A LITERATURE REVIEW; EFFECTIVENESS OF WARM FOOTBATH ON SLEEP QUALITY IN ELDERLY

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ABSTRACT
Introduction: Sleep disorders are common mental disorders reported among the elderly in all countries, and with nonpharmacological interventions, they could be helped to improve their sleep quality. Footbath therapy is one of the complementary nursing. This aims of this review was to amplify the available evidence of warm footbath to improve sleep quality in the elderly health program. Methods: Using electronics database as search strategy. This study retrieved evidence from 43 articles accessed from three databases (including PubMed, Proquest, EBSCO), that limited from 2008 until 2016. After read the abstract, the keywords, and the full text of retrieved articles, finnally, 5 arti

Results: This study showed that these studies agreed that the footbath were improving sleep quality for elderly

Conclusion: The available evidence reviewed indicate that footbath therapy is effective to reduce insomnia and improve sleep quality of elders participated in the five articles.

Keywords: Footbath, sleep quality, elderly.

INTRODUCTION
Sleep is a life-sustaining activity that affects every individual’s well-being and quality of life. Sleep deprivation increases levels of fatigue, anxiety, and depression, inducing cognitive impairment, sleep-disturbed behaviors, and higher mortality. Although sleep disturbance can occur in all age groups, quality of sleep tends to decrease in older adults. In particular, older adults who reside in nursing homes reported higher levels of stress due to collective living conditions and poor sleep quality due to unfamiliar environments and living habits differing from those in their homes.

Sleep disorders and depression are the most common mental disorders reported among the elderly in all countries. The most common sleep complaints in the elderly are trouble falling asleep, waking up during the night, waking up early in the morning, and daytime sleepiness. Eser et al. showed that 60.9% of the elderly have insufficient sleep. Based on studies conducted in Indonesia, 67% of the elderly have sleeping disorders and 61% have insomnia.

Because long-term use of sleeping pills can cause various side effects, such as physical dependence and cognitive impairment, many of studies have examined the effectiveness of nonpharmacological treatments for sleep disturbance, including herbal inhalation, massage, and footbaths. Footbath therapy has been reported to effectively enhance the quality of sleep by decreasing core body temperature through peripheral vasodilation. It has been reported to improve sleep by reducing sleep-onset latency, increasing NREM sleep, and reducing REM sleep. Moreover, it is easy to administer and cost-effective, and it involves minimal risk. The effects of footbath therapy vary depending on water temperature, length of the therapy, and subject; however, there are no detailed criteria suggested for older adults. The purposes of this study were to address this gap in the literature by (1) evaluating the long-term effects of footbath therapy on sleep quality and sleep-disturbed behaviors and exploring
the therapy’s effectiveness relative to the baseline sleep quality of the participants. The human sleep–wake rhythm is synchronized with the circadian body temperature rhythm. Circadian body temperature rhythms are suggested to be a signaling pathway for the modulation of sleep and wakefulness. During the daytime, humans are actively awake and experience an increased core body temperature. After core body temperature peaks around 16:00–20:00, core temperature declines and prepares the body to retire. The decrease in core temperature rhythms in the evening is mainly determined by heat loss from the core to the distal body (extremities), which is associated with increased skin temperature in the extremities. Warming the skin can activate the preoptic anterior hypothalamus. Amplitude, the difference between the peak and trough of core body temperature is associated with sleep depth. The gradient of temperature from proximal body sites (infraclavicular, thigh, stomach, forehead) to peripheral sites (feet and hands) (distal–proximal skin temperature gradient, DPG) is an indirect measure of heat dissipation or loss from the core to the periphery and is a predictor of sleepiness.

There is a relationship between the circadian rhythm of the skin temperature, core body temperature, and sleep cycle with awakening regarding function. Rectal temperature begins to rise in the morning after waking up and reaches its highest point (peak) in the afternoon or evening. Between the core body temperature and sleep tendency, there is a negative relationship; at the beginning of sleep, when the core body temperature significantly reduces, it is more likely to occur. Reduce in body core temperature (rectal) before and during sleep is associated with peripheral vasodilatation and possible heat loss from the body core to the peripheral parts of the body. Therefore, a Footbath with warm water may increase blood flow and ambient temperature, with no increase or decrease in core temperature; and thereby could facilitate the onset of sleep and improve sleep quality.

**METHODS**

Search strategy that used in this study was electronic database search. Using the electronics database from Ebscho, Proquest and Pubmed database. Using combining keywords of footbath and sleep quality Elderly. The articles were restrict only for English articles from 2009 to 2016. The 43 articles were found. Then, 37 articles were removed for double titles. After read the title, 7 were removed because of unmatched keywords. Finally after read the full text, 5 were selected.

**RESULTS**

Based on the selected articles, Comparing the Effects of Reflexology and Footbath on Sleep Quality in the Elderly: A Controlled Clinical Trial (Leila Valizadeh, 2016), In the foot bath group, the intervention was effective in all the components except sufficient sleep, and using sleeping drugs. In the control group, the intervention was not effective in any of the components of the questionnaire. The score changes of the quality of sleep among the three groups showed that the most changes were related to the second and third components, delay in falling sleep and duration of sleep. Total score changes among the three groups was statistically significant.

**DISCUSSION**

Multiple factors may affect the relationship between body temperatures, thermoregulation and sleep in older adults. In addition to body temperature, sleep is affected by multiple factors, such as mood, life events, and sleep state misperceptions. Single interventions, such as footbath.

Yeung et al. systematically review five clinical trials on the effectiveness of warm footbath and other effective methods of dealing with insomnia. Zhao and Cao showed that reflexology compared with
routine care, significantly reduced sleep disorders. According to the findings of this study, both interventions improved the quality of sleep in two separate aspects; therefore, warm footbath could be recommended as consolidations in nondrug treatment of insomnia in the elderly. It should be noted that footbath intervention is an easy and safe intervention, and can be easily applicable by the elderly themselves; however, footbath is an intervention that should be carried out by a nurse or another person. Therefore, footbath intervention in terms of cost and effectiveness is more preferred. It is the most cheapest among others. Because there’s no need to pay much todo this treatment and very suitable for the elderly who decline in sleep quality and another function, an alternative nonpharmacological therapy that is effective to reduce insomnia and improve the sleep quality of potential large older.

CONCLUSION AND RECOMMENDATION

Conclusion
The available evidence reviewed indicate that footbath therapy is effective to reduce insomnia and improve sleep quality of elders participated in the five articles. Warm footbath therapy can be offered as a alternative care-delivering strategy for elderly. However, to ensure that warm footbath therapy is effective in various settings that are related to older adults, nurses must consider the specific values and experiences of older people in a specific cultural group.

The hot water is cheap and simple way to relieve stress, insomnia, anxiety, and fatigue by increasing the foot vessel expansion and blood volume is increased and timely ought to brain of oxygen & nutrients needed to relieve the fatigue. Thus the hot water foot bath can find great relief without drugs at home for elderly.

Recommendation
Nurses are needed to evaluate and design interventions targeting the gerontic health needs of older adults, especially those residing in long-term care facilities. Consequently, it seems plausible that strategies for enriching the lives of elderly people are crucial, and that reminiscence offers a method of promoting healthy ageing.

REFERENCE


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