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عنوان

مقایسه تاثیر رفلکسولوژی کف پا و ماساژ سوئدی بر کیفیت خواب و سندرم پای بی قرار در بیماران تحت همودیالیز مراجعه کننده به مرکز آموزشی درمانی ابوعلی سینا وابسته به دانشگاه علوم پزشکی شیراز در سال 1399

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Comparison the effect of Foot Reflexology and Swedish massage on sleep quality and restless leg syndrome among patients undergoing hemodialysis referred to Abu Ali Sina educational and medical center affiliated to Shiraz University of Medical Sciences in 2020

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مقدمه و هدف: بیماران تحت همودیالیز با عوارضی همچون اختلال در کیفیت خواب و سندرم پای بی قرار روبرو هستند، که تأثیرات منفی بر کیفیت زندگی آنها می گذارند. امروزه بسیاری از بیماران همراه با استفاده از طب مدرن از روش های طب مکمل نیز برای کم کردن علائم و عوارض بیماری خود استفاده می کنند که بعضا به علت عدم دانش کافی، به صورت آزمون و خطا این روش ها را انتخاب می کنند. بر همین اساس و با هدف مقایسه روش های طب مکمل در کاهش مشکلات بیماران تحت همودیالیز، پژوهشی با هدف مقایسه تاثیر رفلکسولوژی کف پا و ماساژ سوئدی بر کیفیت خواب و سندرم پای بی قرار در بیماران تحت همودیالیز مراجعه کننده به مرکز آموزشی درمانی ابوعلی سینا وابسته به دانشگاه علوم پزشکی شیراز در سال 1399 انجام شد. روش بررسی: این پژوهش یک مطالعه کارآزمایی بالینی تصادفی شده است که بر روی 90 بیمار تحت همودیالیز در مرکز همودیالیز مرکز اموزشی درمانی ابوعلی سینا وابسته به دانشگاه علوم پزشکی شیراز انجام شد. کلیه بیماران واجد شرایط در این مرکز با استفاده از تخصیص تصادفی بلوکی به دو گروه مداخله و یک گروه شم (درمان نما) تقسیم شدند که نهایتا تعداد30 نفر در هر گروه قرار گرفتند. دو گروه مداخله علاوه بر مراقبت روتین، به ترتیب رفلکسولوژی کف پا و ماساژ پا به روش سوئدی را به مدت 4 هفته و هفته ای 3 بار و هر بار به مدت20 دقیقه (هر پا 10 دقیقه) در حین دیالیز دریافت کردند. در گروه شم، لمس ساده زانو به پایین تا کف پا با شرایط و مدت زمان مشابه گروه آزمون، انجام شد. قبل از مداخله و بلافاصله بعد از اتمام مداخله و یک ماه بعد از مداخله (جهت پیگیری) پرسشنامه های کیفیت خواب و سندرم پای بی قرار برای هر یک از واحدهای مورد پژوهش در هر 3 گروه از طریق مصاحبه تکمیل شد.

از آزمون آماری آنوا 1 و کروسکال والیس 2 جهت آنالیز آماری استفاده شد.

یافته ها: بر اساس نتایج، کیفیت خواب و سندرم پای بی قرار در گروه های رفلکسولوژی کف پا و ماساژ سوئدی بلافاصله بعد از مداخله نسبت به قبل از مداخله بطور قابل توجهی بهبود یافته بود (P<0.001)؛ ولی در گروه شم به تدریج بدتر هم شده بود. نتایج آزمون تعقیبی Dunnett T3 نشان داد، بلافاصله بعد از مداخله، کیفیت

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¹ ANOVA

² Kruskal-Wallis

خواب و سندرم پای بی قرار به طور معناداری در گروه رفلکسولوژی بهتر از گروه ماساژ سوئدی و گروه شم بود (P < 0.001) و گروه ماساژ سوئدی هم بهتر از گروه شم بود (P < 0.001). تغییرات کیفیت خواب و سندرم پای بی قرار در پیگیری یک ماهه بعد از مداخله، در هر سه گروه تفاوت معنی دار آماری نداشت.

بحث و نتیجه گیری: با توجه به نتایج این مطالعه، رفلکسولوژی کف پا و ماساژ سوئدی به عنوان روش های مکمل و جایگزین می توانند کیفیت خواب و سندرم پای بی قرار را در بیماران تحت همودیالیز بهبود ببخشند؛ هر چند که رفلکسولوژی کف پا تاثیر بیشتری داشته است.

كلمات كليدى: رفلكسولوژي كف پا، ماساژ سوئدي، كيفيت خواب

Abstract

Background and objectives:

Hemodialysis patients experience complications such as sleep disturbance and restless legs syndrome, each of which in turn has negative effects on their quality of life. Today, many patients with the use of modern medicine also use complementary medicine methods to reduce the symptoms and complications of their disease, which sometimes choose these methods due to lack of knowledge through trial and error. Accordingly, with the aim of comparing complementary medicine methods in reducing the problems of hemodialysis patients, a study aimed at comparing the effect of reflexology and Swedish massage on sleep quality and restless legs syndrome in hemodialysis patients referred to Abu Ali Sina Hospital affiliated to the university Shiraz Medical Sciences was conducted in 2020.

Methods:

This study is a randomized clinical trial study that was performed on 90 patients undergoing hemodialysis in the hemodialysis center of Abu Ali Sina Hospital. Eligible patients were selected by census method and using block random allocation were divided into two intervention groups and one sham group (treatment facade). Finally, according to the sample size, 30 people in each groups. In addition to routine care, the two intervention groups received foot reflexology and Swedish foot massage for 4 weeks and 3 times a week for 20 minutes each (10 minutes per foot) during dialysis. In the sham group, a simple touch of the knee down to the sole of the foot was performed with the same conditions and duration as the experimental group. Before the intervention and immediately after the intervention and one month after the intervention (for follow-up), sleep quality and restless legs syndrome questionnaires were completed for each of the studied units in all 3 groups through interviews.

Results:

The results showed that sleep quality and restless legs syndrome were significantly improved in the reflexology and Swedish massage groups immediately after the intervention compared to before the intervention (P < 0.001); but in the sham group it had gradually gotten worse. The results of Dunnett T3 post hoc test showed that immediately after the intervention, sleep quality and restless legs syndrome were significantly better in the reflexology group than the Swedish massage group and sham group (P < 0.001) and the Swedish massage group was better than the

sham group. (0.001 > P). Changes in sleep quality and restless legs syndrome were not significant in all three groups at follow-up one month after the intervention.

Conclusion:

According to the results of this study, foot reflexology and Swedish massage as complementary and alternative methods can improve sleep quality and restless leg syndrome in patients undergoing hemodialysis, although foot reflexology has been more effective.

Keywords: Plantar reflexology, Swedish massage, Sleep quality

منابع

- 1. Haileamlak A. Chronic Kidney Disease is on the Rise. Ethiopian journal of health sciences. 2018;28(6):681.
- 2. Kulikowski E, Halliday C, Johansson J, Sweeney M, Lebioda K, Wong N, et al. Apabetalone mediated epigenetic modulation is associated with favorable kidney function and alkaline phosphatase profile in patients with chronic kidney disease. Kidney and Blood Pressure Research. 2018;43(2):449–57.
- 3. Salehi F, Dehghan M, Mangolian Shahrbabaki P, Ebadzadeh MR. Effectiveness of exercise on fatigue in hemodialysis patients: a randomized controlled trial. *BMC Sports Sci Med Rehabil*. 2020;12:19.
- 4. Lv JC, Zhang LX. Prevalence and Disease Burden of Chronic Kidney Disease. Advances in experimental medicine and biology. 2019;1165:3-15.
- 5. Foreman KJ, Marquez N, Dolgert A, Fukutaki K, Fullman N, McGaughey M, et al. Forecasting life expectancy, years of life lost, and all-cause and cause-specific mortality for 250 causes of death: reference and alternative scenarios for 2016-40 for 195 countries and territories. Lancet (London, England). 2018;392(10159):2052-90.
- 6. Bikbov B, Purcell CA, Levey AS, Smith M, Abdoli A, Abebe M, et al. Global, regional, and national burden of chronic kidney disease, 1990-2017: a systematic analysis for the Global Burden of Disease Study 2017. The Lancet. 2020;395(10225):709-33.
- 7. Malekmakan L, Tadayon T, Roozbeh J. End-stage Renal Disease in the Middle East: A Systematic Review and Meta-analysis. Iran J kidney Dis. 2018;12(4):195-203.
- 8. Hinkle JL, Cheever KH. Study Guide for Brunner & Suddarth's Textbook of Medical-surgical Nursing: Lippincott Williams & Wilkins; 2013.
- 9. Li PK, Chow KM, Van de Luijtgaarden MW, Johnson DW, Jager KJ, Mehrotra R, et al. Changes in the worldwide epidemiology of peritoneal dialysis. Nature reviews Nephrology. 2017;13(2):90–103.
- 10. Ahmad S, Misra M, Hoenich N, Daugirdas J. Hemodialysis apparatus. Handbook of Dialysis 4th ed New York, NY. 2008:59-78.
- 11. Hill M. McGraw Hill Concise Medical Dictionary of Modern Medicine: McGraw Hill Companies; 2002 [cited 2021.
- 12. ICo D. Iranian consortium of Dialysis. Ann Rep Iran Dial. 2016;21:17. [In Persian]
- 13. Farhad L, Brazparandjani S, Latifi SM, Chahkhoei M, Khalili A, Paymard A, et al. The effect of collaborative care model on the fatigue in patients undergoing maintenance hemodialysis: A randomized clinical trial. Qom University of Medical Sciences Journal. 2016;10(8):71–9. [In Persian]
- 14. Palevsky PM. Definition and staging criteria of acute kidney injury in adults. In: Motwani S, ed UpToDate Waltham, Mass: UpToDate. 2020.
- 15. Abassi MR, Safavi A, Haghverdi M, Saedi B. Sleep disorders in ESRD patients undergoing hemodialysis. Acta Medica Iranica. 2016:176-84.
- 16. Kashani E, Mirhosseini Z, Rastaghi S, Rad M. The Effect of the cool dialysate on the restless leg syndrome in hemodialysis patients: Randomized triple-blind clinical trial. Iranian journal of nursing and midwifery research. 2019;24(3):200. [In Persian]

- 17. Rostami F, Ramezani Badr F, Amini K, Pezeshki A. Effect of a self-care educational program based on Orem's model on stress in patients undergoing hemodialysis. Preventive Care in Nursing & Midwifery Journal. 2015;5(1):13-22. [In Persian]
- 18. Raigan F, Taghadosi M, Sepahi N, Khaki M. Evaluation of sleep disorder and its effective factors in patients with an ischemic heart disease in the CCU ward of Kashan Shahid-Beheshti Hospital during 2017–2018. Feyz Journal of Kashan University of Medical Sciences. 2018;22(4):421–8. [In Persian]
- 19. Prochaska J, Gellman M, Turner J. Encyclopedia of behavioral medicine. Springer New York:; 2013.
- 20. Farrokhian R SM-A, Sheikhi M-R, Alipour M. Effect of foot reflexology massage on sleep quality in hemodialysis patients: a randomized control trial. Sci J Hamadan Nurs Midwifery Fac. 2016;24(4):213-20. [In Persian]
- 21. Ezzat H, Mohab A. Prevalence of sleep disorders among ESRD patients. Renal failure. 2015;37(6):1013-9.
- 22. Holley J, Berns JS, Post TW. Acute complications during hemodialysis. Up To Date online. 2009;13.
- 23. Rahmanian E, Mardani M, Abbasi M, Sharifi R. Assessment of Physical Preparedness of Farabi Hospital to Deal with the Crisis. Journal Of Neyshabur University Of Medical Sciences. 2016;4(3):48-55. [In Persian]
- 24. Bahramnezhad F FA, Zolfaghari M. Improvement of nursing care practices on sleeping quality of patients admitted to coronary care units. Medical-Surgical Nursing Journal. 2013;2(3-4):101-106. [In Persian]
- 25. Abdi A, Nazari M, Niksima SH, Baghi V, Ghanei Gheshlagh R. Prevalence of restless legs syndrome in pregnant women in Asia: systematic review and meta-analysis. The Iranian Journal of Obstetrics, Gynecology and Infertility. 2018;21(Supple):18-0. [In Persian]
- 26. Zhang L-Y, Ma X-Y, Lin J, Liu W-H, Guo W, Yin L, et al. Prevalence and risk factors of restless legs syndrome in hemodialysis patients. Nature and science of sleep. 2020;12:19.
- 27. Habibzadeh H LN, Ghanei GR. Relationship between restless legs syndrome and sleep quality in hemodialysis patients. Medical-Surgical Nursing Journal. 2013;2(1-2):57-62. [In Persian]
- 28. Molnar MZ, Lu JL, Kalantar- Zadeh K, Kovesdy CP. Association of incident restless legs syndrome with outcomes in a large cohort of US veterans. Journal of sleep research. 2016;25(1):47-56.
- 29. Pierratos A, Hanly PJ. Sleep disorders over the full range of chronic kidney disease. Blood purification. 2011;31(1-3):146-50.
- 30. Ghanei Gheshlagh R, Lanjavani T, Lazari N, Moslemi B. Comparison of the quality of life in pregnant women with and without restless legs syndrome. Journal of Clinical Nursing and Midwifery. 2014;3(1):54-61. [In Persian]
- 31. Momeni A, Nematolahi A, Nasr M. Effect of intradialytic exercise on echocardiographic findings in hemodialysis patients. Iranian journal of kidney diseases. 2014;8(3):207-11.
- 32. Kemppainen LM, Kemppainen TT, Reippainen JA, Salmenniemi ST, Vuolanto PH. Use of complementary and alternative medicine in Europe: Health-related and sociodemographic determinants. Scandinavian journal of public health. 2018;46(4):448-55.
- 33. Taghipour A, Bahrami Taghanaki H, Hosienzade H, Noras M. Ethical and legal challenges in complementary and alternative medicine. Iranian Journal of Medical Ethics and History of Medicine. 2016;9(3):23-31. [In Persian]

- 34. Najafi GT SH, Rafii F. Comparison of the effect of Swedish massage and preferred music intervention on anxiety in patients with chronic heart failure.Iranian Journal of Cardiovascular Nursing. 2016;5(1):36-43. [In Persian]
- 35. Chen S-C, Yu BY-M, Suen LK-P, Yu J, Ho FY-Y, Yang J-J, et al. Massage therapy for the treatment of attention deficit/hyperactivity disorder (ADHD) in children and adolescents: A systematic review and meta-analysis. Complementary therapies in medicine. 2019;42:389-99.
- 36. Falci L, Shi Z, Greenlee H. Peer reviewed: multiple chronic conditions and use of complementary and alternative medicine among US adults: results from the 2012 National Health Interview Survey. Preventing chronic disease. 2016;13.
- 37. Smith CA, Levett KM, Collins CT, Dahlen HG, Ee CC, Suganuma M. Massage, reflexology and other manual methods for pain management in labour. Cochrane Database of Systematic Reviews. 2018(3).
- 38. Toygar I, YeŞilbalkan ÖU, Malseven YG, Sönmez E. Effect of reflexology on anxiety and sleep of informal cancer caregiver: randomized controlled trial. Complementary therapies in clinical practice. 2020;39:101143.
- 39. Amini Z, Roshanravan M, Bahrami H, Sanagoo A, Jouybari L, Kamali A. The effects of foot reflexology on the level of depression in patients under hemodialysis. Journal of Nursing Education. 2017;5(6):33-9. [In Persian]
- 40. Hasanpour M, Mohammadi MM, Shareinia H. Effects of reflexology on premenstrual syndrome: a systematic review and meta-analysis. BioPsychoSocial medicine. 2019;13(1):1-12.
- 41. Tnl A. Reflexology IIo 2012 2012 [updated 2016. http://www.reflexology-usa.net/branches.htm.].
- 42. Lai B-y, Cao H-j, Yang G-y, Jia L-y, Grant S, Fei Y-t, et al. Acupuncture for treatment of erectile dysfunction: a systematic review and meta-analysis. The world journal of men's health. 2019;37(3):322.
- 43. Kahangi L MM BM, et al. The effects of reflexology on anxiety levels before coronary artery bypass graft surgery. Journal of Research in Behavioural Sciences. 2012;9(5):0. [In Persian]
- 44. Embong NH, Soh YC, Ming LC, Wong TW. Revisiting reflexology: Concept, evidence, current practice, and practitioner training. Journal of traditional and complementary medicine. 2015;5(4):197-206.
- 45. Khojandi S, Shahgholian N, Karimian J, Valiani M. Comparison the effect of two methods of reflexology massage and stretching exercises on the severity of restless leg syndrome among patients undergoing hemodialysis. Iranian Journal of Nursing Research. 2015;10(1):86-94. [In Persian]
- 46. Lund I. Massage as a pain relieving method. Physiotherapy. 2000;86(12):638-54.
- 47. Barreto DM, Batista MV. Swedish Massage: A Systematic Review of its Physical and Psychological Benefits. Advances in mind-body medicine. 2017;31(2):16-20.
- 48. Law LAF, Evans S, Knudtson J, Nus S, Scholl K, Sluka KA. Massage reduces pain perception and hyperalgesia in experimental muscle pain: a randomized, controlled trial. The Journal of Pain. 2008;9(8):714–21.
- 49. Rapaport MH, Schettler PJ, Larson ER, Dunlop BW, Rakofsky JJ, Kinkead B. Six versus twelve weeks of Swedish massage therapy for generalized anxiety disorder: Preliminary findings. Complementary Therapies in Medicine. 2021;56:102593.

- 50. Padial ER, López NT, Bujaldón JL, Villanueva IE, del Paso GR. Cardiovascular effects of reflexology in healthy individuals: evidence for a specific increase in blood pressure. Alternative Medicine Studies. 2012;2(1):e4-e.
- 51. Ghorbani F, Salsali M. Concept of Holistic in Nursing: A review article. Education & Ethic In Nursing. 2018;7(3):23-30. [In Persian]
- 52. Unal KS, Akpinar RB. The effect of foot reflexology and back massage on hemodialysis patients' fatigue and sleep quality. Complementary therapies in clinical practice. 2016;24:139-44.
- 53. Ghasemi M, Rejeh N, Heravi-Karimooi M, Tadrisi SD, Kia PS. The effectiveness of foot reflexology in the severity of restless legs syndrome in female patients undergoing dialysis: a randomized controlled trial. Crit Care. 2018;11(2):e68945.
- 54. Mortazavi H, Arian M, Ebrahimi H, Tabatabaeichehr M, Binesh M, Varvani Farahani A. Effects of Effleurage Massage on Intensity of Physiological Stress Associated with the Treatment in Hemodialysis Patients. Journal of Knowledge and Health, Shahroud University of Medical Sciences and Health Services. 2016;11(1):31–24. [In Persian]
- 55. Cox C, Hayes J. Experiences of administering and receiving therapeutic touch in intensive care. Complementary therapies in nursing & midwifery. 1998;4(5):128-32.
- 56. Kashani F, Babaee S, Bahrami M, Valiani M. The effects of relaxation on reducing depression, anxiety and stress in women who underwent mastectomy for breast cancer. Iran J Nurs Midwifery Res. 2012;17(1):30-3.
- 57. Nasiri K, Eyvanbagha R, Nazari N, Savadpoor M-t, Soleymanifard P, Khalili Z. Physiological and therapeutic effects of reflexology in Iran: a systematic review. Depiction of Health. 2016;7(1):49-61. [In Persian]
- 58. Gholami-Motlagh F, Jouzi M, Soleymani B. Comparing the effects of two Swedish massage techniques on the vital signs and anxiety of healthy women. Iranian journal of nursing and midwifery research. 2016;21(4):402.
- 59. Koc M. The effect of cognitive-behavioral therapy on stuttering. Social Behavior and Personality: an international journal. 2010;38(3):301-9.
- 60. Gezer O, Batmaz İ, Sariyildiz MA, Sula B, Ucmak D, Bozkurt M, et al. Sleep quality in patients with psoriatic arthritis. International journal of rheumatic diseases. 2017;20(9):1212-8.
- 61. Pooranfar S, Shakoor E, Shafahi M, Salesi M, Karimi M, Roozbeh J, et al. The effect of exercise training on quality and quantity of sleep and lipid profile in renal transplant patients: a randomized clinical trial. International journal of organ transplantation medicine. 2014;5(4):157.
- Öztürk ZA, Yesil Y, Kuyumcu ME, Savas E, Uygun Ö, Say ner ZA, et al. Association of depression and sleep quality with complications of type 2 diabetes in geriatric patients. Aging clinical and experimental research. 2015;27(4):533-8.
- 63. Buysse DJ, Reynolds III CF, Monk TH, Berman SR, Kupfer DJ. The Pittsburgh Sleep Quality Index: a new instrument for psychiatric practice and research. Psychiatry research. 1989;28(2):193-213.
- 64. Goldman L, Schafer AI. Goldman's cecil medicine E-book, Part 11: Renal and Genitourinary Diseases, 117: Structure and Function of the Kidneys. Qais Al-Awqati; Jonathan Barasch: Elsevier Health Sciences; 2011.

- 65. Hinkle JL, Cheever KH. Clinical handbook for Brunner & Suddarth's textbook of medical-surgical nursing: Lippincott Williams & Wilkins; 2013.
- 66. Kallenbach JZ. Review of hemodialysis for nurses and dialysis personnel-e-book: elsevier health sciences; 2020.
- 67. Glover C, Banks P, Carson A, Martin CR, Duffy T. Understanding and assessing the impact of end-stage renal disease on quality of life. The Patient: Patient-Centered Outcomes Research. 2011;4(1):19-30.
- 68. Molsted S, Prescott L, Heaf J, Eidemak I. Assessment and clinical aspects of health-related quality of life in dialysis patients and patients with chronic kidney disease. Nephron Clinical Practice. 2007;106(1):c24-c33.
- 69. Bare BG, Hinkle JL, Cheever KH, Smeltzer SCC. Instructor's Resource DVD for" Brunner & Suddarth's Textbook of Medical-surgical Nursing": Lippincott Williams & Wilkins.; 2010.
- 70. Brunner LS. Brunner & Suddarth's textbook of medical-surgical nursing: Lippincott Williams & Wilkins; 2017.
- 71. Goldman L, Ausiello DA. Cecil medicine. 26 ed: Saunders Elsevier Philadelphia; 2019.
- 72. Pendse S, Singh A, Zawada E. Initiation of dialysis. Handbook of Dialysis 4th ed New York, NY. 2008:14-21.
- 73. Kasper D, Braunwald E, Loscalzo J, Hauser S, Longo D, Jameson J. Harrisons Principle of Internal Medicine-Kidney. Translation Mohammad Reza Ganji, Tehran Andisheh Rafi. 2009.
- 74. Daugirdas JT. Blake PG, editor;, Ing TS, editor., eds. Handbook of Dialysis. Philadelphia, PA: Wolters Kluwer Health; 2015.
- 75. Webster A, Nagler EV, Morton R, Masson P. Seminar Chronic kidney disease. Lancet [Internet]; 2017. Contract No.: 10075.
- 76. Daniels R, Grendell RN, Wilkins FR. Nursing fundamentals: caring & clinical decision making: Delmar Cengage learning; 2010.
- 77. Loki A. Procjena" suhe" tjelesne mase u bolesnika na kroniČnoj hemodijalizi: Josip Juraj Strossmayer University of Osijek. Faculty of Medicine.; 2016.
- 78. Asgari M, Soleimani M. Comprehensive book of special nursing care in CCU, ICU and Dialysis departments. Tehran: Human propaganda; 2011.
- 79. Short MA, Booth SA, Omar O, Ostlundh L, Arora T. The relationship between sleep duration and mood in adolescents: A systematic review and meta-analysis. Sleep medicine reviews. 2020;52:101311.
- 80. Reeve S, Sheaves B, Freeman D. Sleep disorders in early psychosis: incidence, severity, and association with clinical symptoms. Schizophrenia bulletin. 2019;45(2):287-95.
- 81. Mirghaed MT, Sepehrian R, Rakhshan A, Gorji H. Sleep quality in Iranian hemodialysis patients: A systematic review and meta-analysis. Iranian journal of nursing and midwifery research. 2019;24(6):403.
- 82. Fazel Asgarpoor A, Amini Z, Zeraati A, Esmaeli H. The effect of a care plan based on the Roy Adaptation Model on level of Fatigue in hemodialysis patients. Evidence Based Care. 2011;1(1):77-90. [In Persian]
- 83. Umbro I, Fabiani V, Fabiani M, Angelico F, Del Ben M. A systematic review on the association between obstructive sleep apnea and chronic kidney disease. Sleep Medicine Reviews. 2020:101337.
- 84. Silber MH, Avidan AY. Treatment of restless legs syndrome and periodic limb movement disorder in adults. UpToDate Waltham, MA: UpToDate Inc. 2019.

- 85. Einollahi B, Izadianmehr N. Restless leg syndrome: a neglected diagnosis. Nephro-urology monthly. 2014;6(5).
- 86. Venkateshiah SB, Ioachimescu OC. Restless legs syndrome. Critical care clinics. 2015;31(3):459-72.
- 87. Ondo WG, Avidan AY. Clinical features and diagnosis of restless legs syndrome and periodic limb movement disorder in adults. UpToDate Inc. 2019.
- 88. Guo S, Huang J, Jiang H, Han C, Li J, Xu X, et al. Restless legs syndrome: from pathophysiology to clinical diagnosis and management. Frontiers in aging neuroscience. 2017;9:171.
- 89. Saraji NZ, Hami M, Boostani R, Mojahedi MJ. Restless leg syndrome in chronic hemodialysis patients in Mashhad hemodialysis centers. Journal of renal injury prevention. 2017;6(2):137.
- 90. Sakkas GK, Giannaki CD, Karatzaferi C, Maridaki M, Koutedakis Y, Hadjigeorgiou GM, et al. Current trends in the management of uremic restless legs syndrome: a systematic review on aspects related to quality of life, cardiovascular mortality and survival. Sleep medicine reviews. 2015;21:39-49.
- 91. Kambampati S, Wasim S, Kukkar V, Awad VM, Malik BH. Restless Leg Syndrome in the Setting of Patients With End-Stage Renal Disease on Hemodialysis: A Literature Review. Cureus. 2020;12(8).
- 92. Bathla N, Ahmad S, Gupta R, Ahmad S. Prevalence and correlates of Willis-Ekbom's disease/restless legs syndrome in patients undergoing hemodialysis. Saudi Journal of Kidney Diseases and Transplantation. 2016;27(4):685.
- 93. Scherer JS, Combs SA, Brennan F. Sleep disorders, restless legs syndrome, and uremic pruritus: diagnosis and treatment of common symptoms in dialysis patients. American Journal of Kidney Diseases. 2017;69(1):117-28.
- 94. Sakkas GK, Tsaknaki E, Rosa CS, Giannaki CD, Krase AA, Lavdas E, et al. The effect of cold dialysis in motor and sensory symptoms of RLS/WED occurring during hemodialysis: a double-blind study. Asaio Journal. 2018;64(1):110-4.
- 25. Zalomonson S, Freud T, Punchik B, Samson T, Lebedinsky S, Press Y. The Results of a Crossover Placebo-Controlled Study of the Effect of Lavender Oil on Behavioral and Psychological Symptoms of Dementia. Rejuvenation Research 2019;22(3).
- 96. Asadizaker M, Majdinasab N, Atapour M, Latifi S, Babadi M. Effect of exercise on walking speed, fatigue and quality of life in patients with multiple sclerosis. Sci Med J. 2010;9(2):189-98. [In Persian]
- 97. Frass M, Strassl RP, Friehs H, Müllner M, Kundi M, Kaye AD. Use and Acceptance of Complementary and Alternative Medicine Among the General Population and Medical Personnel: A Systematic Review. Ochsner Journal. 2012;12(1):45-56.
- 98. Harris PE, Cooper KL, Relton C, Thomas KJ. Prevalence of complementary and alternative medicine (CAM) use by the general population: a systematic review and update. International journal of clinical practice. 2012;66(10):924–39.
- 99. Mahmoudian A, Hosseini E. Using Complementary And Alternative Medicine In Multiple Sclerosis. IUMS. 2015;32(1):2501-10. [In Persian]
- 100. Hilsden RJ, Verhoef MJ, Rasmussen H, Porcino A, DeBruyn JC. Use of complementary and alternative medicine by patients with inflammatory bowel disease. Inflammatory bowel diseases. 2011;17(2):655-62.

- 101. Sajadian A, Moradi M, Hajimahmoodi M, Mirmolaee T. Complementary medicine use among cancer patients after excluding the praying as a complementary therapy. Iran J Breast Dis. 2009;2(1):13-22. [In Persian]
- 102. Sutton and AL. Complementary and alternative medicine source book. Pennsylvania: Omnigraphics Inc; 2010.
- 103. Barikani A, Beheshti A, Javadi M, Yasi M. Knowledge, attitude and practice of general practitioners toward complementary and alternative medicine: a cross-sectional study. Acta Medica Iranica. 2015;53(8):501-6.
- 104. Bilkis MR, Mark KA. Mind-body medicine. Practical applications in dermatology. Arch Dermatol. 1998;134(11):1437-41.
- 105. Brodt S, Klonsky K, Tourte L. Farmer goals and management styles: implications for advancing biologically based agriculture. Agricultural systems. 2006;89(1):90-105.
- 106. Hanson E, Kalish LA, Bunce E, Curtis C, McDaniel S, Ware J, et al. Use of complementary and alternative medicine among children diagnosed with autism spectrum disorder. Journal of autism and developmental disorders. 2007;37(4):628-36.
- 107. Oschman JL. Energy medicine in therapeutics and human performance: Butterworth-Heinemann; 2003.
- 108. Gunnarsdottir TJ, Peden-McAlpine C. Effects of reflexology on fibromyalgia symptoms: a multiple case study. Complement Ther Clin Pract. 2010;16(3):167-72.
- 109. Dougans I. Reflexology: An introductory guide to foot massage for total health: Pavilion Books; 2016.
- 110. Kunz B, Kunz K. Reflexology health at your fingertips: Hands-on treatment for vitality and well-being. Dorling Kindersely. 2003:160.
- 111. Blunt E. Foot reflexology. Holistic Nursing Practice. 2006;20(5):257-9.
- 112. Bisson DA. N101-Foot Reflexology Course: Ontario College of Reflexology; 2001.
- 113. Atalanta Foot Reflexology, What is Foot Reflexology? : Atalanta Foot Reflexology; 2021 [Available from: https://www.treatyourfeetbuckhead.com/body-massages-atlanta-ga/foot-massage/.
- 114. Dougans I, Ellis S. The Complete Illustrated Guide To Reflexology. Element ISBN 1-85230. 1996.
- 115. Tiran D, Mackereth PA. Clinical Reflexology E-Book: A Guide for Integrated Practice: Elsevier Health Sciences; 2010.
- 116. Casanelia L, Stelfox D. Foundations of massage: Elsevier Health Sciences; 2010.
- 117. Beck M. Theory & practice of therapeutic massage: Nelson Education; 2016.
- 118. Westman KF, Blaisdell C. CE: Many Benefits, Little Risk: The Use of Massage in Nursing Practice. AJN The American Journal of Nursing. 2016;116(1):34-9.
- 119. Shorofi SA, Arbon P. Nurses' knowledge, attitudes, and professional use of complementary and alternative medicine (CAM): A survey at five metropolitan hospitals in Adelaide. Complementary therapies in clinical practice. 2010;16(4):229-34.
- 120. Smith GD, Wu SC. Nurses' beliefs, experiences and practice regarding complementary and alternative medicine in Taiwan. Journal of clinical nursing. 2012;21(17-18):2659-67.
- 121. Christina J, Abigail W, Cuthbertson LA, Whitehead D. Nurses' Knowledge and Attitudes Toward Complementary and Alternative Medicine for Adult Patients With Cancer in Bandung, West Java, Indonesia: A Qualitative Study. Journal of Holistic Nursing. 2019;37(2):130-9.

- 122. Sharifi S, Navidian A, Jahantigh M, Shamsoddini Lori A. Investigating the impact of foot reflexology on severity of fatigue in patients undergoing hemodialysis: a clinical trial study. Medical-Surgical Nursing Journal. 2018;7(1).
- 123. Emamverdi M, Mohammadpour A, Badiee Aval S, Sajjadi M. Comparing the Effects of Reflexology Massage and Acupressure on the Quality of Sleep in Hemodialysis Patients: A Randomized Clinical Trial. Journal of Mazandaran University of Medical Sciences. 2019;29(176):34-46 [In Persian].
- 124. Abbasi Fakhravari A, Bastani F, Haghani H. The effect of foot reflexology massage on the sleep quality of elderly women with restless leg syndrome. Journal of Client-Centered Nursing Care. 2018;4(2):96-103.
- 125. Farrokhian R, Solimani M, Sheikhi M, Alipour M. Effect of Foot Reflexology Massage on Sleep Quality in Hemodialysis Patients: A Randomized Control Trial. Avicenna J Nurs Midwifery Care. 2016; 24 (4):213–220 [In Persian]
- 126. Unal K, Balci Akpinar R. The effect of foot reflexology and back massage on hemodialysis patients' fatigue and sleep quality. Complementary Therapies in Clinical Practice. 2016;24:139-44.
- 127. Samarehfekri A, Dehghan M, Arab M, Ebadzadeh MR. Effect of Foot Reflexology on Pain, Fatigue, and Quality of Sleep after Kidney Transplantation Surgery: A Parallel Randomized Controlled Trial. Evid Based Complement Alternat Med. 2020 Aug 1;2020:5095071.
- 128. Shahgholian N, Jazi SK, Karimian J, Valiani M. The effects of two methods of reflexology and stretching exercises on the severity of restless leg syndrome among hemodialysis patients. Iranian journal of nursing and midwifery research. 2016;21(3):219.
- 129. Azimpour S, Hosseini HS, Eftekhari A, Kazemi M. The effects of vibration and massage on severity of symptoms of restless leg syndrome and sleep quality in hemodialysis patients; a randomized cross-over clinical trial. Journal of Renal Injury Prevention. 2018;8(2):106-11.
- 130. Malekshahi F, Aryamanesh F, Fallahi S. The effects of massage therapy on sleep quality of patients with end-stage renal disease undergoing hemodialysis. Sleep and Hypnosis. 2018;20:91-5.
- 131. Hashemi SH, Hajbagheri A, Aghajani M. The effect of massage with lavender oil on restless leg syndrome in hemodialysis patients: a randomized controlled trial. Nursing and midwifery studies. 2015;4(4).
- 132. Hidari A .Ehteshamzadeh P. MM. Relationship between the severity of insomnia, sleep quality, sleepiness and mental health disorder with academic performance in Female Adolesces of Ahwaz City. Woman and Culture. 2010;1(4):65-76 [In Persian]
- 133. Group IRLSS. revised IRLSSG diagnostic criteria for RLS [Internet]. 2012
- 134. Group IRLSS. Validation of the International Restless Legs Syndrome Study Group rating scale for restless legs syndrome. Sleep medicine. 2003;4(2):121-32.
- 135. Habibzade H, Khalkhali H, Ghaneii R. Study of the relationship between restless legs syndrome and sleep disturbance among patients in Critical Care Units. Iran J Crit Care Nurs. 2011;4(3):153-8 [In Persian].
- 136. Casanelia L, Stelfox D. Foundations of massage: Elsevier Health Sciences; 2010. 350 p.
- 137. Tse H. Sole Guidance: Hay House, Inc; 2016. 149 p.
- 138. Gong Y-l, Zhang Y-b, Han C, Jiang Y-y, Li Y, Chen S-c, et al. [Clinical observation on therapeutic effect of the pressing plantar reflex area with wooden needle for treatment of patients with insomnia]. Zhongguo Zhen Jiu. 2009;29(11):935-7.

- 139. Embong N, ChangSoh Y, ChiauMing L, WuiWong T. Perspectives on reflexology: A qualitative approach. Journal of Traditional and Complementary Medicine. 2017;7(3):327-31.
- 140. Arslan G, Ceyhan Ö, Mollaoğlu M. The influence of foot and back massage on blood pressure and sleep quality in females with essential hypertension: a randomized controlled study. Journal of human hypertension. 2020;20(1):11-20.
- 141. Oshvandi K, Abdi S, Karampourian A, Moghimbaghi A, HOMAYOUNFAR S. The effect of foot massage on quality of sleep in ischemic heart disease patients hospitalized in CCU. Quarterly Iranian Journal Of Critical Care Nursing. 2014;7(2):66-73.
- 142. Nerbass FB. Effects of massage therapy on sleep quality after coronary artery bypass graft surgery. Clinics. 2010;65(11):1105-10.
- 143. Jane SW, Chen SL, Wilkie DJ, Lin YC, Foreman SW, Beaton RD, et al. Effects of massage on pain, mood status, relaxation, and sleep in Taiwanese patients with metastatic bone pain: a randomized clinical trial. Pain. 2011;152(10):2432-42.
- 144. Williams TI. Evaluating effects of aromatherapy massage on sleep in children with autism: a pilot study. Evidence-based complementary and alternative medicine: eCAM. 2006;3(3):373-7.
- 145. Vora CK, Mansoor GA. Herbs and alternative therapies: relevance to hypertension and cardiovascular diseases. Current hypertension reports. 2005;7(4):275-80.
- 146. Hughes CM, McCullough CA, Bradbury I, Boyde C, Hume D, Yuan J, et al. Acupuncture and reflexology for insomnia: a feasibility study. Acupuncture in medicine: journal of the British Medical Acupuncture Society. 2009;27(4):163-8.
- 147. Rahmani A, Naseri M, Salaree MM, Nehrir B. Comparing the Effect of Foot Reflexology Massage, Foot Bath and Their Combination on Quality of Sleep in Patients with Acute Coronary Syndrome. J Caring Sci. 2016;5(4):299-306.
- 148. Ozdemir G, Ovayolu N, Ovayolu O. The effect of reflexology applied on haemodialysis patients with fatigue, pain and cramps. International journal of nursing practice. 2013;19(3):265-73.
- 149. Wang MY, Tsai PS, Lee PH, Chang WY, Yang CM. The efficacy of reflexology: systematic review. Journal of advanced nursing. 2008;62(5):512-20.
- 150. Gupta R, Goel D, Ahmed S, Dhar M, Lahan V. What patients do to counteract the symptoms of Willis-Ekbom disease (RLS/WED): Effect of gender and severity of illness. Ann Indian Acad Neurol. 2014;17(4):405-8.
- 151. Russell MJJob, therapies m. Massage therapy and restless legs syndrome. 2007;11(2):146-50.
- 152. Mitchell UH. Nondrug-related aspect of treating Ekbom disease, formerly known as restless legs syndrome. Neuropsychiatr Dis Treat. 2011;7:251-7.
- 153. Bega D, Malkani R. Alternative treatment of restless legs syndrome: an overview of the evidence for mind-body interventions, lifestyle interventions, and neutraceuticals. Sleep Med. 2016;17:99-105.
- 154. Nasiri M, Abbasi M, Khosroabadi ZY, Saghafi H, Hamzeei F, Amiri MH, et al. Short-term effects of massage with olive oil on the severity of uremic restless legs syndrome: A double-blind placebo-controlled trial. Complement Ther Med. 2019;44:261-8.

- 155. Mirbagher Ajorpaz N, Rahemi Z, Aghajani M, Hashemi SH. Effects of glycerin oil and lavender oil massages on hemodialysis patients' restless legs syndrome. Journal of bodywork and movement therapies. 2020;24(1):88-92.
- 156. Burbank F, Buchfuhrer MJ, Kopjar BJR, Parkinsonism Ri. Sleep improvement for restless legs syndrome patients. Part I: pooled analysis of two prospective, double-blind, sham-controlled, multi-center, randomized clinical studies of the effects of vibrating pads on RLS symptoms. 2013;3:1-10.
- 157. Owens JA. Pharmacotherapy for insomnia in children and adolescents: A rational approach. Version 2.0. UpToDate. http://www.helsebiblioteket.no/(Sist oppdatert: 22. 2017 Jun.
- 158. Molahosseini Sh, Mohammadzadeh Sh, Kamali P, Tavakkoli Shooshtari M. Frequency of sleep disorder and restless legs syndrome in patients referring to hemodialysis units in university hospitals in Tehran in 2003. MEDICAL SCIENCES. 2005; 15 (1):27-30.