

## Factors Correlated To Foot Care Behavior In Type 2 Diabetes Patients In 7A Military Hospital (Hochiminh City, Vietnam)

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**Abstract:** The research aimed at determining the association of some factors (personal income, duration since having the disease, foot care knowledge) to the foot care behavior of patients with diabetes type II. The data were collected using four sets of questionnaires from 286 type II diabetes patients in 7A Military Hospital. The results showed that personal income and disease duration did not affect foot care behaviors. Foot care behavior was associated with patients' foot care knowledge. The finding suggested that nurses should provide proper knowledge and training to diabetes patients regarding foot care behaviors and foot care practices.

**Keywords:** foot care behaviors, foot care knowledge, type 2 diabetes

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### I. Introduction

Type II diabetes is a non-inherited chronic disease that has become a worldwide public health problem. In Vietnam, it's estimated that one in every 20 Vietnamese adults has diabetes, and three times more of that number are in pre-diabetes diagnosis [11]. Diabetes patients that have improper behavior might develop different complications, especially foot problems [7]. The presence of foot problems might cause negative effects to the patients physically, mentally, socially as well as economically [8]. Researchers affirmed the importance of foot care behavior. However, in many countries, especially in Vietnam, patients were having bad food care behaviors [1; 10]. Several different factors affect type II diabetes patients' foot care behaviors. Low-income patients had less foot caring knowledge and tended to have insufficient foot caring behaviors [1]. Patients bearing the disease over ten years had better foot caring knowledge and practices [6]. Foot care knowledge had a positive influence on foot care behaviors [5; 10]. However, a few studies showed that those factors did not influence foot care behaviors. Whether or not those factors affect foot care behaviors is the question and need further research.

Although the subject matter has been investigated in many countries, there was less research implemented in Vietnam. This study on finding the correlation between some factors (foot care knowledge, personal income, and duration of having diabetes) and foot care behaviors of diabetes patients in 7A Military Hospital is needed to improve foot care behaviors of diabetes patients.

#### 1. Subject and research methods

##### 1.1. Subject

The subject of this research is type II, diabetes patients.

##### 1.2. Time and place of research

Data is collected from July to September 2017 from the Diabetes Diagnostic Unit in 7A Military Hospital.

##### 1.3. Research method

The correlational research method was used in this research. The sample size is 286 patients with diabetes type II, randomly chosen according to the criteria: Age from 20-70, healthy cognitive and awareness behaviors.

Those with amputated limbs or having other chronic diseases were excluded from the study.

##### 1.4. Factors

The extent of foot care knowledge and foot care behaviors of type II diabetes patients.

The influence of personal income, duration diabetes, and foot care knowledge on the patients' foot care behaviors.

### 1.5. Data collection techniques

Randomly select samples (sample size 286). The formula:  $k = N/n$  (N was the number of type II diabetes outpatients, n was sample size) [Black, 2004].  $K = 2000/286 = 3$ .

Direct interviewed the patients (prefabricated questionnaires). In this study, the researcher used prefabricated questionnaires with questions, including personal information, foot care knowledge, and foot care behaviors.

Personal information questions covered age, gender, marital status, personal income, education, profession, and duration of having diabetes.

For foot care knowledge, the questionnaires by Sawangjai, (2006) [10] was used with some revision to be suitable to Vietnamese culture. The questionnaires included 30 questions of 7 groups of foot care behaviors of type II diabetes patients. Cronbach's  $\alpha = 0.86$ .

For foot care knowledge, the questionnaires by [Pollock, 2004] was used with revisions to be suitable to Vietnamese culture. The questionnaires included 26 questions of 8 categories of foot care knowledge for type II diabetes patients. Cronbach's  $\alpha = 0.78$ .

### 1.6. Data analysis

The statistical description was used to describe personal information, foot care knowledge, and foot care behaviors of type II diabetes patients.

Pearson's correlation coefficient was used to investigate the influence between the factors (personal income, duration of being diabetes, foot care knowledge), and foot care behaviors of type II diabetes patients.

## II. Result

The subjects included 286 type II diabetes patients, in which there were 129 males (45.1%) and 157 females (54.9%). Most of them were married (92.7%). Nearly half of the subjects were 60-70 years of age ( $\bar{X} = 57.49$ ;  $SD = 8.04$ ), approximately  $\frac{1}{3}$  of them (33.6%) graduated from high-schools and vocational schools (32.2%). More than half of the subjects were retired (56.3%), and 14% were farmers. 43% had personal income from 1,500,000 to 3,000,000 Vietnamese dong ( $\bar{X} = 1852680$ ;  $SD = 1.42$ ). Most of the subjects (63.3%) had been diagnosed with diabetes for less than 5 years. The average of their foot care knowledge and behavior were at a medium level ( $\bar{X} = 17.92$ ;  $SD = 3.46$ ;  $\bar{X} = 69.00$ ;  $SD = 1.31$ ) (see table 1).

**Table 1:** Average, standard deviation, frequency, and percentage of foot care knowledge and foot care behaviors (N = 286)

Variation	Total point	$\bar{X}$	SD	Frequency	%	Level
<b>Foot care knowledge</b>	26	17.92	3.46			Medium
Low				49	17.2	
Medium				176	61.5	
Good				61	21.3	
<b>Foot care behaviors</b>	120	69.00	1.31			Medium
Low				7	2.5	
Medium				196	68.5	
Good				79	27.6	
Very good				4	1.4	

Foot care knowledge had a positive correlation to foot care behaviors ( $r = 0.35$ ;  $p < 0.01$ ). Income and duration of diabetes did not correlate foot care behaviors (see table 2).

**Table 2:** The correlation of personal income, duration of diabetes, and foot care knowledge to foot care behaviors (N = 286)

Variable	Foot care behaviors
Income	-0.05
Duration of diabetes	0.09
Foot care knowledge	0.35**

\*\*  $p < .01$  \* $p < .05$

## III. Discussion

That the medium level average foot care knowledge got the highest percentage among subjects (61.5%) could be explained by the fact that doctors and nurses in the diabetes diagnosis unit provide information to the patients every month. The knowledge provided to diabetes patients was foot care techniques instruction and practices, such as foot cleaning, nail cutting, shoe-wearing, and caring to foot wounds... Furthermore, most of the patients graduated from highschools and vocational schools (32.2%); high education enabled them to understand the knowledge related to better foot care behaviors. However, there were approximately 17.2% of patients had low-level foot care knowledge. This showed that a few patients did not sufficiently attend foot care

educational events, and a few patients did not understand and remember the foot care knowledge provided. This suggested a review of the knowledge supporting program to ensure uniformity.

Most of the subjects (68.5%) had medium level foot care behaviors. Through knowledge receiving from doctors and nurses, the patients understood the downside of the complications, especially foot complications. Therefore, they often practiced good foot care to prevent such complications. [4; 12].

There were some reasons to explain that foot care knowledge strongly influenced foot care behaviors. The patient understanding of foot care would affect their behavior adjustment [9]. When type II diabetes patients had better knowledge of foot care, they would have more choice of foot caring tools, or they would be willing to pay more for foot cleaning, foot diagnosis and exercising [10].

However, the results also suggested that income did not influence foot care behaviors. In other words, low or high-income patients had the same level of foot care behaviors. This could be explained that the necessities for foot caring such as soap, nail clippers or skin moisturizers are not expensive and that everyone could afford them. Most subjects could take care of their feet without any financial barriers. Therefore, income did not influence foot care behaviors, which matched the study from Hasnam and Sheikh (2009) [4].

On the other hand, the duration of having diabetes did not influence foot care behaviors as well. Patients would receive a monthly flyer from doctors and nurses providing information about foot care. Doctors and nurses also organized consultation days offering foot care knowledge every month. Therefore, the patients had the opportunity to learn about foot care without time-dependent [6].

#### **IV. Conclusion**

Foot care knowledge and foot care behaviors were at the medium level. The factor that had an evident influence on foot care behaviors of type II diabetes patients was foot care knowledge. Food care knowledge affected behaviors at a high level.

#### **V. Suggestion**

Based on the research results, nurses should plan and create a program to provide foot care knowledge and support foot care behaviors to diabetes patients. An education program regarding foot care behaviors should be implemented to help people better aware of foot care behaviors in the community.

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