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The Effect of Acupressure on Constipation: A Systematical Review

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Abstract

Introduction

Constipation is an important symptom among the functional disorders of the gastrointestinal tract. Pharmacological and non-pharmacological interventions are used to prevent constipation. One of the non-pharmacological methods used on constipation is acupressure. This systematic review aimed to examine the published studies on relieving constipation problem, to systematically review the data obtained in these studies, and to assess the effectiveness of acupressure on patients experiencing constipation.

Method

This study which examined the effect of acupressure on constipation was conducted by reviewing the relevant literature. The studies conducted within the last decade in the PubMed, Cochrane, Sciencedirect, and Web of science, Medline, EMBASE databases were reviewed with the keywords "constipation," "nursing" and "acupressure," and various combinations of them. The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statement was used to guide this systematic review. All studies on the effect of acupressure on constipation published between 2010 and 2020 were included in the scope of this systematic review. 1927 data were obtained as a result of the screening. Compliance with the inclusion criteria was checked by the researchers and 8 publications that met the criteria were included in the study as a result of the evaluation.

Result & Discussion

Four of the studies included in the study were randomized controlled studies, and the remaining four were non-randomized controlled control studies. Forms developed by researchers in these studies; Data collection tools such as patient records, Bristol stool form scale, Constipation assessment scale, CAS and PAC-QOL scales were used. This systematic review determined that acupressure can be used on different age groups and patient groups and that acupressure does not require to be performed only by healthcare staff. This systematic review also determined that acupressure has positive effects on relieving constipation and its symptoms in patients experiencing constipation.

Keywords: ***Constipation; Acupressure; Nursing***

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Introduction

Constipation is an important symptom among the functional disorders of the gastrointestinal tract. This symptom is defined as hard stool, infrequent bowel movements, feeling of fullness in the rectum, inability to empty the intestines completely and decreased stool count [1-4]. This might cause physical effects such as bowel problems and psychological problems such as anxiety and stress. Besides physical and psychological problems, constipation negatively affects the quality of life of individuals. Therefore, it is an important condition that needs to be treated [5]. Pharmacological and non-pharmacological interventions are used to prevent constipation. Drugs and disimpaction are preferred as pharmacological treatment, and these treatments relieve short-term symptoms, but they cause adverse effects such as diarrhea and fluid electrolyte imbalance in long-term use [6,7].

Some of the non-pharmacological methods used on constipation are acupuncture, biofeedback, plaster, massage, herbal medications and acupressure [8-12]. Unlike acupuncture, acupressure is the application of pressure to stimulate the certain areas of the body along the energy meridians determined and used by traditional Chinese medicine. It is an easy non-invasive application performed without using needles [13]. According to Chinese medicine, there is a flow of energy everywhere in the universe, living or inanimate. The unity between these flows of energy is based on balance and harmony. The Eastern medicine philosophy assumes that diseases occur due to defects on the flow of life energy (Chi/Ki) circulating in channels called meridians in the body. Chi controls the functions of all organs and this energy flows in the body through some pathways. Diseases occur when this balance in the body is disturbed. Acupressure application reduces muscle rigidity, relieves circulation and increases energy to heal for treating these diseases [14]. The main aim of acupressure is to correct these energy imbalances and to heal by stimulating the acupuncture points [15-18].

Previous studies stated that acupressure is effective on health problems such as pain, allergic discomfort, nausea-vomiting and fatigue, and increases the quality of life [19-23]. When acupressure is applied to the accurate points, it has gastrointestinal motility and digestive fluid-increasing effect. It is also used to relieve and prevent constipation since it stimulates sacral nerve which regulates defecation [24].

Acupressure enables using an evidence-based practice and an independent nursing intervention on symptom management. Acupressure method is easy-to-apply practice for nurses. It can also be taught to patients so that they can perform it on themselves. The acupressure method is a non-invasive, safe, effective, painless and cost-effective treatment [25-27].

This systematic review aimed to examine the published studies on relieving constipation problem, to systematically review the data obtained in these studies, and to assess the effectiveness of acupressure on patients experiencing constipation.

Materials and Methods

Data resources and study strategy

This study which examined the effect of acupressure on constipation was conducted by reviewing the relevant literature. The literature review was conducted between May and June 2020. The studies conducted within the last decade in the PubMed, Cochrane, Sciencedirect, Web of science, Medline, EMBASE databases were reviewed with the keywords “constipation,” “nursing” and “acupressure,” and various combinations of them. The preferred reporting items for systematic reviews and

meta-analyses (PRISMA) statement was used to guide this systematic review. Both authors made a joint decision about the studies to be included in this study. There was no disagreement between the researchers.

Inclusion and exclusion criteria

All studies on the effect of acupressure on constipation published between 2010 and 2020 were included in the scope of this systematic review. Systematic reviews, descriptive studies, case reports, letters to the editor, studies which applied another method with acupressure on the experimental group, animal studies, and studies that are not compatible with the aim of this study were not included.

Study selection and data extraction

Study titles retrieved by the search were assessed for inclusion by one reviewer and a sample of excluded titles was checked by a second reviewer. Potentially relevant abstracts and full texts were assessed by two reviewers and any discrepancies resolved through discussion.

Results

1927 studies were reached with the search made on the abovementioned databases with the designated keywords. 913 studies were excluded from the systematic review due to duplication. 1006 studies that did not meet the inclusion criteria were excluded from this study. The systematic review analyzed eight studies to determine the effect of acupressure on constipation. Of the studies included in this review, 4 were conducted in Korea [28-31] and others were conducted in the USA [32], Iran [33], China [34] and Taiwan [35] (figure 1).

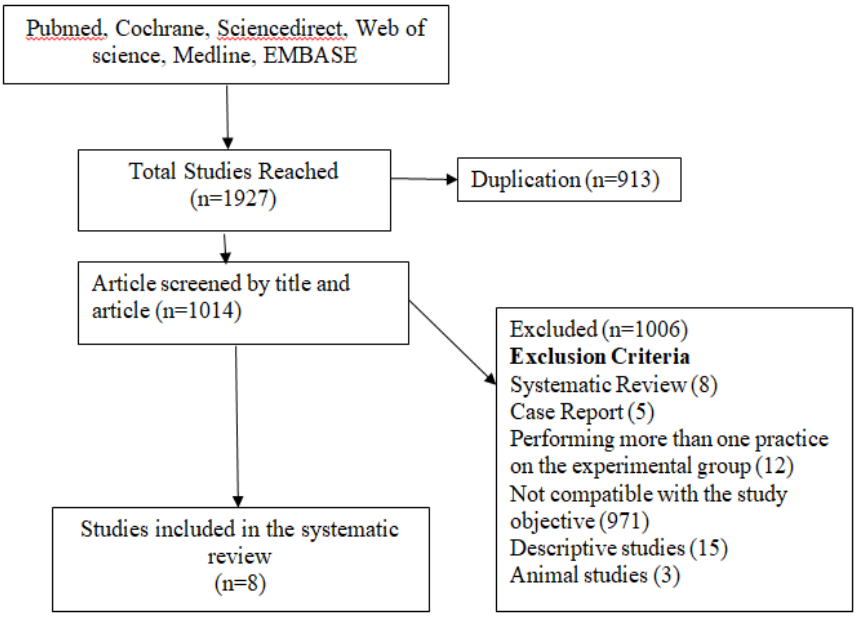

Figure 1: Sample setting process.

Wang et al. [35] performed acupressure for three on patients with advanced cancer. The findings obtained from this study showed that 3 days long acupressure application was effective on relieving subjective symptoms and objective constipation measurements.

Shin and Park [31] performed acupressure for six weeks on patients with breast cancer who received chemotherapy. CAS, BSF and PAC-QO were used as measurement tool. The results determined that acupressure application had positive effects on constipation according to the scale scores.

Abbasi et al. [33] performed acupressure three times a week for four weeks in patients who received hemodialysis. The study stated that there was a significant difference between the study and control groups in the frequency of defecation in the fourth week of the intervention ($p < 0.001$).

Wong et al. [34] performed acupressure for 10 days on hospitalized psychiatric patients. The study revealed that acupressure had a positive effect on constipation and increased the quality of life.

In the study by Abbot et al. [32] the patients experiencing constipation performed acupressure on themselves for four weeks. Both of the modified BFI and the Hemorrhoid Symptom indexes exhibited statistically significant improvement in patients' reports.

Kim et al. [28] performed acupressure for 10 minutes for two weeks to examine the effects of acupressure on relieving and preventing constipation in elderly. The results reported that acupressure had positive effects on relieving constipation and increased bowel movements.

Lee Jia [29] performed acupressure for 20 minutes a day for two weeks in elderly people experiencing constipation. Stool count, stool stiffness, and constipation-related discomforts got better in the experimental group.

Miyoung et al. [30] examined the effect of aroma therapy and acupressure application on constipation in university students. The results reported that acupressure application was effective on constipation.

Discussion

Constipation is an important symptom frequently observed in gastrointestinal tract disorders. This symptom causes physical and psychological problems as well as being a condition that negatively affect the quality of life and that needs to be treated [5]. Pharmacological methods such as drugs and disimpaction and non-pharmacological methods are used to prevent constipation. However, different negative effects may occur in using pharmacological methods; thus, non-pharmacological methods are suggested to be used [6,7]. One of the non-pharmacological methods used for this purpose is acupressure [11]. When applied on accurate points, acupressure is also used to relieve and prevent constipation since it stimulates sacral nerve which regulates defecation [24]. The acupressure method is a non-invasive, safe, effective, painless and cost-effective treatment [25-27].

Wang (2019) and Shin and Park (2018) [31] performed acupressure method in patients diagnosed with cancer who were experiencing constipation. These studies determined that acupressure had positive effects on constipation. The application was performed by healthcare staff in both studies [35]. Shin and Park (2018) performed acupressure for six weeks. CAS, BSF and PAC-QO scales were used as measurement tools. CAS scale score of the experimental group after acupressure application was significantly lower than that of the control group ($F = 26.027$, $p < 0.001$). CAS scale score in the experimental group was 10.3 before the application and decreased to 2.85 after the application. BSF scale score of the experimental group was significantly

higher than that of the control group (F = 12.781, p = 0.001). BSF scale score in the experimental group was 1.88 before the application and decreased to 3.54 after the application. PAC-PAC-OQL scale score of the experimental group was significantly lower than that of the control group (F = 37.285, p <0.001). PAC-QOL scale score in the experimental group was 1.85 before the application decreased to 0.44 after the application [31]. Wang et al. (2019) performed acupressure for three days. Bristol stool chart and the questionnaire (including 12 questions) which was tested for validity and reliability and assessed the state of comfort during defecation were used as measurement tools. Additionally, bowel sounds were assessed in the examination findings. Constipation symptoms, Bristol stool chart scores and comfort levels during defecation were measured at the beginning and end of the study. Bristol scale score in the experimental group was 3.85 while it was 1.81 in the control group (p <0.001). Bowel movement mean in the experimental group was 6.50/minutes while it was 2.46/minutes in the control group [35]. The findings obtained from these studies showed that acupressure intervention was effective on relieving subjective and objective symptoms of patients with cancer. Abbot et al. [32], Abbasi et al. [33], and Wong et al. [34] conducted studies with adult patient group determined that acupressure had positive effects on constipation. Abbot et al. [32] performed acupressure for four weeks on the patients. The acupressure application was performed by healthcare staff. PAC-QOL scale, BFI scale and Hemorrhoids Symptom Index were used as the measurement tools. There was a significant difference between the experimental and control groups in terms of PAC-QOL scale scores (p <0.01). There was a significant improvement in the BFI scale score and Hemorrhoids Symptom index scores of the patients of the experimental group [32]. In the study by Abbasi et al. [33], acupressure was performed three times a week for four weeks in patients who received hemodialysis. The patients performed acupressure on themselves. Constipation assessment scale was used as the measurement tool. The study stated that there was a significant difference between the study and control groups in the frequency of defecation in the fourth week of the intervention (p <0.001) [33]. Wong et al. [34] performed acupressure for 10 days in hospitalized psychiatric patients. The patients performed acupressure on themselves. CAS and PAC-QOL scale were used as measurement tools. CAS scale score in the experimental group was 4.45 before the application and decreased to 2.64 after the application. PAC-QOL scale score in the experimental group was 1.08 before the application and decreased to 0.88 after the application. According to the CAS and PAC-QOL scale scores two weeks after the application, a significant improvement occurred in the experimental group compared to the control group. The study results showed that the quality of life, comfort levels and self-respect increased in patients who performed acupressure on themselves [34]. According to the study results, self-application of acupressure on patients experiencing constipation provided positive results. These results indicate that patients can perform acupressure without healthcare staff; thus, it is possible to state that acupressure application is painless, effective and cost-effective.

Kim et al. [28] and Lee Jia [29] conducted a study with elderly patient group to assess the effect of acupressure on constipation. The application was performed by healthcare staff in both studies. Kim et al. [28] performed acupressure for 10 minutes for two weeks. Bristol Stool Chart was used as the measurement tool. The study found that the mean frequency of defecation in the experimental group was 1.46 while it increased to 3.11 after the acupressure application. Bristol scale score in the experimental group was 0.19 before the application and increased to 2.56 after the application. There was a significant correlation between the experimental and control groups in terms of Bristol scale score after application [28]. Lee [29] performed acupressure for 20 minutes a day for two weeks. Defecation diary scale and constipation assessment scale were used as the measurement tool. The weekly defecation number in the experimental group was 1.3 before the application and increased to 2.1 after the application while defecation difficulty was 6.7 before the application and decreased to -2.4 after the application. There were significant differences between the experimental and control groups in terms of weekly defecation

amount and discomfort during defecation subscales ($p < 0.001$). Stool count, stool stiffness, and constipation-related discomforts got better in the experimental group [29]. These studies found that acupressure application had positive effects on preventing and relieving constipation in elderly people and that bowel movements increased.

Miyoung and Euysoon (2011) examined the effect of aroma therapy and acupressure applications on constipation in university students. The researchers performed acupressure for five days for four weeks in one group and performed aromatherapy in another group for the same amount of time. CSI scale, weekly defecation follow-up program and SRI stress scale were used as the measurement tool. The CSI mean score before the application was 37.4 in the group that was to receive acupressure while it decreased to 23.7 in the 4th week of the application. The number of defecations in the group that was to receive acupressure increased to 3.1 from 2.4 after the acupressure application. Additionally, the stress level which was assessed with SRI scale decreased to 23.4 from 58.5 [30]. The results reported that acupressure application was effective on constipation.

Conclusion

The studies included in this review assessed the effectiveness of acupressure which was performed by the healthcare staff and the patient. Additionally, acupressure application was performed on patients in different age groups and disease groups. This systematic review determined that acupressure can be used on different age groups and patient groups and that acupressure does not require to be performed only by healthcare staff. This systematic review also determined that acupressure has positive effects on relieving constipation and its symptoms in patients experiencing constipation.

Conflict of Interest

The authors declare no conflict of interest.

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