



Original Research

Description of The Attitude and Behaviour of The Patient with Diabetes Mellitus Type II in Management of Hypoglycemia at Puskesmas III Denpasar Utara



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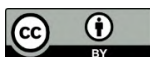
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Article Info	Abstract
Article history: Received: May 25, 2023 Accepted: June 27, 2023	<i>Introduction:</i> Diabetes Mellitus is a worldwide health problem, threatening and growing rapidly, resulting in morbidity and premature mortality. Diabetes Mellitus is included in the four dangerous non-communicable diseases which cause 50 million deaths each year. Diabetes Mellitus is a major health problem that causes disability and death. One of the causes of increased mortality in diabetes mellitus is the patient experiencing hypoglycemia. Hypoglycemia is a health disorder that occurs when blood sugar levels are below normal levels. Hypoglycemia is the most common complication in individuals with diabetes. This study aims to describe the attitudes and behavior of patients with type II diabetes mellitus in the management of hypoglycemia at Public Health Centre of III North Denpasar. <i>Methods:</i> This was a descriptive study conducted in the Public Health Centre of III North Denpasar. There were 85 diabetes mellitus patients chosen by the total sampling technique that participated in this study. The method of collecting data is by distributing questionnaires. Data were analyzed by univariate analysis. <i>Results:</i> The results of this study found that the majority of respondents had a positive attitude as many as 78 people (91.8%), a negative attitude as many as 7 people (8.2%) and had a positive attitude as many as 78 people (91.8%), negative behavior as many as 7 people (8.2%) . <i>Conclusion:</i> Based on the results of the description of the attitudes and behavior of type II diabetes mellitus sufferers in the management of hypoglycemia at Public Health Centre of III Denpasar Utara, 78 people (91.8%) had positive attitudes, and 78 people (91.8%) had positive behavior.
Keywords: Attitude, behaviour, diabetes mellitus, management of hypoglycemia, hypoglycemia	

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INTRODUCTION

The shift in disease patterns in the world from infectious diseases to non-communicable diseases is getting higher, one of which is diabetes mellitus. The existence of diabetes mellitus is increasing from year to year [1]. Diabetes Mellitus is a worldwide health problem, threatening and growing rapidly, resulting in premature morbidity and mortality [2]. Hypoglycemia is a health disorder that occurs when sugar levels in the blood are below normal levels. Hypoglycemia is the most common complication in individuals with diabetes [1]. *The Diabetes Control and Complication Trial (DCCT)* (2019) reports an estimated 2-4% of deaths of people with type 2 diabetes are related to hypoglycemia. Hypoglycemia is also common in people with type 2 diabetes with a prevalence rate of 70-80% [4]. Based on data at Public Health Centre of III North Denpasar that during the last 3 months (October-December 2022) there have been around 85 cases of diabetes mellitus with hypoglycemia that are outpatient related to the disease.

According to [3] the process of hypoglycemia in DM people is caused by lack of proper knowledge in the first treatment at the time of hypoglycemia and also in the administration of insulin after meals which causes hypoglycemia. Hypoglycemia begins with a limp body in cold sweats, until a decrease in consciousness, therefore DM patients need to recognize the signs of hypoglycemia to get the right treatment [4]. Hypoglycemia can be experienced by all DM patients, where type 1 DM patients

experience hypoglycemia more often than type 2 DM patients. Unlike diabetic nephropathy and diabetic retinopathy which are chronic manifestations of DM, hypoglycemia can occur acutely, suddenly and can be life-threatening [5].

One way to minimize or prevent hypoglycemia in type 2 diabetes is by conducting Health Promotion related to providing health education about hypoglycemia. Diabetes mellitus therapy depends on diabetic patients because the success of a treatment is not only influenced by the quality of health services, attitudes and skills of officers, attitudes and lifestyles of patients and their families, but also influenced by patient compliance with treatment [6].

This study aims to determine the description of attitudes and behaviors of people with type II diabetes mellitus in the management of hypoglycemia at Public Health Centre of III North Denpasar Utara.

METHODS

The type of research used was descriptive research. Descriptive research aims to obtain an accurate picture of a number of characteristics of the problem under study, helps to get new meaning, describe the type of problem, and explain how often the phenomenon occurs [7]. Researchers only conduct interviews with questionnaire facilities regarding attitudes and behaviors of patients with type II diabetes mellitus in the management of hypoglycemia at Public Health Centre of III Denpasar Utara. Based on data from the North Denpasar Health Center, the number of DM sufferers was 85 people. The sample to be used in this study

was as many as 85 people, namely all DM sufferers. This study used sampling techniques total sampling, That was a sampling technique where the number of samples was equal to the population. The reason for taking total sampling is because the population number was small or less than 100[8]. The instrument used in this study was a questionnaire consisting of 2 aspects, namely attitude and behavior. Questionnaire questions regarding attitudes and behavior were given separately. Questions on the attitude aspect use the guttman scale answer choices (agree and disagree). In each aspect, both knowledge and attitude, positive statements (Favorable) and negative statements (Unfavorable) were used. In this study the questionnaire used was a questionnaire made by the researcher himself and had been tested for validity and reliability. The results obtained in the attitude questionnaire were 0.862 and behavior was 0.831. The results of the reliability test on the attitude aspect obtained Cronbach Alpha (α) 0.949 while for behavior the Cronbach Alpha (α) value was 0.803. This research has also carried out an ethical test with Number: 365/EC-KEPK-SB/IV/2023 and has been declared to have passed the ethical review.

RESULTS

Characteristics of the Research

Subject

Respondents in this study were people with diabetes mellitus who were selected

using a *total sampling technique* where there were 85 respondents. The characteristics of the subject of study are as follows. Based on table 1, it can be seen that from 85 respondents, it is known that the characteristics of most respondents aged 56-65 years, namely as many as 53 respondents (62.4%), based on gender, most of them are women, which are as many as 56 respondents (65.9%), based on the last education of most high school / vocational schools, which are as many as 60 respondents (70.6%), and based on the work of most housewives, which is as many as 35 respondents (41.2%).

Attitudes and Behaviors of Type II DM Patients in the Management of Hypoglycemia

Based on table 2 above, most of the results were obtained that the attitude of patients with type II diabetes mellitus in the management of hypoglycemia in the positive category was 78 respondents (91.8%) and most of the results were obtained that the behavior of patients with type II diabetes mellitus in the management of hypoglycemia in the positive category was also 78 respondents (91.8%).

Table 1

Characteristics of Research Subjects at Puskesmas III North Denpasar

NO	Characteristic	Frequency (f)	Percentage (%)
1	Age		
	26-35 years	1	1.2 %
	36-45 years	2	2.4 %
	46-55 years old	26	30.6 %
	56-65 years	53	62.4 %
	65 years and above	3	3.5 %
2	Gender		
	Man	29	34.1 %
	Woman	56	65.9 %
3	Recent Education		
	SD	1	1.2 %
	JUNIOR	10	11.8 %
	High School / Vocational	60	70.6 %
	School College	14	16.5 %
4	Work	8	9.4 %
	Does not work	5	5.9 %
	PNS	4	4.7 %
	Private	35	41.2 %
	Housewives	17	20.0 %
	Merchant	16	18.8 %
	Farmer		

Table 2

Frequency Distribution of Attitudes and Behaviors of Type II DM Patients in the Management of Hypoglycemia

Attitude Categories	Frequency	Percentage
Positive	78	91.8 %
Negative	7	8.2 %
Behavioral Categories		
Positive	78	91.8%
Negative	7	8.2%

DISCUSSION***Characteristics of Respondents******Age***

Based on the research that has been conducted, results were obtained about the characteristics of respondents based on age, most of whom were aged 56-65 years (62.4%). According to the results of research

conducted by [9] regarding the Overview of Knowledge, Attitudes and Actions towards Diabetes Mellitus in Outpatients at Mitra Sejati Hospital, 47 respondents were in the age range of 41-60 years (47%). With age, the risk of diabetes mellitus will increase. The age group that is a risk factor for diabetes is over 45 years old [10]. More respondents aged 56-

65 years in Puskesmas III North Denpasar, where someone at that age is in the late elderly age [11]. Research conducted by [12], where the elderly are more susceptible to hypoglycemia than adults due to a decrease in counterregulatory mechanisms. Age also has a role in determining the severity and prognosis of diabetes with hypoglycemia. Age is one of the risk factors that can aggravate hypoglycemia, where in the elderly is closely related to decreased body physiology, the use of various drugs and increased frequency of hospitalization [12].

Gender

Based on the results of research in table 1 shows that the characteristics of respondents based on gender, most of them are female (65.9%). The results of this study are in line with [13] research on efforts to handle and behavior of patients with type 2 diabetes mellitus at the maccini health center in the rice fields of Makassar city, it was found that most respondents were female (86.2%). The results of the study conducted by researchers are in line with previous research where in terms of sex, sex differences may form different perceptions that affect different attitudes and behaviors also between men and women. Respondents are more female, where the prevalence of type 2 DM which is generally more experienced by women which is caused by, among others, obesity / obesity, history of giving birth to babies >4000 grams, perimenopause or approaching menopause which usually occurs in women aged 45-55 years where at this time the hormones estrogen and progesterone usually rise and fall irregularly, so that the

ovaries form fewer eggs and estrogen decreases eventually insulin resistance begins to arise which affects the increase in blood glucose levels and decreases in blood glucose levels due to a decrease in the hormone progesterone which makes cells more sensitive to insulin [10].

Education

Based on the results of the study in table 1 shows that the characteristics of respondents based on the last education, most of them had the last high school / vocational education (70.6%). This is in line with research conducted by [11] on the analysis of knowledge, attitudes, and patient compliance with the use of antidiabetic drugs in type 2 diabetes mellitus patients at Mardi Waluyo Hospital, Blitar City, it was found that most respondents had the last high school / vocational education (33.3%). The level of education reflects the respondent's way of thinking and understanding of the information received regarding the management of hypoglycemia. Respondents with a higher level of education have a tendency to have wider knowledge and it is easier and faster to receive various information from various media, especially regarding the management of hypoglycemia compared to respondents with low education levels with limited information who rely on doctors or pharmacists as the main informant. Respondents with low levels of education felt the need to get more education about the management of hypoglycemia. Education is adjusted to the conditions of respondents by using language that is easy to understand[14].

4. Work

Based on the results of the study in table 1 shows that the characteristics of respondents based on occupation, most respondents work as housewives (41.2%). This is in line with [5] research on the description of knowledge and behavior about DM management in DM patients at the East Ciputat Health Center, it was found that most respondents worked as housewives (55.2%). According to [15], work is related to the quality of life of people with type 2 diabetes mellitus. The type of work is closely related to the physical activity carried out by a person. Physical activity carried out daily can prevent the occurrence of diabetes mellitus. Housewives often experience diabetes mellitus because housewives' work has lighter physical activity so that they have higher risk factors for diabetes mellitus and there may be other risk factors such as stress that can trigger an increase in sympathetic nerve activity so that blood pressure becomes persistently higher than usual [16].

Attitude of Type II DM Patients in the Management of Hypoglycemia

Based on table 2, most of the results were obtained that the attitude of patients with type II diabetes mellitus in the management of hypoglycemia in the positive category was 78 respondents (91.8%). Positive attitude category if score $\geq 50\%$ and negative attitude if score $< 50\%$. This is in line with research conducted by [11] on the analysis of knowledge, attitudes, and patient compliance with the use of antidiabetic drugs in type 2 diabetes mellitus patients at Mardi Waluyo Hospital, Blitar City, that respondents' attitudes are in the good category (80%).

Respondents at Public Health Centre of III North Denpasar mostly have a positive attitude where health workers at Public Health Centre of III North Denpasar often conduct health counseling about the management of hypoglycemia and every patient who seeks treatment is always given health education about the disease and provides health brochures so that patients always remember the education that has been given. Respondents at Public Health Centre of III North Denpasar who have a negative attitude may be due to lack of knowledge. Attitude is greatly influenced by a person's knowledge related to the disease he suffers, this knowledge will lead sufferers to determine attitudes, think and try not to get disease or can reduce the condition of the disease [17][18].

Behavior of Type II DM Patients in the Management of Hypoglycemia

Based on table 2, most of the results were obtained that the behavior of patients with type II diabetes mellitus in the management of hypoglycemia in the positive category was 78 respondents (91.8%). Positive behavior category if score $\geq 50\%$ and negative behavior if score $< 50\%$. This is in line with [5][18] research on the description of knowledge and behavior about DM management in DM patients at the East Ciputat Health Center, it was found that most of them had good behavior in DM management (67.2%). Public Health Centre of III North Denpasar mostly have positive behavior where respondents are diligent in conducting health checks at the puskesmas. In addition, respondents who have positive behavior because they have a

positive attitude also because attitude is one of the factors forming behavior[19][20]. Respondents at Public Health Centre of III North Denpasar who have negative behavior due to reluctance to do medical examinations, lazy to come alone to health services may be due to age factors or have jobs or other activities that hinder coming to health services[20][21].

CONCLUSION AND RECOMMENDATIONS

Based on age characteristics, most respondents aged 56-65 years, based on gender, most of them are female, based on education level, most of the respondents have the last education is high school / vocational school, and based on occupation, most respondents work as housewives. The attitudes and behaviors of people with type II diabetes mellitus in the management of hypoglycemia at Puskesmas III North Denpasar are mostly in the category of positive attitudes and positive behaviors. It is hoped that further research can be developed from this study related to the attitudes and behaviors of people with type II diabetes mellitus in the management of hypoglycemia, so that the results will be more comprehensive because it assesses attitudes and behaviors from various aspects so as to produce broader and comprehensive information. Exercises using the ball involve all areas of the body so that the activity is wider than exercises done on the floor. The use of the ball can improve the ability of dynamic balance, flexibility and stability of the spine [2], [21].

CONFLICT OF INTEREST

Authors declare no conflict of interest to disclose in this study.

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