

Factors Related To Compliance With Diet Management In Outpatient Patients With Type 2 Diabetes Mellitus In Sibolga City 2020

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ABSTRACT

Management of type 2 diabetes includes meal planning or diet, physical activity, blood sugar control, and taking medication. The prevalence of type 2 DM cases reaches 85-90%. The type of research used is a cross sectional study with a population of all patients with type 2 DM in 2020 and the sample size is 57 respondents. Measurement of diet management was carried out using a questionnaire. The results showed that there was a relationship between age ($p < 0.01$), gender ($p < 0.01$), and family roles ($p < 0.01$) with adherence to the dietary management of type 2 diabetes. There was no relationship between education ($p: 0.44$), occupation ($p: 0.7$), knowledge ($p: 0.42$), and the role of health workers ($p: 0.7$). Factors related to adherence in the management of type 2 diabetes diet are age, gender, and family roles.

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1. Introduction

Diabetes Mellitus (DM) is a chronic disease characterized by blood glucose (blood sugar) levels exceeding normal, i.e. blood sugar levels being equal to or more than 200 mg/dl, and fasting blood sugar levels above or equal to 126 mg/dl (Misnadiarly, 2006). DM is known as the silent killer because it is often not realized by the sufferer and when it is known that complications have occurred (Kemenkes RI, 2014). DM can attack almost all systems of the human body, from the skin to the heart which causes complications.

The International Diabetes Federation (IDF) states that the prevalence of diabetes mellitus in the world is 1.9% and has made DM the seventh leading cause of death in the world, while in 2019 the incidence of diabetes in the world was 382 million people, where the proportion of type 2 diabetes was 95% of the world's population. The prevalence of type 2 diabetes mellitus is 85-90% (Bustan, 2015).

Data from the WHO report in 2019 showed that only 50% of DM patients in developed countries adhered to the treatment given. In uncontrolled DM complications can occur. The emergence of complications affects the quality of life and affects the economy.

The prevalence of diabetes mellitus in Indonesia in 2013 was 2.1%. This figure is higher than in 2007 (1.1%). A total of 31 provinces (93.9%) showed a significant increase in the prevalence of diabetes mellitus. According to the consensus of the Indonesian Endocrinology Association (PERKENI, 2011), the pillars of DM control include physical exercise, medical nutrition therapy, pharmacological intervention, and education. The success of the control process for DM is determined by the patient's compliance in managing diet or daily diet. This is to prevent complications from DM. The principle of eating arrangements in people with diabetes is almost the same as the recommendation for eating for the general public, namely a balanced diet and in accordance with the calorie and nutritional needs of each individual. People with diabetes mellitus need to emphasize the importance of regular eating in terms of meal schedules, types and amounts of food, especially for those who use blood glucose-lowering drugs or insulin. According to Di Matteo (2004) shows that the population of sufferers.

DM is the population with the lowest compliance (67.5%) in the recommended medical action compared to 16 other major diseases. The main obstacle in managing the DM diet is patient

saturation in following dietary therapy which is very necessary to achieve success. Although it is necessary to eat or diet according to the doctor's orders, in reality the patient's level of compliance in carrying out the disease management program is not good enough. Problems like this become a challenge in overcoming diabetes mellitus. The purpose of this study was to determine the factors associated with adherence to diet management in type 2 DM patients.

2. Method

2.1. Research Design

This type of research uses a cross sectional research design. The variables studied were age, gender, education level, employment status, level of knowledge, family role, and the role of health workers, as well as compliance with diet management in patients with type 2 diabetes..

2.2. Population and Sample

The population in this study were all patients with type 2 DM with data collection techniques, namely observation and interviews. This study involved 57 respondents.

2.3. Analysis Techniques

The sampling technique used is purposive sampling technique by applying inclusion and exclusion criteria. The research instrument used a questionnaire.

3. Results and Discussion

In the age variable analysis, respondents in the adult category (20-59 years) were 43 respondents (75.4%) and the elderly category (≥ 60 years) were 14 respondents (24.6%). On the gender variable, most of the respondents female respondents were 41 patients (71.9%), while the male respondents were 16 patients (28.1%).

Based on table 1, there is a relationship between age and compliance in diet management in outpatients with type 2 DM. diet management. In this study, the adult age category was more dominant than the elderly category. So the table shows that the proportion of compliance with diet management in adult respondents is higher than the elderly. It can be concluded that most of the respondents who suffer from type 2 diabetes are aged between 45-60 years or are in the adult category. Adult age is a pre-elderly age, where function and integration begin to decline, the ability to mobilize and activity has begun to decrease so that several diseases appear that cause health status to decline.

This is in line with Trisnawati's (2013) research that there is a significant relationship in the age group over 45 years which is more at risk of suffering from type 2 diabetes. The results obtained were more DM patients in the adult age group than the elderly. With increasing age, a patient's hearing, vision and memory function decreases, so that elderly patients will find it more difficult to receive information and ultimately misunderstand the instructions given by health workers.

This study is inconsistent with Liu's (2004) study of the ability of older adults to remember to monitor their glucose four times over a set period of time. In his research, he stated that there was no relationship between age and adherence in the management of DM dietary compliance. Based on table 1, on the gender variable, there is a relationship between gender and compliance in management :

TABLE 1
FACTORS ASSOCIATED WITH ADHERENCE IN DIET MANAGEMENT IN DIABETES MELLITUS PATIENTS

Variabel	PengelolaanDiet		pvalue	PR	CI95%
	Patuh	TidakPatuh			
Umur					
Dewasa	28(65,1%)	15(34,9%)	<0,01	9,12	1,36-61,03
Lansia	1(7,1%)	13(46,4%)			
JenisKelamin					
Laki-laki	14(87,5%)	2(12,5%)	<0,01	2,39	1,53-3,73
Perempuan	15(36,6%)	26(63,4%)			
TingkatPendidikan					
Tinggi	11(61,1%)	7(38,9%)	0,44	1,32	0,80-2,18
Rendah	18 (42,6%)	21(53,8%)			

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StatusPekerjaan					
Bekerja	13(48,1%)	14(51,9%)	0,7	0,91	0,54-1,51
Tidakbekerja	16(53,3%)	14(46,7%)			
TingkatPengetahuan					
Baik	19(46,3%)	22(53,7%)	0,42	0,74	0,45-1,23
Kurang	10(62,5%)	6(37,5%)			
PeranKeluarga					
Baik	23(79,3%)	6(20,7%)	0,000	3,7	1,78-7,70
Kurang	6(21,4%)	22(78,6%)			
PeranPetugasKesehatan					
Baik	16(53,3%)	14(46,7%)	0,7	1,1	0,66-1,85
Kurang	13(48,1%)	14(51,9%)			

From the analysis, it was obtained that the PR value = 2.39, meaning that female respondents had twice the risk of low compliance in diet management. In this study it can also be concluded that the proportion of compliance with diet management in female respondents is higher than that of male respondents. Gender differences in diet management are not a problem. Because respondents are both female and male, it is very important to manage diet in order to prevent complications. According to basic health research (2013) the prevalence of women is higher than men, this is because several risk factors cause the high incidence of DM in women.

Research conducted by Wong (2005) shows that there is a relationship between gender and dietary compliance in patients with type 2 diabetes. Research that is not in line is in Tania's research (2016) which shows that the percentage of respondents who participated in the study were male (51%) than female (49%). However, the Tania (2016) statistical test showed that there was no significant relationship between gender and dietary compliance in type 2 DM patients. expressed in the theory of Health Belief Model or health belief model.

Another study that is not in line is according to Nugroho (2017) stating in his research that there is no significant relationship between gender and dietary compliance with DM patients with the number of people with diabetes mellitus.

In the education variable, there is no relationship between the level of education and adherence to diet management in outpatients with type 2 DM. So it can be concluded that the proportion of compliance with diet management in respondents with low education is higher than respondents with high educational backgrounds. Diet management that is not carried out properly can be caused by the respondent's lack of knowledge about the importance of maintaining a diet in order to avoid the emergence of complications from type 2 DM. Knowledge is related to education, because education is a learning process that is able to change a person's behavior to achieve quality of life. . So the higher a person's education, the higher the diet management.

In theory, someone with a high education will have the opportunity to behave well. Highly educated people are easier to understand and adhere to dietary behavior compared to people with low education. A higher level of education will make it easier for a person or society to absorb information and implement it in daily behavior and lifestyle, especially in complying with the management of the DM diet. According to Heryati (2014) someone with higher education will have broader knowledge than someone with a lower level of education because education is the main basis for success in treatment.

Several studies in Indonesia also showed similar results to this study where the level of education did not have a significant effect on dietary compliance in patients with type 2 diabetes. Research conducted by Febriani (2016) also states that there is a relationship between attitude and DM management. According to him, to achieve the goal of good DM management, various efforts need to be made to correct the metabolic abnormalities that occur. One of the efforts is to respond to the illness well. A good attitude affects behavior in managing DM. The better the patient's attitude, the better the management of the patient's DM. In the variable of the role of health workers, there is no relationship between the role of health workers and compliance in diet management in outpatients with type DM2. It can be concluded that respondents who have a good role of health workers are more than those whose roles are less. So, based on table 1, it shows that the proportion of compliance with diet management in respondents who have good support from health workers is higher than respondents who have good health care. have a low educational background. This

shows that the role of health workers is good in supporting the behavior of DM patients in complying with dietary management in order to prevent complications.

This study is in line with Akmal (2012) who showed a significant relationship between the role of health workers and compliance in managing the diet of DM patients with a percentage effect of 93.3%. The support of health workers is needed to improve compliance, for example through communication. This is in accordance with the existing theory, where health workers are the first to know about the patient's health condition so that they have a big role in conveying information about the health condition and things that must be done by the patient for the recovery process. This communication can be done through health education in the form of counseling. This research is strengthened by the research of Senuk (2013) which illustrates that the support of officers has a significant relationship, so it can be concluded that the support of officers has an effect on the dietary compliance of DM patients, where the better the support of officers to the patient, the better the patient's compliance.

4. Conclusion

Factors related to adherence in the management of type 2 diabetes diet are age, gender, and family roles.

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