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ASSESS TO IDENTIFY THE OCCURRENCE OF FOOT ULCER BY FOOT SKIN TEMPERATURE AMONG TYPE-2 DIABETES MELLITUS

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ABSTRACT

Aim of the study: - Assess to identify the occurrence of foot ulcer by foot skin temperature among type-2 diabetes mellitus.

Background: Foot ulcers in patients with diabetes is common, and frequently leads to lower limb amputation unless a prompt, rational, multidisciplinary approach to therapy is taken. The main components of management that can ensure successful and rapid healing of DFU include education, blood sugar control, wound debridement, advanced dressing, offloading, surgery, and advanced therapies, which are used clinically. These approaches should be used whenever feasible to reduce high morbidity and risk of serious complications resulting from foot ulcers. Temperature measurement represents a useful, still-growing area of new perspectives for the clinical assessment of the diabetic foot. Increased foot skin temperature has been described as a classical feature of diabetic neuropathy. The phenomenon is ascribable to increased blood flow in the foot due to impaired vasoconstriction. The advent of portable infrared thermometers has facilitated temperature measurement and enabled home monitoring of foot skin temperature, thereby preventing re-ulceration among high-risk patients. Moreover, a significant positive correlation between foot skin temperature and clinical severity of neuropathy has been reported.

Methods: convenience Sampling method was used. A total of 30 type-2 diabetes mellitus participated in the study. Data was collected from all type-2 diabetic mellitus client by using infrared thermometer which is equipped with a "touch sensor" tip that detects contact with skin.

Result. The Out of 30 diabetic client 19(63.3 %) were in the age group of 30-40 years and Majority of the clients are male 26(86.6%) , majority of them are high school 17(56.6%),most of client having family income below 5000-25(83.3%), Most of the client are non-vegetarian 25(83.3%) and they are working as a government employee 19(63,3%).Out of 30 diabetic client majority of the client 23 (76,6%) having moderate risk of foot ulcer. The analysis reveals that there is significant association between risk of foot ulcer with variable Gender , education , type of family, diet and family history of diabetes mellitus at p = 0.05 significant levels . there is no significant difference regarding others demographic variables.

Conclusion The study was assess to identify the occurrence of foot ulcer by foot skin temperature among type-2 diabetes mellitus. The result shows that majority of the client having moderate risk of foot ulcer -23 (76,6%) and there is significant association between risk of foot ulcer with variable Gender , education , type of family, diet and family history of diabetes mellitus at p = 0.05. Therefore these finding highlight the need for the health education programmes for risk of foot ulcer among diabetic client.

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INTRODUCTION

Patients with DM are prone to multiple complications such as diabetic foot ulcer (DFU). DFU is a common complication of DM that has shown an increasing trend over previous decades. In total, it is estimated that 15% of patients with diabetes will suffer from DFU during their lifetime. Although accurate figures are difficult to obtain for the prevalence of DFU, the prevalence of this complication ranges from 4%-27%. To date, DFU is considered as a major source of morbidity and a leading cause of hospitalization in patients with diabetes.

It is estimated that approximately 20% of hospital admissions among patients with DM are the result of DFU. Indeed, DFU can lead to infection, gangrene, amputation, and even death if necessary care is not provided. On the other hand, once DFU has developed, there is an increased risk of ulcer progression that may ultimately lead to amputation. Overall, the rate of lower limb amputation in patients with DM is 15 times higher than patients without diabetes. It is estimated that approximately 50%-70% of all lower limb amputations are due to DFU. In addition, it is reported that every 30 s one leg is amputated due to DFU in worldwide. Furthermore, DFU is responsible for substantial emotional and physical distress as well as productivity and financial losses that lower the quality of life

BACKGROUND

Foot ulcers are among the most common complications of diabetes. Sensory neuropathy is often a major component in the critical pathway for the development of diabetic ulcers and amputations. Pain is one of the primary natural warning systems that alerts individuals to take action and seek medical care. Because this early warning system is faulty, individuals with diabetic neuropathy can sustain injuries that are not recognized until they are so severe that full-thickness wounds result. In the "diabetic foot" patient, involvement to identify early warning signs of the disease process is imperative to reduce the incidence of complications. Inflammation is one of the earliest signs of tissue injury and ulceration. However, the clinical signs of inflammation are usually too subtle to be detected by patients or even by trained health care providers . We hypothesized that skin temperatures could be used as a surrogate measure of injury and localized inflammation. Skin temperature measurements can be easily performed and assessed by the lay public and have been used as a diagnostic tool for diabetic foot ulcerations, decubitus wounds.

Aim of the study: Assess to identify the occurrence of foot ulcer by foot skin temperature among type-2 diabetes mellitus.

MATERIALS AND METHODS

A experimental Design approach was used to find out the risk of diabetic foot ulcer among type-2 diabetes mellitus by convenience Sampling method sampling technique. After selecting the sample, the demographical data was collected by using structured questionnaire Data was collected from all type-2 diabetic mellitus client by using infrared thermometer which is equipped with a "touch sensor" tip that detects contact with skin Thus, to operate the device, the user places the tip of the device on the skin, which then automatically triggers a temperature measurement and displays it on a liquid crystal display screen. The thermometer has a gooseneck design, which allows the user to reach any point on the bottom or sides of the foot.The data were analyzed by using descriptive statistics.

Ethical consideration: The project has been approved by the ethics committee of the institution. Informed consent was obtained from the participants before initiating the study.

RESULTS

SECTION I: Out of 30 diabetic client 19(63.3 %) were in the age group of 30-40 years and Majority of the clients are male 26(86.6%) , majority of them are high school 17(56.6%),most of client having family income below 5000-25(83.3), Most of the client are non-vegetarian 25(83.3%) and they are working as a government employee 19(63,3%).

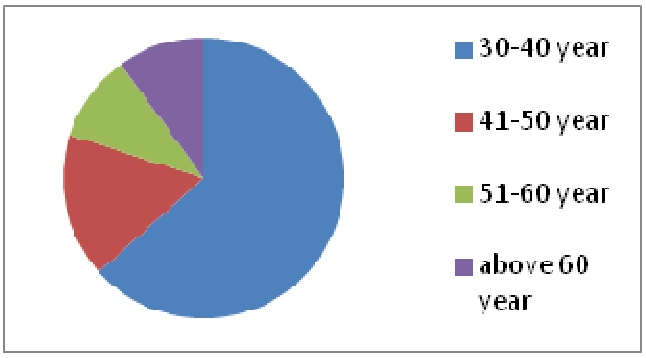

Figure 1.Frequency and percentage distribution of age

Reveals that of 30 diabetic client 19(63.3 %) were in the age group of 30-40 years, and 5(16.6) were in the group of 41-50 age.

SECTION 2: Out of 30 diabetic client majority of the client 23 (76,6%) having moderate risk of foot ulcer.

***SECTION 3*:** The analysis reveals that there is significant association between risk of foot ulcer with variable Gender, education , type of family, diet and family history of diabetes mellitus at p = 0.05 significant levels . there is no significant difference regarding others demographic variables.

DISCUSSION

The first objectives of the study was to evaluate the effectiveness of novel infrared temperature to improve clinical outcomes and functional status in diabetes mellitus at high risk for foot complication.

Out of 30 diabetic client 19(63.3 %) were in the age group of 30-40 years and Majority of the clients are male 26(86.6%) , majority of them are high school 17(56.6%),most of client having family income below 5000-25(83.3), Most of the client are non-vegetarian 25(83.3%) and they are working as a government employee 19(63,3%). Out of 30 diabetic client majority of the client 23 (76,6%) having moderate risk of foot ulcer.

The second objectives of the study was to associate the risk of diabetic foot ulcer with selected demographic variables

The analysis reveals that there is significant association between risk of foot ulcer with variable Gender, education, type of family, diet and family history of diabetes mellitus at p = 0.05 significant levels . there is no significant difference regarding others demographic variables.

Conclusion

The study was assess to identify the occurrence of foot ulcer by foot skin temperature among type-2 diabetes mellitus. The result shows that majority of the client having moderate risk of foot ulcer -23 (76,6%) and there is significant association between risk of foot ulcer with variable Gender, education, type of family, diet and family history of diabetes mellitus at p = 0.05.

Therefore these finding highlight the need for the health education programmes for risk of foot ulcer among diabetic client.

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