004>
- Mohd Nafiah, N. A., Chieng, W. K., Zainuddin, A. A., Chew, K. T., Kalok, A., Abu, M. A., Ng, B. K., Mohamed Ismail, N. A., & Nur Azurah, A. G. (2022). Effect of Acupressure at P6 on Nausea and Vomiting in Women with Hyperemesis Gravidarum: A Randomized Controlled Trial. *International Journal of Environmental Research and Public Health*, 19(17). <https://doi.org/10.3390/ijerph191710886>
- Nourizadeh, R., Khanipour, S., Zamiri, R. E., Namin, M. S., Khalili, A., & Hakimi, S. (2022). A Comparison of the Effects of Self-Acupressure and Aerobic Exercises on Sleep Disorders of Breast Cancer Survivors: A Controlled Randomized Clinical Trial. *Medical Acupuncture*, 34(2), 131–136. <https://doi.org/10.1089/acu.2020.1515>

- Perrier, J., Duivon, M., Clochon, P., Rehel, S., Doidy, F., Grellard, J. M., Segura-Djezzar, C., Geffrelet, J., Emile, G., Allouache, D., Levy, C., Polvent, S., Viader, F., Eustache, F., Joly, F., & Giffard, B. (2022). Sleep macro- and microstructure in breast cancer survivors. *Scientific Reports*, 12(1), 1–8. <https://doi.org/10.1038/s41598-022-06664-z>
- Pirnia, B., & Pirnia, K. (2018). Comparison of two mindfulness-based cognitive therapies and acupuncture on the pain and depression index in a case with lobular carcinoma: A single case experimental study. *International Journal of Cancer Management*, 11(6), 4–7. <https://doi.org/10.5812/ijcm.65641>
- Redeker, N. S., Conley, S., & Hwang, Y. (2022). Sleep Deficiency: A Symptoms Perspective: Exemplars from Chronic Heart Failure, Inflammatory Bowel Disease, and Breast Cancer. *Clinics in Chest Medicine*, 43(2), 217–228. <https://doi.org/10.1016/j.ccm.2022.02.006>
- Richmond, R. C., Anderson, E. L., Dashti, H. S., Jones, S. E., Lane, J. M., Strand, L. B., Brumpton, B., Rutter, M. K., Wood, A. R., Straif, K., Relton, C. L., Munafò, M., Frayling, T. M., Martin, R. M., Saxena, R., Weedon, M. N., Lawlor, D. A., & Smith, G. D. (2019). Investigating causal relations between sleep traits and risk of breast cancer in women: Mendelian randomisation study. *The BMJ*, 365, 1–12. <https://doi.org/10.1136/bmj.l2327>
- Sherman, K., Sun, J., & Lin, C. (2020). Acupuncture for insomnia. *Focus on Alternative and Complementary Therapies*, 15(4), 293–294. https://doi.org/10.1111/j.2042-7166.2010.01057_3.x
- Shorofi, S. A., Nozari-Mirarkolaei, F., Arbon, P., & Bagheri-Nesamie, M. (2021). Depression and Sleep Quality among Iranian Women with Breast Cancer. *Asian Pacific Journal of Cancer Prevention*, 22(11), 3433–3440. <https://doi.org/10.31557/APJCP.2021.22.11.3433>
- Shuyi, W. (2022). *Non-pharmacological interventions related to pain in patients with breast cancer A descriptive review Year 2022*.
- Unal, E., & Ozdemir, A. (2019). Recent Studies in Health Sciences. In *The Encyclopedia of Ancient History*.
- Vallim, E. T. A., Marques, A. da C. B., Coelho, R. de C. F. P., Guimarães, P. R. B., Felix, J. V. C., & Kalinke, L. P. (2019). Auricular acupressure in the quality of life of women with breast cancer: A randomized clinical trial. *Revista Da Escola de Enfermagem*, 53, 1–9. <https://doi.org/10.1590/S1980-220X2018043603525e03525>
- Wang, C. F., Sun, Y. L., & Zang, H. X. (2019). Music therapy improves sleep quality in acute and chronic sleep disorders: A meta-analysis of 10 randomized studies. *International Journal of Nursing Studies*, 51(1), 51–62. <https://doi.org/10.1016/j.ijnurstu.2013.03.008>
- Wang, J., Chen, Y., Zhai, X., Chu, Y., Liu, X., & Ma, X. (2022). Visualizing Research Trends and Identifying Hotspots of Traditional Chinese Medicine (TCM) Nursing Technology for Insomnia: A 18-Years Bibliometric Analysis of Web of Science Core Collection. *Frontiers in Neurology*, 13(March), 1–16. <https://doi.org/10.3389/fneur.2022.816031>
- Wang, L., Li, J., Wang, Q., Gao, C., Tang, Q., Zhao, M., & Zhang, K. (2022). Annual advances of acupuncture research in 2021. *TMR Non-Drug Therapy*, 5(2), 7. <https://doi.org/10.53388/tmrnd20220407007>
- Wang, W. L., Hung, H. Y., Chen, Y. R., Chen, K. H., Yang, S. N., Chu, C. M., & Chan, Y. Y. (2020). Effect of Foot Reflexology Intervention on Depression, Anxiety, and Sleep Quality in Adults: A Meta-Analysis and Metaregression of Randomized Controlled Trials. *Evidence-Based Complementary and Alternative Medicine*, 2020. <https://doi.org/10.1155/2020/2654353>

- Xinyu, Ji, X., Wu, J., Li, J., Zheng, W., Wu, C., Huang, L., Geng, Z., & Zhou, J. (2022). Adaptive Auricular Point Acupressure for Sleep Disorders in Women with Breast Cancer: A Randomized Controlled Trial. *Evidence-Based Complementary and Alternative Medicine*, 2022. <https://doi.org/10.1155/2022/8637386>
- Zhang, J., Qin, Z., So, T. H., Chang, T. Y., Yang, S., Chen, H., Yeung, W. F., Chung, K. F., Chan, P. Y., Huang, Y., Xu, S., Chiang, C. Y., Lao, L., & Zhang, Z. J. (2023). Acupuncture for chemotherapy-associated insomnia in breast cancer patients: an assessor-participant blinded, randomized, sham-controlled trial. *Breast Cancer Research*, 25(1), 1–15. <https://doi.org/10.1186/s13058-023-01645-0>
- Zhang, J., Qin, Z., So, T. H., Chen, H., Lam, W. L., Yam, L. Lo, Yan Chan, P., Lao, L., & Zhang, Z. J. (2021). Electroacupuncture Plus Auricular Acupressure for Chemotherapy-Associated Insomnia in Breast Cancer Patients: A Pilot Randomized Controlled Trial. *Integrative Cancer Therapies*, 20. <https://doi.org/10.1177/15347354211019103>
- Zhang, J., Yang, M., So, T. H., Chang, T. Y., Qin, Z., Chen, H., Lam, W. L., Yeung, W. F., Chung, K. F., Jiang, F., Lao, L., & Zhang, Z. J. (2021). Electroacupuncture Plus Auricular Acupressure on Chemotherapy-Related Insomnia in Patients With Breast Cancer (EACRI): Study Protocol for a Randomized, Sham-Controlled Trial. *Integrative Cancer Therapies*, 20. <https://doi.org/10.1177/15347354211058695>