

THE EFFECT OF HEALTH EDUCATION COMBINED WITH HERBAL BATHING AND FOOT MASSAGE ON FOOT ULCER PREVENTION IN TYPE 2 DIABETIC PATIENTS AT THE THAI TRADITIONAL MEDICINE CLINIC, SUAN SUNANDHA RAJABHAT UNIVERSITY

Janjira Phetkhoathong

Graduate School, Suan Sunandha Rajabhat University, Bangkok, Thailand

E-mail: Janjira.ph@ssru.ac.th

Sanjai Sangvichien

Graduate School, Suan Sunandha Rajabhat University, Bangkok, Thailand

E-mail: Sanjai.sa@ssru.ac.th

Abstract

The study on the effect of health education combined with herbal bath and foot massage to prevent foot ulcers in 30 patients with type 2 diabetes between February and April 2024. Data were collected before and after the test twice (One group pre-test and post-test design). The instruments used in this study consisted of 2 sets of instruments: the experimental instruments consisted of 1) a teaching and training plan for foot care skills; 2) a foot care manual, which included 5 aspects of foot care; 3) herbal bath and foot massage, and a foot care behavior assessment form. The reliability was tested using the Cronbach's alpha coefficient of .86. Data were analyzed using frequency distribution, percentage, mean, standard deviation, dependent-t-test, and Chi square test at a statistical significance level of .05

Foot care behavior of type 2 diabetic patients after herbal foot soaking and foot massage to prevent foot ulcers was significantly better than before the experiment ($t = 3.682$, $p = .000$). After herbal foot soaking and foot massage to prevent foot ulcers, the risk of foot ulcers was reduced by 20.0 percent ($p = .042$). Before herbal foot soaking and foot massage to prevent foot ulcers, the risk was at a low risk level of 60 % After herbal foot soaking and foot massage to prevent foot ulcers, the risk was at a low risk level of 80 %

Keywords: Type 2 diabetes mellitus, Foot massage, herbal infusion

Introduction

Diabetes is the most common chronic disease and a major problem. Although there have been many advances in diabetes science, the incidence and prevalence of the disease tend to increase continuously because it is an incurable disease. According to the statistics of the global incidence, there are 194 million patients and it is expected to increase to 333 million in 2025. For Thailand, a survey found that more than 3 million people aged 15 years and over are diabetic patients. The number is 6.40 percent male and 7.30 percent female. Of these, 1.4 million people know that they are sick. Only 400,000 people have received treatment to control the complications of the disease. They can live a normal life and there are still about 6 million people who are at risk of diabetes. In diabetic patients who are over 60 years old or have had diabetes for more than 10 years, the incidence of foot ulcers will increase by up to 33.40 percent, especially if diabetic patients do not control their blood sugar levels well. It often causes problems with the sensory nerves in the distal parts, causing foot deformities, numbness in the feet, pain, pressure, or loss of sensation of heat or cold. These things make it easy for accidents to occur. It causes disability and premature death, affecting the quality of life, the economic situation of the patient, their family, and the country. One of the most important complications is foot ulcers, which can lead to the loss of limbs.

The main goal of diabetic foot care is to reduce the incidence and amputation of the foot. To achieve this goal, it is necessary to screen for foot ulcer risk and provide education about diabetes, foot health, assess foot condition and provide advice on behavior according to the risk level of the foot, including recommending the selection of appropriate footwear before ulcers occur.

The researcher is interested in studying the effects of herbal bath and massage to prevent foot ulcers in patients with type 2 diabetes, to study foot condition examination to find risk factors for foot complications in patients with diabetes, and to study the effects of foot massage and herbal bath in preventing foot complications in patients with diabetes, along with activities to promote foot care behavior in patients with diabetes by teaching, advising and demonstrating how to do it so that patients with diabetes can take more care of their feet than normal people and can take care of their feet correctly and consistently in accordance with the patient's lifestyle and set clear guidelines.

Research Objectives

1. To study the effect of health education combined with herbal water soaking and foot massage on foot care behavior of type 2 diabetic patients at the Thai Traditional Medicine Clinic, Suan Sunandha Rajabhat University.
2. To study the effect of health education combined with herbal bathing and foot massage in type 2 diabetic patients on the risk of foot ulcers in type 2 diabetic patients at the Thai Traditional Medicine Clinic, Suan Sunandha Rajabhat University.
3. To study the effect of health education combined with foot soaking and foot massage on the level of foot numbness in type 2 diabetic patients at the Thai Traditional Medicine Clinic, Suan Sunandha Rajabhat University.

Scope of the Research

Population Scope

Population

The population used in this study was 50 patients diagnosed with type 2 diabetes who received treatment at the Thai Traditional Medicine Clinic, Suan Sunandha Rajabhat University.

sample

A group of 30 patients diagnosed with type 2 diabetes who received treatment services at the Thai traditional medicine clinic, Suan Sunandha Rajabhat University, in this study, the researcher defined the characteristics of the sample group as follows

Research tools

1. Instruments used in the experiment
 - Teaching and training plans on foot care
 - Foot Care Guide, which includes 5 aspects of foot care.
 - Herbal bath and foot massage
2. Tools used to collect data
 - The interview form for diabetic patients consists of 2 parts: personal information, which the researcher used a general information interview form.
 - Foot care behavior assessment form of the sample group.

Time Scope

The data collection period spans from October 2023 to September 2024.

Literature Review

Diabetes mellitus is a type of chronic disease that requires continuous care. Patient self-management to control symptoms and prevent complications from occurring. Diabetes is a disorder caused by metabolism of carbohydrates, proteins and fats as a result of insulin deficiency or insulin dysfunction

Diabetic Foot Care by Diabetics Diabetics have the risk of birth. Foot ulcers and amputations make diabetic patients need more foot care than normal people. Therefore, every diabetic should be aware of and pay special attention to foot care. Practice regularly along with other aspects of self-care. Important foot care is as follows: Controlling blood sugar and fat levels to prevent vascular degeneration by diet, exercise, foot cleaning, Diabetics need to clean their feet daily with clean water and mild soap. Abnormalities such as inflammation, swelling, redness, hot touch, blisters. Thick hard side skin or fish eyes or wounds can be quickly and can be prevented and corrected appropriately. Fitting Shoes When choosing shoes, you should choose to buy shoes in the afternoon or evening because this is the time when the feet are most extended. Nail clipping should be done after showering to help the nails. Soft and easy to cut. Avoid soaking your feet before cutting your nails to prevent the skin around the nails from stomatitis. Wound care In case it is found that there is a problem with the patient's foot. Diabetes mellitus, such as blisters Nail bite If the diabetic patient's feet are hard or have ulcers, they should consult a doctor or nurse who is treating them for advice or appropriate treatment

Related research

Pacharin Klankuwat, Sanjai Sangwichian, Supalak Fakkham, Degree Taweechaikarn, Venika Taweechai (2022) The effectiveness of wearing shoes relieves foot numbness in diabetics. Chronic common Diabetics also have a number of complications such as optic nerve degeneration, coronary artery disease, and more commonly, foot numbness due to degeneration of peripheral nerves. Objective To study the effectiveness of wearing shoes to relieve foot numbness in diabetic patients. Study Method: A study was conducted on diabetic patients who came to receive treatment at the Chronic Disease Clinic of Song Phi Nong District Public Health. Suphan Buri Province 30 people wear shoes to relieve foot numbness every day. Before and after treatment, the patient underwent a sensory test in the foot with a 10 g monofilament instrument. Foot sensory tests before and after treatment using Paired t-test statistics The results of the study showed that diabetic patients had a statistically significant decrease in average sensory tests. ($p < 0.01$) Conclusion: Wearing shoes to relieve foot numbness is to pressure the reflex points of the soles of the feet and soak the feet with herbal water. It can also be used as a guideline to prevent foot complications. Further occurrence of foot ulcers in diabetic patients

Pannarat Pradit Phrom, Namthip Bumrun, Panchata Jiawiriyabonya, and Wararat (2017) Study on the treatment of diabetic patients using reflexology on the soles of the feet. The purpose of this research is to find a form of reflexology for the sole of the foot reflexology as a guideline for patient care. and to study the follow-up effect of foot reflexology in patients with type 2 diabetes who are registered for diabetes treatment at the Community Health Center at the Thai Traditional Medicine and Alternative Medicine Group. 50th Anniversary Hospital, Ubon Ratchathani Province The sample was selected using purposive sampling, with 62 points of reflexology on both sides of the feet and 9 points of acupressure related to diabetes. For 5 consecutive weeks, interviews were conducted before and after the reflexology and blood pressure tests. Blood glucose values and cumulative mean of blood glucose levels

Research Methodology

1. Data collection
 - History of illness, factors related to the elderly, balance check, dependency

- Foot examination to assess the risk level of foot ulcers in patients, recording the sensation that is sufficient to prevent foot ulcers in patients with type 2 diabetes, using an examination tool called "monofilament".

- Develop a questionnaire on foot care behavior among type 2 diabetic patients.

Research Results

Study on the Effect of Health Education Combined with Herbal Water Soaking and Foot Massage to Prevent Foot Ulcers in Patients with Type 2 Diabetes at Thai Traditional Medicine Clinic Suan Sunanda Rajabhat University 30 people 1 Most patients with type 2 diabetes were females (60.0 percent) and males (40.0 percent) The risk of developing foot ulcers of patients with type 2 diabetes after herbal bath and foot massage to prevent foot ulcers was at a low risk level (normal foot - no ulcers, no history of foot ulcers, or amputation of legs/feet/toes. Normal skin and nails, normal foot shape, normal sensory perception, normal pulse in the foot, or ABI value >0.9) 80.0 percent, followed by moderate risk (abnormal foot-effect There is no history of foot sores or amputations of legs/feet/toes, and no foot deformities but abnormal sensation and or a lighter foot pulse or ABI value < 0.9). 20.0% after herbal bath and foot massage to prevent foot ulcers. It was found that the risk of foot ulcers was reduced. 20.0 percent ($p = .042$)

Discussion

The results of this study showed that the foot examination to assess the risk level of foot ulcers in patients with type 2 diabetes recorded sufficient sensory perception to prevent ulcers (protective sensation) in the feet of patients with type 2 diabetes using an instrument called "Monofilament" (Singh et al., 2005). The shank is a device for screening or testing the sensation of the foot. Before the trial, the risk of foot ulcers in patients with type 2 diabetes before herbal infusion and foot massage to prevent foot ulcers was at low risk (normal foot - no ulcers, no history of foot ulcers, or amputation of legs/feet/toes. Normal skin and nails, normal sensory perception, normal pulse palpation in the foot, or ABI value >0.9) 60.0%, followed by moderate risk (normal foot - no ulcers, no history of foot ulcers, or amputations of legs/feet/toes, and feet are not deformed, but abnormal sensation and/or pulse in the feet are detected or ABI < 0.9), and the risk of developing foot ulcers in patients with type 2 diabetes after herbal bath and foot massage to prevent foot ulcers is at a low risk level (normal foot - no ulcers, no history of foot ulcers or amputation of legs/feet/toes. Normal skin and nails, normal foot shape, normal sensory perception, normal pulse palpation in the feet, or ABI value >0.9) 80.0 percent, followed by moderate risk. (Abnormal foot - no wound, no history of foot wounds, or amputated legs/feet/toes, and no foot deformity but abnormal sensory perception and/or a lighter foot pulse or ABI value < 0.9) 20.0 percent. After assessing the problems from the history of foot examination, the knowledge and behavior of foot care were assessed. It provides an opportunity for patients and relatives to express their opinions and exchange experiences about diabetes and diabetic ulcers. Arrange the environment and atmosphere to be conducive to knowledge, calm, noise-free, and friendly. Many teaching materials that take into account individual differences provide knowledge about foot complications, risk factors for foot ulcers.

5 Aspects of Foot Care: Foot Cleaning Foot Examination Prevention of foot ulcers and encouraging patients with type 2 diabetes to soak in warm water mixed with fresh herbs consisting of lemongrass, bergamot lime, galangal, and pyle for about 10 minutes, and the researcher performed foot massage with Thai massage combined with pressure points on each foot for 15 minutes for a total of 30 minutes. Solving problems, consulting, and reminding foot care behaviors resulted in educational programs, education, education, and environmental management.

After herbal baths and foot massages to prevent foot ulcers. It was found that the risk of foot ulcers was reduced. 20.0 percent ($p = .042$) is in line with the research of Tasnee Trirattananukul (2014) who studied the effect of foot reflexology on foot numbness in patients with type 2 diabetes. <The mean terms of the second and third foot numbness of the subjects who received foot reflexology were statistically significantly lower than before the foot reflexology. ($P < 0.01$)

Recommendations

1. The results of foot massage using Thai massage combined with foot acupressure and herbal therapy should be expanded to diabetic patients with type 2 diabetes by soaking in warm water mixed with fresh herbs, including lemongrass, kaffir lime, galangal, and fingerroot, to diabetic patients in the community.

2. The experiment found that after foot reflexology massage, diabetic patients had a reduced average of numbness in their feet and the reduction was greater when the massage duration was increased. Therefore, diabetic patients should be encouraged to continuously massage their feet by themselves to prevent numbness.

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