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Factors Associated with Intention in Performing Foot Care Using the Theory Of Planned Behavior in Type 2 Diabetes Mellitus Patients

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Abstract

One of the efforts to prevent complications of diabetic neuropathy in diabetic patients is foot care such as washing the feet every day, drying and oiling them, examining the feet for foot ulcers and signs of pre-ulceration, and wearing well-closed footwear at home. or outside the house. In performing foot care, DM sufferers must have strong intentions and beliefs so that they can run it well. This study aimed to determine the factors related to the intention to perform foot care using the theory of planned behavior at the UPTD of the Poasia Health Center, Kendari City. This study used a correlation design with a cross-sectional study approach involving 32 samples. The sampling technique used was accidental sampling. The instrument used is a questionnaire. Data analysis using Spearman correlation test. The results showed that there was no relationship between attitudes (direct = 0.9, indirect = 0.11), subjective norms (direct = 0.058 and indirect = 0.165) and behavioral control (direct = 0.022 and indirect = 0.037) on the intention to perform foot care in Type 2 DM patients. Further research should examine respondents who have understood or understood the importance of DM foot care. It is recommended that respondents and families still need foot care daily to prevent wound complications.

INTRODUCTION

In the era of globalization, ranging from infectious diseases to non-communicable diseases, more and more degenerative diseases have emerged, one of which is diabetes. Diabetes Mellitus (DM) includes metabolic diseases caused by lack of endogenous insulin secretion where there is an increase in glucose levels in the blood (Hyperglycemia) so that it requires proper monitoring and control (Dhora Sihombing, 1 Nursiswati, 2016; Susanti, Sukarni, 2020).

The World Health Organization (WHO) estimates that, globally, there were 422 million adults over the age of 18 living with DM in 2014, and it is predicted that it will continue to increase to 578 million in 2030 to 700 million in 2045 (WHO, 2017). Based on data from the International Diabetes Federation (IDF), Indonesia ranks 7th out of 10 countries with the highest number of people with DM. The number of DM sufferers in Indonesia reaches 6.2%, which means there are more than 10.6 million DM sufferers (IDF, 2019). Meanwhile in Southeast Sulawesi Province, in recent years DM has been included in the 10 most diseases and ranks 9th with 1.3% cases or around 22,768 people in 2018 (Riskesdas, 2018). Based on the profile of the Poasia Health Center, Kendari City from 2018-2020 has increased, namely from 2018-2019 around 8.9% of cases increased and in 2020 it increased to 20% of DM patients, while in 2021 in January-April there were 2.33% of DM patients.

DM can trigger various complications if not treated properly, so health education related to patient self-management and support is needed to prevent acute complications and minimize the risk of long-term complications (American Diabetes Association, 2019). Prevention and control of DM in Indonesia is carried out so that healthy individuals remain healthy, people who already have risk factors can control risk factors so as not to fall ill with DM, and people who already suffer from DM can control the disease so that complications or premature death do not occur (Ministry of Health of the Republic of Indonesia, 2020).

Peripheral neuropathy (nerve damage) is one of the complications of DM that can cause diabetic ulcers or can increase the incidence of Diabetic Foot Injury (LKD) (Muh. Jasmin, Saldy Yusuf, Fitria Amrullah, 2021). One of the efforts to prevent complications of diabetic neuropathy is through foot care (Susanti, Sukarni, 2020). Doing regular foot care for people with DM is very important, to prevent chronic complications such as LKD (Narmawan, 2019; Wahyuningsih &; Astarini, 2018).

Foot care is a preventive effort including washing feet every day, drying and oiling them, checking the feet to recognize foot ulcers and pre-ulcerative signs, and wearing closed footwear both inside the house and outside the home (IWGDF, Jakosz, 2019; Purwanti &; Maghfirah, 2016). A study of risk factors for LKD due to shoe use, LKD can be caused by internal and external factors, of external factors that can cause improper use of footwear, including the use of narrow shoes (Risman et al., 2020). Of course, it will greatly impact the patient's physique, therefore DM sufferers need to use the concept *of the Theory of planned behavior* to be closely related and know what the patient's intentions include family in foot care for patients with type 2 DM (Dewi, 2019).

In doing DM foot care, you must have the intention and belief or strong will in order to live a good life. According to *Ajzen* (Izza, 2019), the theory of planned behavior states that a person can or cannot perform a behavior depending on the intention of the person. Intentions are things that can explain motivational factors and have a strong impact on behavior. Strong intentions of a person with diabetes will increase client compliance in carrying out disease management that will support behavior change (Icek Ajzen, 1991).

In the concept *of the Theory of planned behavior*, the intention to perform a behavior is influenced by 3 factors, namely attitudes, subjective norms, and behavioral control (Glanz et al., 2008; Mamedov et al., 2016). Attitude is defined as a response that will arise when individuals are faced with a stimulus or situation that provides a response or action through experiences that affect them directly or indirectly (Huda et al., 2019). The results of research by (Icek Ajzen, 1991) in (Narmawan et al., 2018) discuss attitudes towards behavior which refer to the degree to which a person has a favorable or unfavorable evaluation assessment of behavior in a question, subjective norms refer to perceived social pressure to do or not perform a behavior, as well as individual behavioral control shows ease or difficulty doing the behavior that behavioral performance is within his control and measured by beliefs about opportunities to engage in various factors to inhibit or facilitate behavior (Narmawan et al., 2018). Based on three variables from the concept *of Theory Of Planned Behavior above related to intention in carrying out behaviors related to foot care is very important and has a very positive impact, namely attitudes, subjective norms, and behavioral norms with the aim of minimizing the risk of LKD complications* (Putrina, Ade, 2019).

Based on this background, the researcher wants to improve respondents' attitudes, subjective norms, and behavioral control to realize their intentions in doing foot care. Therefore, this study looked at factors related to intention in performing foot care using *the Theory Of Planned Behavior* in type 2 DM patients.

RESEARCH METHODS

This study used a correlation design with a *cross-sectional* approach involving 32 samples. The sampling technique uses *accidental sampling.* The research has been carried out at UPTD Puskesmas Poasia Kendari City from August to September 2021.

The research instrument used was a questionnaire on TPB-based foot care. A total of 40 statement items consisting of (6 statements represent the Intention variable) 34 statement variables represent predictor variables (4 statements represent Direct Attitude), (8 statements represent Indirect Attitude), (3 statements represent Direct Subjective Norm variables), (8 statements represent Indirect

Subjective Norm variables), (3 statements represent Direct Behavioral Control variables), (8 statements represent Indirect Behavior Control variables). Based on the test results, the validity of the instrument is declared valid with a CVI value of 0.75–1.0. And declared valid. Based on the rehabilitation test, the value of the *Crombachs Alpha Coefficient is* >0.70 and is declared reliable (Narmawan, 2018).

Data analysis on intention, direct and indirect attitudes and direct and indirect subjective *norms used spearmen rho's* correlation test (normal undistributed data) while on direct and indirect behavioral control variables used *pearson* correlation test (normal distributed data).

RESULT

1. Characteristics of Respondents

Table 1

Distribution of Respondent Frequency based on Respondent Characteristics

Characteristics of Respondents	f (%)	Mean±SD
Gender		
Man	3 (9,4)	
Woman	29 (90,6)	
Age		56,25±6,754
40-50 years	9 (28,1)	
51-60 years	16 (50)	
61-70 years	6 (18,8)	
71-80 years	1 (3,1)	
Marital status		
Marry	32 (100)	
Education Level		
Elementary School	5 (15,6)	
Junior High School	11 (34,4)	
Senior High School	15 (46,9)	
College	1 (3,1)	
Employment Status		
Government employees	8 (25)	
Self employed	8 (25)	
Housewives	13 (40,6)	
Does not work	3 (9,4)	
GDS/GDP		
GDS	23 (71,9)	173,47±48,524
GDP	9 (28,1)	

Table 1 shows that the age of respondents is more between the ages of 51-60 years as many as 16 people (50%) with a mean value of 56.25 and std. deviation of 6,754, gender dominated by women as many as 29 people (90.6%), all respondents have married as many as 32 people (100%), the last education is dominated by high school as many as 15 people (46.9%) and work is dominated by IRT as many as 13 people (40.6%) and GDS / GDP is dominated by respondents with GDS as many as 23 people (71.9%) who have a mean±SD value of 173.47±48,524 mg / dl.

2. Research Variables

Table 2
Distribution of Respondent Frequency based on Research Variables

Research Variables	Median (min-max)	Mean±SD
Intention	34 (29-42)	
Attitude		
Direct	20 (16-28)	
Indirect	0 ((-39)-84)	
Subjective norms		
Direct	19 (12-21)	
Indirect	68,50 (25-84)	
Behavior control		
Direct		17,03±1,975
Indirect		48,25±15,115

Table 2 shows that the median value of respondents' intention is 34 with a minimum-maximum value (29-42), the median value (min-max) of direct attitude is 20 (16-28) while indirectly is 0 ((-39)-84), the median value (min-max) of direct subjective norms is 19 (12-21) while indirectly it is 68.50 (25-84) and the average ± SD of direct behavioral control is 17.03±1.975 while indirectly it is 48.25±15.115.

3. Bivariate Analysis

Table 3
The Relationship of Attitude to Intention in Doing Foot Care on Type 2 DM sufferers

		Intent Score
Attitude score	Direct	r = 0,094** ρ = 0,607 n =32
	Indirect	r = 0,110** ρ = 0,549 n =32

Table 3 shows that the results of the *spearman* test on the direct attitude variable obtained ρ value of 0.607 while indirect attitude obtained ρ value of 0.549 which means there is no relationship attitude towards intention in doing foot care in patients with Type 2 DM.

Table 4
The Relationship of Subjective Norms to Intention in Doing Foot Care on Type 2 DM sufferers

		Intent Score
Subjective norm score	Direct	r = -0,058** ρ = 0,752 n =32
	Indirect	r = -0,165** ρ = 0,367 n =32

Table 4 shows that the test results on the subjective norm variable are directly obtained ρ value of 0.752 while the subjective norm is indirectly obtained ρ value of 0.367 which means there is no subjective norm relationship to the intention to do foot care in patients with Type DM.

Table 5
Relationship of Intention Behavior Control in Performing Foot Care on Type 2 DM sufferers

		Skor Niat
Behavior control score	Direct	r = 0,221**
		ρ = 0,224
		n =32
	Indirect	r = 0,037**
		ρ = 0,840
		n =32

Table 5 shows that the test results on the direct behavioral control variable obtained ρ value of 0.224 while in indirect behavioral control obtained ρ value of 0.840 which means there is no subjective norm relationship to intention in foot care in patients with Type 2 DM.

DISCUSSION

1. The Relationship of Attitude towards Intention in Doing Foot Care in Type 2 DM Patients

This study shows that there is no direct relationship between attitudes towards intentions in doing foot care for patients with Type 2 DM at UPTD Puskesmas Poasia Kota Kendari because respondents said that washing feet every day is a very good practice and very unbeneficial. In addition, there is no relationship between indirect attitudes towards intentions in carrying out foot care for patients with Type 2 DM at UPTD Puskesmas Poasia Kota Kendari caused by respondents feeling worried if they experience tingling or pain in the feet, conducting foot skin examinations so that they can detect problems at an early stage and detect nail deformities in the toes at an early stage.

Case studies in previous studies show that respondents' attitudes towards diet which is an evaluative statement of an object so that it reflects the belief in the importance of the diet lived where the results of the study obtained confidence in the benefits of diet are believed to be a cure for DM, prevent disease, prevent complaints from appearing, make BB ideal and more powerful and healthy and comfortable (Izza, 2019).

In line with research conducted on adherence in caring for the feet that compliance in management can be influenced by attitude (Lestarina, 2018). The theory states that attitude is defined as readiness to react to an object, namely foot care and DM treatment through certain ways according to the recommendations of health workers (Azwar, 2015).

The assumption of the research on the results of this study that respondents' attitudes towards foot care are very influential on the intention to do foot care such as respondents washing feet every day with warm water, then respondents feel they have done something positive for themselves

2. The Relationship of Subjective Norms to Intention in Doing Foot Care in Type 2 DM Patients

This study shows that there is no direct subjective norm relationship with the intention to do foot care for Type 2 DM patients at UPTD Poasia Health Center Kendari City because family and friends agree that respondents need to wash their feet every day with hangan water and always think about treating ingrown or thickened toenails. In addition, there is a relationship between subjective norms directly on the intention to do foot care for patients with Type 2 DM at UPTD

Puskesmas Poasia Kota Kendari caused by respondents checking shoes first before wearing them, using cream not excessively on the toes and cutting nails straight.

The theory states that subjective norms are beliefs whose influence comes from others that are meaningful to individuals and emphasizes individuals to do or not do a behavior and motivation accompanied by the desire to do or not do something that is considered meaningful (Whida, 2017) . Supported by research showing that social support from both family and friends is an important part of diabetes management because family members can participate in many aspects of mandatory health care, especially foot care in DM sufferers (Yusra, 2011)(Ramadhani et al., 2016).

Concomitant research conducted on stroke patients shows that there is a relationship of subjective norms with knowledge in patient care (Eldiningtyas, 2018). A person's behavior is determined by the environment of individuals or people who live in the environment, meaning that the better the environment, the better the behavior of a person and people in the environment will influence or suggest to behave well (Apriningtyas, 2018).

The researchers' assumptions on the findings of this study show that the beliefs believed by someone greatly affect the intention of respondents in doing foot care so that fatal complications of diabetes mellitus do not occur.

3. **The Relationship of Behavioral Control to Intention in Doing Foot Care in Type 2 DM Patients**

The results showed that there was no relationship between direct control behavior on intentions in carrying out foot care in patients with Type 2 DM at UPTD Puskesmas Poasia Kota Kendari because respondents could check for signs of ulcers on the feet if they had the will and check shoes and foot costs regularly. In addition, there is no relationship between indirect behavioral control of intentions in carrying out foot care for Type 2 DM patients at UPTD Poasia Health Center Kendari City due to footwear worn according to foot size, checking feet every day and cleaning between toes.

The theory of planned behavior states that intentions include direct factors of behavior, therefore the behavior of certain individuals will be consistent with their intentions towards that behavior (I Ajzen, 2005). DM management compliance, the intention of compliance to carry out DM management is shown in the individual's motivation to display the compliance behavior, which indicates how much the individual wants to do a behavior (Fishbein, 2015).

There is an influence of control perception on foot care behavior in DM sufferers where respondents with high control perception and high foot care behavior, will believe or be motivated by doing foot care with the aim of preventing injury (Sutrisno, 2019).

The researcher's assumption of the findings of this study is that respondents who are able to control behavior well in daily life are able to do foot care well.

CONCLUSION

The conclusion in this study is that there is no relationship between attitudes, subjective norms and behavioral control of intentions in carrying out foot care in patients with type 2 DM at UPTD Puskesmas Poasia. In this study, most respondents do not understand foot care, for that researchers can then choose respondents who really understand or have knowledge about the importance of foot care methods to prevent diabetic foot injuries. It is recommended for respondents, including families, to still need to do foot care every day to prevent wound complications.

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