

INNOVATION OF THE BOTTLES' BOTTOM RELEASE NUMBNESS.

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ABSTRACT

The purpose of this research is to test the effectiveness innovation of the Bottle's Bottom release numbness which is a descriptive research. The samples are people who live in Ban Lao community, Megdam Subdistrict, Phayak Phum Phisai District, Maha Sarakham Province, consisting of 10 people. We used the research instrument is satisfaction questionnaire for people with diabetes and who have symptoms of numbness. The results of the innovation of the Bottle's Bottom release numbness are satisfied with the numbness in their foot after walking on innovation of the Bottle's Bottom and the innovation is durable convenient to use can be reused multiple times. However, this innovation still needed to be further developed to be more effective, which is to have a handrail while stepping on to have a holder that does not fall when using and be suggested how to use correctly to prevent accidents.

Keywords: Innovation of Bottle's bottom, Numbness, Thai diabetic patients

INTRODUCTION

Nowadays, aging is associated with a wide range of physiological changes that leads to increase chronic diseases [1] especially diabetes is tending to increase. According to statistics, global health in 2558 found that people with diabetes worldwide reached 371 million people and an estimated 280 million people are at risk of diabetes in the year 2030 is expected to be there people with diabetes to 500 million people [2]. Thailand in 2013 people has died from diabetes all 9,647 or daily average of 27 people a mortality rate of diabetes 14.93 per 1 square people [3]. Survey people's health physical examination in 2014 will be found that prevalence of diabetes in the population aged 15 years and over at the rate of 8.9 percent [4], the risk increases with age. In the age group 15-29 years there will be a risk of 0.6 percent, the highest risk than in the age group 60-69 years is 16.7 percent risk of complications from diabetes are common in the patients is diabetic neuropathy were up 44.6 percent, that is an important issue in patients resulting into diabetic foot ulcers and chronic complications to severe infection that can cause to loss of foot [5]. As problem previously, many researchers have conducted studies on reducing numbness in the feet of diabetic patients by using the innovation rolling foot, innovation message by coconut shell massage roller [6] [7]. The studies found that innovation rolling foot and innovation coconut shell massage roller can reduce numbness in the feet in patients with diabetes, but must use high expense, rare equipment and must use a large area.

From such research, researchers are interested in innovation to reduce numbness in the feet of diabetic patients using devices that are easy to find locally, save cost Inventions can be

customized and does not waste space in using the equipment to reduce numbness in the feet, improve the quality of life and physical rehabilitation of Thai people with diabetes better.

OBJECTIVE

To study the effectiveness of the innovation in the bottom of the water bottle for massages the foot to reduce numbness

METHODOLOGY

Population is people living in Ban Lao community, Mek Dam Subdistrict, Phayakhaphum Phisai District, Maha Sarakham Province. Sample are 10 people living in Ban Lao community, MekDam Subdistrict, Phayakkhaphum Phisai District, Maha Sarakham Province have diabetes and have numbness in the sole of the foot and random sampling we use specific sampling techniques. That particular random selection in order to get the right group meets the target group. The instrument used in this research was a satisfaction questionnaire for people with diabetes who have numbness in their feet living in Ban Lao community, MekDam Subdistrict, Phayakkhaphum Phisai District. Mahasarakham Province. After using the innovative bottom of the water bottle massage the feet to reduce numbness. The researcher questionnaire was made up of two parts Part 1: general information with the exceptions, such as name, age, medical condition, Symptoms who received services. Part 2: Foot Assessment Test for diabetic patients. Before use and after use, there will be 2 soles of the feet for the patient at each pain point.

Collection of Data: The data collection Using survey and experimental data on diabetics' patients with symptoms with numbness in the soles of the feet, including data collection inquiry before trial operations between 23 June 2018 and 26 June 2018 with the following steps implemented; 1) Contact and coordinate with Ban Lao Community Health Hospital, Mek Dam Subdistrict, Phayakkhaphum Phisai District, Maha Sarakham Province and community leaders. To clarify objectives, processes and appointments those are convenient for time 2) Prepare team who helped to collect information, including research assistants and the 3rd year nursing students, two people by the training objectives guiding the data collection and understanding the questions in the questionnaire 3) Meet the sample groups in the community. According to the appointed date with the community leader State the research objectives, explain the research describes the privacy and data protection and confidentiality and Requesting consent for information when the population understands and consents, then conducts the experiment and collects data using the foot numbness assessment form before-after using the device in a sample of ten people. Questionnaires were used to collect data after the experiment using innovation with a sample of ten people. Data analysis is general information of the sample, such as age, occupation, satisfaction variables, as well as information on the effectiveness of the use of innovative bottom of the water bottle for massage the foot to reduce numbness .Analyzed with descriptive statistics and Information effectiveness of innovative bottom of the water bottle for massage reduces numbness. Analysis section Standard Deviation.

RESULTS

The researchers found that the effectiveness after use is durable and easy to use. And can be reused multiple times and can help patients with diabetes more efficiently and further develop the inventions or innovations that they want to do more efficiently. From the objective of studying the satisfaction, the effect of using the bottom of a foot bath to reduce

numbness in diabetic patients. By a sample of 10 people aged between 20-60 years and the research found that Satisfied Using the bottom of the water bottle to massage the feet reduces numbness in diabetic patients with structural satisfaction. The satisfaction with the stretching and the relaxation of the soles of the muscles in putting the feet on the bottom of the water bottle is excellent ($\bar{x} = 4.1$, S.D. = 0.31), and satisfaction of the appropriate amount of time it takes to foot is excellent ($\bar{x} = 3.4$, = S.D. = 0.51). The satisfaction with the safety of the base for the bottom of the water bottle is excellent ($\bar{x} = 4$, S.D. = 0.66). The satisfaction with the quantity of the bottom of the water bottle used in the feet is excellent ($\bar{x} = 3.9$, S.D. = 0.31). The satisfaction in knowledge and understanding of foot massage using the bottom of a water bottle is excellent ($\bar{x} = 3.1$, S.D. = 0.31). The satisfaction with the stretching and the relaxation of the soles of the muscles in putting the feet on the bottom of the water bottle is excellent ($\bar{x} = 4.1$, S.D. = 0.31). The satisfaction with the numbness of the soles decreased after walking on the bottom of the water bottle is excellent ($\bar{x} = 4.3$, S.D. = 0.48). Satisfaction with the resources are used cost-effectively superfluous is excellent ($\bar{x} = 4.1$, S.D. = 0.56). Have the application of local resources and readily available materials is excellent ($\bar{x} = 4.1$, S.D. = 0.56). Overall satisfaction with innovation is excellent ($\bar{x} = 4.6$, S.D. = 0.51). From the overall interpretation, the satisfaction is at the highest level. This is objective and consistent with the score obtained after the use of patients living in Ban Lao community, Mek Dam Subdistrict, Phayakkhaphum Phisai District, Maha Sarakham Province. From Table 1.

Table 1
Items evaluation after use innovation of the Bottle's Bottom

Items evaluated	Satisfaction level scale							Evaluation
	Excellent 5	Good 4	Average 3	Poor 2	Worst 1	\bar{x}	S.D.	
1. Appropriate size, shape, bottom of the water bottle	(n=1) 10%	(n=9) 90%	-	-	-	4.1	0.31	Excellent
2. Appropriateness of the amount of time spent stepping on	-	(n=4) 40%	(n=6) 60%	-	-	3.4	0.51	Good
3. Security at the base of the bottom of the water bottle	(n=2) 20%	(n=6) 60%	(n=2) 20%	-	-	4.0	0.66	Good
4. The amount of bottom of the water bottle used to put the feet	-	(n=9) 90%	(n=1) 10%	-	-	3.9	0.31	Good
5. Knowledge and understanding of foot massage by using the bottom of the bottom of the water bottle	-	(n=1) 10%	(n=9) 90%	-	-	3.1	0.31	Good
6. Stretching and relaxation of the feet in the bottom of the bottle	(n=1) 10%	(n=9) 90%	-	-	-	4.1	0.31	Excellent
7. Symptoms of numbness in the soles of the feet after stepping on the bottom of a water bottle	(n=3) 30%	(n=7) 70%	-	-	-	4.3	0.48	Excellent

Items evaluated	Satisfaction level scale							
	Excellent 5	Good 4	Average 3	Poor 2	Worst 1	\bar{x}	S.D.	Evaluation
8. The resources are used efficiently, not wasteful	(n=2) 20%	(n=7) 70%	(n=1) 10%	-	-	4.1	0.56	Excellent
9. With the application of local resources and materials are readily available	(n=2) 20%	(n=7) 70%	(n=1) 10%	-	-	4.1	0.56	Excellent
10. Overall satisfaction with innovation	(n=6) 60%	n=4) 40%	-	-	-	4.6	0.51	Excellent

CONCLUSION AND FUTURE WORK

Results from the study of the effect of using the effect of the bottom of the water bottle to reduce numbness in diabetic patients, it is found that improvement the bottom of the bottle. There should be a handrail to hold while stepping on. So the patient has a place to not fall when used. Before implementing the innovation, it should be suggested how to use correctly as according to individual diabetic patients to prevent accidents. Training for local health officials should be conducted. When using this innovative device to be able to be used in the care and health promotion of people with diabetes in the community.

ACKNOWLEDGEMENTS

I would like express my sincere thanks to Suan Sunandha Rajabhat University for invaluable help throughout this research. Thank you to Dr. Mantanavadee Methapattana, research advisor and the population that lives in Ban Lao community, MekDam Subdistrict, Phayakkhaphum Phisai District, Mahasarakham province for your cooperation.

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