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The Correlation Between Risk Perception, Outcome Expectancies, Task Self-Efficacy, And Intention With Dietary Compliance In Type 2 DM Patients

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ABSTRACT
Compliance of DM patients in Indonesia to diet is still relatively low. Dietary non-compliance can worsen the patient's condition, cause complications and reduce quality of life. Factors that influence dietary compliance are motivation, self-efficacy, knowledge, intention, and family support. This study aims to analyze the correlation between risk perception, outcome expectancies, task self-efficacy, and intention with dietary compliance in patients with type 2 Diabetes mellitus. The study used a cross-sectional approach. The research sample was collected using the cluster sampling method and obtained 150 respondents. Data were analyzed using spearman rho statistical analysis (α≤0.05) there was a significant correlation between risk perception (p=0.000), outcome expectancies (p=0.000), task self-efficacy (p=0.000), and intention (p=0.000) with dietary compliance in patients with type 2 DM. Risk perception, outcome expectancies, task self-efficacy, and intention were significantly related to DM diet compliance. Therefore, it is necessary to improve the risk perception, outcome expectancies, task self-efficacy, and intention factors, through counseling activities that focus on the four factors above, so that glycemic control behavior with a DM diet can improve for the better.

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INTRODUCTION

The high incidence of Diabetes mellitus (DM) in Indonesia makes various aspects of DM management often and at risk of experiencing problems (PERKENI, 2015). Diet management in DM clients has principles that must be followed, namely the right schedule, the right type, and the right amount of food. Diet plays an important role in DM disease management (Schwingshackl et al., 2018). Diet compliance problems usually occur due to motivation, self-efficacy, knowledge, intention, family support, and socio-economic factors (Aini, 2007; Ewers et al., 2018; Mark & Goins, 2018; Ridianti, 2010). These factors have a major impact, especially on the management of diet compliance in DM patients. Dietary non-compliance can ultimately worsen the patient's condition, cause complications and reduce quality of life (Sutedjo, 2010). Complications that arise due to dietary non-compliance are kidney disease, heart disease, hypertension, cataracts, gangrene to amputation (Akmal, Indahaan, & Sari, 2016). The

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obstacle to the success of DM diet management is the lack of motivation (Setyorini, 2017). Based on the Health Action Process Approach (HAPA), motivation consists of risk perception, outcome expectancies, and task-self efficacy. Several studies have examined the correlation between diet compliance and motivation, but there has been no study that specifically explains the components of motivation, namely risk perception, outcome expectancies, and task-self efficacy in DM patients.

Statistical reports from the International Diabetes Federation (IDF, 2017) state that the prevalence of DM in the world has reached 7.5 billion people and is predicted to increase to 9.5 billion people in 2045. In 2017, the number of DM sufferers in Indonesia reached 10.3 million people and is predicted to increase to 16.7 million people in 2045. The results of the 2018 basic health research (Riskesdas) showed that the national prevalence of DM was 8.5% or reached > 16 million DM sufferers, while in East Java the figure reached 2.6% or an estimated 72,207 sufferers (Riskesdas, 2018). The number of type 2 DM sufferers in Banjarbaru in 2018 increased by 5% from 2017 (East Java Health Office, 2018). Research conducted by Fauzia, et al. (2015) stated that 100% of 30 respondents in the Pakis Banjarbaru Health Center Work Area experienced dietary non-compliance due to lack of motivation and family support. Another study conducted by Ilmah, et al. (2015) stated that 100% of 32 respondents in the dr. Mohammad Soewandhi Banjarbaru Hospital work area experienced dietary non-compliance due to lack of confidence.

Research from Kusnanto, et al (2015) stated that 80% of DM patients have low compliance levels due to the difficulty of adhering to diet programs and also uncontrolled eating (Kusnanto, Sundari, Asmoro, & Arifin, 2019). Research from Bertalina and Purnama (2016) stated that 60% of 30 respondents were not compliant in implementing the diet and had poor motivation of 53.3% (Bertalina & Purnama, 2016). Research conducted by Yulia, et al (2015) on 70 respondents, found that the factor related to DM diet compliance was patient motivation. There has been no research that specifically examines risk perception, outcome expectancies, task-self efficacy and intention on diet compliance in type 2 DM patients, so the number is not yet known for sure.

A preliminary study conducted on October 8-10, 2019 through interviews with 15 DM patients spread across Tambakrejo and Pucang Sewu health centers found that 11 out of 15 DM patients had low levels of compliance, including by saying they had difficulty adhering to the diet program. Both old and newly diagnosed patients said that undergoing a diet program was not easy. For old patients, they found it difficult to undergo a diet program because they felt bored, had difficulty implementing the 3J principle, had difficulty following a diet when traveling or attending certain events, and did not undergo a diet program if their blood sugar levels dropped and after taking medication. Meanwhile, for newly diagnosed patients, they also found it difficult to undergo a diet program because they were not used to it. From the interview results, 10 out of 15 DM patients said that non-compliance with the diet would not have bad consequences, as long as they took medication, while 5 patients said that non-compliance with the diet could have bad consequences. There were 6 out of 15 patients who said that adhering to a diet program could lower blood sugar. 8 out of 15 patients were

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confident that they could follow the diet program and the rest were not confident that they could follow the diet program as recommended.

DM is a chronic disease that requires long-term management and can cause boredom, saturation, and even frustration (Prasetyani & Sodikin, 2016). DM sufferers need to control their blood sugar levels to be within normal limits and avoid short-term, long-term complications, and even death (Krisnatuti, Rasjmida, & Yenyira, 2014). Dietary recommendations that are appropriate for DM sufferers are usually in the form of a rigid, strict and monotonous diet (Juul, Rowlands, & Terkildsen, 2018). Many DM sufferers feel tortured in relation to the principles of the DM diet, so they have difficulty complying with dietary recommendations (Chatterjee, et al., 2017). The boredom that arises due to diet therapy with a very limited food menu makes it difficult for DM sufferers to regulate their diet (Prasetyani & Sodikin, 2016). Dietary regulation in DM sufferers needs to be applied in daily eating habits according to the body's needs (Gustina & Suratun, 2019). Therefore, motivation is needed for DM sufferers to control blood glucose (Bertalina & Purnama, 2016). Motivation can be said to be a force within humans that causes someone to act to meet needs and achieve desired goals (Bertalina & Purnama, 2016). Research conducted by Indarwati, (2012) stated that there is a significant correlation between motivation and DM diet compliance, respondents who have high motivation are 7 times more likely to comply with the diet compared to respondents with low motivation.

This is in accordance with the concept of HAPA (Health Action Process Approach) that a person's behavior in taking action is related to motivation in the motivational phase to form an intention to become an action. Health Action Process Approach is a theory developed by Schwarzer (1992), showing that health behavior is a process from the motivational phase to the will. HAPA has advantages over other theories, because HAPA not only explains how the process of increasing motivation to form an intention, but also explains how to maintain health behavior that has been formed. HAPA can improve health and prevent risky behavior or lifestyle, and adaptive behavior. HAPA will help DM sufferers to form a motivation that comes from a view of risk perception, outcome expectancies, and task self-efficacy, to form an intention on how sufferers take preventive action by increasing compliance in undergoing diet therapy. Based on the chronology of the problem described above, the researcher is interested in conducting research on "The correlation between risk perception, outcome expectancies, task self-efficacy, and intention with dietary compliance in type 2 DM patients".

METHOD

The study used a cross-sectional approach. The research sample was collected using the cluster sampling method and obtained 150 respondents from 5 health centers in Banjarbaru. Data collection used a questionnaire. The independent variables in the study were risk perception, outcome expectancies, task self-efficacy, and intention while the dependent variable was DM diet compliance. Data were analyzed using spearman rho statistical analysis ($\alpha \leq 0.05$).

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RESULT AND DISCUSSION

Respondent's Characteristics

The respondents in this study were 150 Type 2 DM patients. The table below describes the characteristics of 150 respondents based on gender, age, education, occupation, marital status, and length of time diagnosed with DM.

Table 5.1 Distribution of characteristics and general data of respondents in the study "The Correlation between Risk Perception, Outcome Expectancies, Task Self-Efficacy, and Intention with Diet Compliance in Type 2 DM Patients at the Banjarbaru Health Center" on November 22, 2019 to December 16, 2019.

No	Respondent's Characteristics	f	%
	Gender		
1.	Man	15	10,0
	Woman	135	90,0
	Total	150	100
	Age		
	30-40 Y. O	43	28,7
2.	41-50 Y. O	50	33,3
	51-60 Y. O	57	38,0
	Total	150	100
	Married Status		
3.	Married	109	72,7
	Widow/Widower	41	27,3
	Total	150	100
	Education		
	Unfinish elementary school/Unfinish school	19	12,7
4.	Primary Education	77	51,3
	Secondary Education	28	18,7
	Higher Education	26	17,3
	Total	150	100
	Occupation		
	Not working	70	46,7
	Retired	12	8,0
5.	Civil servant	33	22,0
	Private employee	25	16,7
	Self-employed	10	6,7
	Total	150	100
	Duration of Suffering from Type 2 DM		
	1-5.9 years	105	70,0
6.	6-10 years	31	20,7
	>10 years	14	9,3
	Total	150	100

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Table 5.1 shows the characteristics of the respondents. Almost all of them, namely 135 respondents (90%) are female and a small number of 15 respondents (10.0%) are male. In terms of age, almost half are in the age range of 51-60 years, namely 57 respondents (38.0%). Most of them, namely 109 respondents (72.7%) are married and almost half of them, namely 41 respondents (27.3%) are widows/widowers.

Most of them, namely 77 respondents (51.3%) have a basic education background (elementary school & junior high school) and a small number, namely 19 respondents (12.7%) have not graduated from elementary school/equivalent. In the job category, almost half, namely 70 respondents (46.7%) do not work or only stay at home as housewives and a small number, namely 10 respondents (6.7%) are civil servants. Based on the length of time diagnosed with Type 2 DM, the majority, namely 105 respondents (70.0%), had been diagnosed with DM for 1-5.9 years and only a small portion, namely 14 respondents (9.3%), had been diagnosed with DM for >10 years.

Distribution of measured variables

Risk Perception

Table 5.2 Data on Risk Perception Variables of Type 2 DM Patients at Banjarbaru Health Center from November 22, 2019 to December 16, 2019

No.	Variabel	Category	f	%
1.	*Risk Perception*	High	49	32,7
		Medium	101	67,3
		Low	0	0
Total			150	100

Table 5.2 shows that the majority, namely 101 respondents (67.3%) have a Medium risk perception, almost half, namely 49 respondents (32.7%) have a High risk perception and none of the respondents have a low risk perception.

Outcome Expectancies

Table 5.3 Data on Outcome Expectancy variables for Type 2 DM patients at Banjarbaru Health Center from November 22, 2019 to December 16, 2019

No.	Variabel	Category	f	%
		High	72	48,0
1.	*Outome Expectancies*	Medium	69	46,0
		Low	9	6,0
	Total		150	100

Table 5.3 shows that almost half of them, namely 72 respondents (48.0%) have High outcome expectancies, while respondents who have low outcome expectancies are 9 respondents (6.0%). From the data above, it can be explained that almost half of the respondents expect good results from the behavior of complying with the DM diet..

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Task Self-Efficacy

Table 5.4 Data on Task Self-Efficacy variables of Type 2 DM sufferers at Banjarbaru Health Center from November 22, 2019 to December 16, 2019

No.	Variabel	Category	f	%
1.	*Task Self-efficacy*	High	72	48,0
		Medium	50	33,3
		Low	28	22,7
	Total		150	100

Table 5.4 shows that almost half of the respondents have High task self-efficacy, namely 72 respondents (48.0%), and a small portion, namely 28 respondents (18.7%) have low task self-efficacy. From the data above, it is explained that almost half of the respondents have high confidence.

Intention

Table 5.5 Data on the Intention Variable of Type 2 DM Patients at the Banjarbaru Health Center from November 22, 2019 to December 16, 2019

No.	Variabel	Category	f	%
1.	Intention	High	63	42,0
		Medium	61	40,7
		Low	26	17,3
	Total		150	100

Table 5.5 shows that almost half of them, namely 63 respondents (42.0%) have High intentions, and a small portion, namely 26 respondents (17.3%) have low intentions. The data above explains that most respondents have High intentions.

Type 2 DM Diet Compliance

Tabel 5.6 Data variabel Kepatuhan Diet Penderita DM Tipe 2 di Puskesmas Banjarbaru pada 22 November 2019 sampai 16 Desember 2019

No.	Variabel	Category	f	%
1.	Diabetes Mellitus Diet Compliance	Good	73	48,7
		Enough	28	18,7
		Bad	49	32,7
	Total		150	100

Table 5.6 shows the dependent variable, namely DM diet compliance. Of the 150 respondents, almost half, namely 73 respondents (48.7%) had good diet compliance and a small portion, namely 28 respondents (18.7%) had sufficient diet compliance. From this study, the results showed that almost half of the respondents had good diet compliance. Almost all respondents who had good compliance thought they still had the opportunity to improve their health, but when respondents were beyond their control, respondents could violate the diet that had to be done, this was evidenced by the large number of respondents with poor diet compliance.

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Correlation between Risk Perception and Type 2 DM Diet Compliance

Table 5.7 Correlation between Risk Perception and Diet Compliance of Type 2 DM Patients at Banjarbaru Health Center from November 22, 2019 to December 16, 2019

Risk Perception	Diabetes Mellitus Diet Compliance						Total	
	Bad		Medium		Good			
	f	%	f	%	f	%	Σ	%
Medium	48	32,0	21	14,0	32	21,3	101	67,3
High	1	0,7	7	4,7	41	27,3	49	32,7
Total	49	32,7	28	18,7	73	48,7	150	100
Spearman Rho Statistical Test								
significance value (p) = 0.000; correlation coefficient (r) = 0.548								

Based on table 5.7, it shows that respondents with Medium risk perception almost half, namely 48 respondents or (32.0%) have poor dietary compliance and only a small portion, namely 21 respondents (14.0%) have sufficient dietary compliance. Medium for respondents with High risk perception almost half, namely 41 respondents (27.3%) have good dietary compliance, and a small portion, namely 1 respondent (0.7%) have poor dietary compliance.

The results of statistical tests using the Spearman rho correlation test with SPSS 25 show that the significance value (p) = 0.000 (α≤0.05) then H1 is accepted, meaning that there is a correlation between risk perception and DM diet compliance. The correlation coefficient (r) of 0.548 indicates that the risk perception variable and DM diet compliance have a Medium level of correlation.

Correlation between Outcome Expectancies and Type 2 DM Diet Compliance

Table 5.8 Correlation between Outcome Expectancies and Diet Compliance of Type 2 DM Patients at Banjarbaru Health Center from November 22, 2019 to December 16, 2019

Outcome Expectation	Diabetes Mellitus Diet Compliance						Total	
	Bad		Medium		Good			
	f	%	f	%	f	%	Σ	%
Low	7	4,7	1	0,7	1	0,7	9	6,0
Medium	36	24,0	13	8,7	20	13,3	69	46,0
High	6	4,0	14	9,3	52	34,7	72	48,0
Total	49	32,7	28	18,7	73	48,7	150	100
Spearman Rho Statistical Test								
significance value (p) = 0.000; correlation coefficient (r) = 0.548								

Based on table 5.8, it shows that respondents with low outcome expectancies, a small portion, namely 1 respondent (0.7%) have good diet compliance. In respondents with Medium outcome expectancies, a small portion, namely 13 respondents (8.7%) have sufficient diet compliance. In respondents with High outcome expectancies, almost half, namely 73 respondents (34.7%) have good diet compliance and a small portion, namely 6 respondents (4.0%) have poor diet compliance.

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The results of statistical tests using the Spearman rho correlation test with SPSS 25 show that the significance value (p) = 0.000 (α≤0.05) then H1 is accepted, meaning that there is a Correlation between outcome expectancies and DM diet compliance. The correlation coefficient (r) of 0.706 indicates that the outcome expectancies variable and DM diet compliance have a strong Correlation.

Correlation between Task Self-efficacy and Type 2 DM Diet Compliance

Table 5.9 Correlation between Task Self-efficacy and Diet Compliance of Type 2 DM Patients at Banjarbaru Health Center on November 22, 2019 to December 16, 2019

Task Self-efficacy	Diabetes Mellitus Diet Compliance						Total	
	Bad		Medium		Good			
	f	%	f	%	f	%	Σ	%
Low	27	18,0	1	0,7	0	0	28	18,7
Medium	17	11,3	25	16,7	8	5,3	50	33,3
High	5	3,3	2	1,3	65	43,3	72	48,0
Total	49	32,7	28	18,7	73	48,7	150	100
Spearman Rho Statistical Test								
significance value (p) = 0.000; correlation coefficient (r) = 0.548								

Based on table 5.9, it shows that respondents with low task self-efficacy, a small portion, namely 27 respondents (18.0%) have poor diet compliance and none of the respondents have good diet compliance. In respondents with Medium task self-efficacy, a small portion, namely 8 respondents (5.3%) have good diet compliance. Respondents with High task self-efficacy, almost half, namely 65 respondents (43.3%) have High diet compliance and a small portion, namely 2 respondents (1.3%) have sufficient diet compliance.

The results of statistical tests using the Spearman rho correlation test with SPSS 25 show that the significance value (p) = 0.000 (α≤0.05) then H1 is accepted, meaning that there is a relationship between task self-efficacy and DM diet compliance. The correlation coefficient (r) of 0.800 indicates that the task self-efficacy variable and DM diet compliance have a very strong Correlation.

Correlation between Intention and Type 2 DM Diet Compliance

Table 5.10 Correlation between Intention and Diet Compliance of Type 2 DM Patients at Banjarbaru Health Center from November 22, 2019 to December 16, 2019

Intention	Diabetes Mellitus Diet Compliance						Total	
	Bad		Simply		Good			
	f	%	f	%	f	%	Σ	%
Low	25	16,7	1	0,7	0	0	26	17,3
Medium	23	15,3	25	16,7	13	8,7	61	40,7
High	1	0,7	2	1,3	60	40,0	63	42,0
Total	49	32,7	28	18,7	73	48,7	150	100
Spearman Rho Statistical Test								
significance value (p) = 0.000; correlation coefficient (r) = 0.548								

Based on table 5.10, it shows that respondents with low intention, a small part, namely 25 respondents (16.7%) have poor diet compliance and none of the respondents have good

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diet compliance. Respondents with Medium intention, a small part, namely 13 respondents (8.7%) have High diet compliance. In respondents with High intention, almost half, namely 60 respondents (40.0%) have High diet compliance and a small part, namely 1 respondent (0.7%) have poor diet compliance.

The results of the statistical test using the Spearman rho correlation test with SPSS 25 show that the significance value (p) = 0.000 (α≤0.05) then H1 is accepted, meaning that there is a correlation between intention and DM diet compliance. The correlation coefficient (r) of 0.887 indicates that the DM intention and diet compliance variables have a very strong correlation.

Discussion

Based on the results of a study conducted from November 22, 2019 to December 16, 2019 at Pucang Sewu Health Center, Sawahan Health Center, Tambakrejo Health Center, Wonokusumo Health Center, and Manukan Kulon Health Center, it is known that there is a relationship between risk perception, outcome expectancies, task self-efficacy, and intention with dietary compliance in patients with Type 2 Diabetes Mellitus.

Correlation between Risk Perception and Type 2 DM Diet Compliance

Based on the results of the study in table 5.7 on the relationship between risk perception and DM diet compliance, the p value <α was obtained, indicating that H1 is accepted, in other words there is a relationship between risk perception and diet compliance in type 2 DM sufferers. The level of correlation between risk perception and diet compliance in this study is Medium. The correlation is positive, which means that the higher the risk perception, the better the perception of type 2 DM sufferers about the risks that occur from the diet they are undergoing.

In the study, it was found that 48 respondents with Medium risk perception had poor diet compliance and only a small portion, namely 21 respondents, had sufficient diet compliance. Medium in respondents with High risk perception, almost half, namely 41 respondents, had good diet compliance, and only 1 respondent had poor diet compliance. Respondents who had High risk perception did not all have good diet compliance either, this happened to respondent number 1.

Risk perception determines the quality and quantity of a person's vulnerability to threats (Park, 2007). Based on the Health Action Process Approach Theory, the relationship between risk perception and intention is considered the weakest among the three cognitions (Bandura, 1997; Schwarzer, 2008). This is in accordance with the results of research conducted by researchers, that some DM sufferers have a high risk perception, which is also supported by a good level of dietary compliance. However, this study also found that there were respondents with a medium risk perception but their level of dietary compliance was still low. This shows that type 2 DM sufferers have known about the risks that may occur from non-compliance with the diet, but respondents still cannot follow the diet properly, as evidenced by the low level of dietary compliance. This study is in line with research conducted by Ferrer, R.A. & Klein (2017), namely that there is a significant relationship between risk perception and a person's compliance. In his research, Ferrer, R.A. & Klein (2017) stated that risk perception is a key component of many health behavior change theories (Ferrer, R.A. & Klein,

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2017).

Bakhtari et al. (2011), stated that an individual will make self-protection efforts if they feel their condition is at risk of serious problems. Risk perception is an important factor in motivating a person's behavior (Sheraan, 2013). This study is in line with the opinion of Notoadmojo (2007), that a person must feel that he is at risk of a disease or condition that will worsen his illness in order to act to treat or prevent complications from his illness.

This study is also in line with research conducted by Joseph (2017), where someone will take action to control the disease and prevent complications from the disease if they see that the disease has serious consequences for them. They also believe that by following the recommended health measures (eg, complying with the diet), they will be able to reduce the risk or avoid complications that will arise.

Factors that trigger someone to have a High risk perception are the experiences of others, and self-confidence that they are at risk. This is evidenced by the statement of respondent no. 14, the respondent said that he chose to comply with the DM diet because he felt he would avoid serious complications and could live healthier like his brother who successfully underwent the DM diet so that he remained healthy and active. Medium respondent no. 42 has a High risk perception because he is afraid of experiencing serious complications, so he chooses to comply with the DM diet.

Based on gender, men who have a High risk perception are fewer than women. In addition to the number of female respondents being more, male respondents are also more indifferent and the majority of them feel that they are not at risk of complications. Male respondents rarely think about the risks that will occur if they comply or do not comply with the DM diet.

The results of this study are in line with the opinion of Sarid et al (2017), in their study it was found that male respondents had lower risk perception and self-efficacy than women. In their study, men used problem-focused coping more often than women who tended to use emotion-focused coping strategies. The results of the study stated that differences in coping strategies in individuals affect the way individuals view and think about a problem, this is what causes differences in the level of risk perception and self-efficacy in men and women.

Based on age, older respondents had a higher risk perception than younger respondents. This is evidenced by the statements of several elderly respondents, who stated that they were worried that they would experience complications more easily if they did not comply with the diet, because their body condition was not as strong as when they were young. The results of this study are in line with the opinion of Hanifa (2014), who stated that the higher a person's age, the higher the perception of risk and vulnerability. This is because with increasing age, the individual's body condition experiences several changes and even declines. This makes individuals more susceptible to disease. It is this experience that can increase risk perception in elderly individuals.

According to researchers, when someone believes that they are at risk of experiencing a condition that worsens their health, they will more often do something to prevent it. This happened to most respondents in this study, they felt at risk of complications such as gangrene, blindness, kidney, and even death if they did not comply with the DM diet.

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However, on the other hand, when someone believes that non-compliance with the diet is not risky for their health, it will result in unhealthy behavior.

According to researchers, risk perception in this study leads to the perception of type 2 DM sufferers regarding the risks that occur if they do not comply with the diet that should be followed. Risk perception is the first step that is seen as an introduction to the motivation stage. In order to be able to create a good risk perception, it is necessary to understand the possible impacts of non-compliance with the diet, so that type 2 DM sufferers can always be motivated to comply with the diet. High risk perception will lead to good health behavior. Conversely, if the risk perception is low, someone is not motivated to act as they should.

Correlation between Outcome Expectancies and Type 2 DM Diet Compliance

Based on the results of the study in table 5.8 on the relationship between outcome expectancies and DM diet compliance, the p value <α was obtained, indicating that H1 is accepted, in other words there is a relationship between outcome expectancies and diet compliance in type 2 DM patients. The level of correlation between outcome expectancies and diet compliance in this study is strong. The correlation is positive, meaning that the higher the outcome expectancies, the higher the diet compliance in type 2 DM patients.

In the study, it was found that out of 9 respondents who had low outcome expectancies, 7 respondents also had poor diet compliance and only 1 respondent had good diet compliance, namely respondent number 103. A total of 73 respondents with High outcome expectancies also had good diet compliance and only 6 respondents had poor diet compliance. Respondents who had High outcome expectancies did not all have good diet compliance, this happened to respondents numbers 1, 10, 57, 71, 72, and 79.

This study is in line with research from Chui (2012) namely Outcome expectancies are seen as important variables in the motivation stage, because they are a balance between the pros and cons of the results of certain behaviors in a person. Someone who feels that they will get the desired results and benefits from the activities carried out will continue to do these activities.

Reviewed from demographic data, gender and educational background are related to the level of outcome expectancies of respondents. In this study, low outcome expectancies were found in women and none were found in male respondents. Several female respondents agreed with the statement that "adhering to the DM diet takes a lot of time, effort, and money". This is what causes the level of outcome expectancies in women to be low. The relationship between educational background and outcome expectancies is proven by the discovery of low outcome expectancies in respondents with a basic education background and respondents who did not graduate from school, and none of the respondents with a high school education level had low outcome expectancies.

The results of this study are in line with the opinion of Lestari (2018), who stated that individuals who have a good level of knowledge and understanding will produce positive outcome expectancies. According to the researcher, outcome expectancies in this study refer to a person's perception of the expected results they want to achieve from the diet they are undergoing. Outcome expectancies are subjective beliefs about the possibility of individual behavior with subsequent results. The perception of type 2 DM sufferers in outcome

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expectancies on the DM diet can be positive and negative, depending on the extent to which the respondents view the diet they are undergoing.

Positive perception plays a very important role in a person's behavior in making health decisions for themselves or their environment. The amount of profit or benefit obtained from an action causes the individual's chances of carrying out the action to increase. However, if the benefits or advantages of an action are felt to be small, then the likelihood of the action being taken will be even smaller. Type 2 DM sufferers who have a good understanding will produce positive outcome expectancies. These positive results will increase the motivation of type 2 DM sufferers to comply with the diet.

Correlation between Task Self-Efficacy and Type 2 DM Diet Compliance

Based on the results of the study in table 5.9 on the relationship between task self-efficacy and DM diet compliance, the p value <α was obtained, indicating that H1 is accepted, in other words there is a relationship between task self-efficacy and diet compliance in type 2 DM patients. The level of correlation between task self-efficacy and diet compliance in this study is very strong. The correlation is positive, which means that the higher the task self-efficacy, the better the DM diet compliance.

The study found that out of 28 respondents with low task self-efficacy, 27 respondents had poor diet compliance and none of the respondents had good diet compliance. Out of 72 respondents with High task self-efficacy, 65 respondents had High diet compliance and only 5 respondents had poor diet compliance. Respondents with High task self-efficacy do not all have good diet compliance, this happened to respondents number 1, 57, 79, 71, and 72. Some respondents have High task self-efficacy but are unable to follow the recommended diet program due to various factors such as not being used to restricting food, having difficulty preparing appropriate food, being bored, fed up, etc.

This study is in line with research conducted by Kusnanto & Prasetia, D.I (2015) which states that increasing task self-efficacy affects diet compliance in Type 2 DM sufferers. Task self-efficacy is influenced by: the nature of the task faced by the individual, external incentives (rewards) received by the individual from others, the status and role of the individual in their environment, information about self-ability which includes real results achieved, other people's experiences, verbal persuasion, and conditions within a person both physically and emotionally.

Task self-efficacy is a person's ability to implement certain behaviors. Task self-efficacy is also referred to as Action self-efficacy: facilitating goal setting (Bandura, et al., 1994; Schwarzer, 2008). Refers to the first stage of the process, where an individual has not yet acted, but has generated motivation to perform a behavior. In action self-efficacy, individuals imagine success, anticipate the potential of various strategies, and are more likely to initiate new behaviors. Task self-efficacy (self-confidence) is combined with outcome expectancies (expected results) that have positive goals that will make a major contribution to forming intentions (Renner, 2005).

Task self-efficacy is a person's belief in their ability to do something. A person's belief in their ability to perform an action successfully (Bandura, 1997 in Jones and Barlett, 2008). If someone believes that a new behavior is beneficial to them, but they think they are unable

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to do it, then the new behavior will not be tried to be implemented. Task self-efficacy determines how people feel, think, motivate themselves and behave. These beliefs produce various effects through four processes, namely cognitive, motivational, affective and selection processes (Bandura, 1994). When someone considers themselves capable of complying with the fulfillment of nutritional needs, the behavior displayed will also lead to positive sustainable behavior (Rosenstock, 1974). Task self-efficacy emphasizes that human action and success depend on how deep the interaction is between a person's personal thoughts and the task given (Yusuf, 2011).

Task self-efficacy in this study refers to individual beliefs in carrying out a DM diet. Individual experience and success in complying with a DM diet are the main sources in the formation of task self-efficacy. Learning from other people's experiences through observation and imitating correct health behaviors can also increase task self-efficacy, in addition, activities followed by type 2 DM sufferers at the health center can help DM sufferers to increase task self-efficacy. Judging from demographic data, respondents who are married mostly have high task self-efficacy compared to respondents who are widows/widowers. These results are in line with research from Sesaria (2016), which states that someone who has a partner will have someone who can support and always accompany them when facing problems related to their health conditions (Sesaria, 2016). Some individuals who are chronically ill will need contributions (communication, decision making, and reciprocity from family and friends) (Riegel, 2012). Support can increase a person's task self-efficacy (Minarti, 2017). Respondents who are married can communicate openly with their partners so that they can get very strong support to increase task self-efficacy so that they feel confident in facing DM management so that they can control their blood glucose.

In this study, patients with productive age, namely 30-41 years, have a higher level of task self-efficacy than respondents aged 51-60 years. The results of this study are in line with research conducted by Ismonah (2008). Ismonah argues that individuals with productive age will have higher task self-efficacy than older individuals or younger individuals. According to researchers, individuals who have low task self-efficacy, they do not have the ability to solve a problem and are not compliant. Medium when someone has confidence in their ability to comply with the DM diet, the behavior displayed will also lead to positive behavior, namely complying with the DM diet according to the recommendations of health workers.

Correlation between Intention and Type 2 DM Diet Compliance

The results of the study in table 5.10 on the relationship between intention and DM diet compliance obtained a p value <α, indicating that H1 is accepted, in other words there is a relationship between intention and diet compliance of type 2 DM sufferers.

The level of correlation between intention and diet compliance in this study is very strong. The correlation is positive, meaning that the higher the intention, the higher the diet compliance of type 2 DM sufferers. In the study, it was found that out of 26 respondents with low intentions, 25 respondents also had poor diet compliance and none had good diet compliance. Medium, out of 63 respondents who had High intentions, 60 respondents also had good diet compliance and only 1 respondent had poor diet compliance. Respondents who had High intentions did not all have good diet compliance, this happened to respondent

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number 1.

Intention is the subjective probability that a person has about doing a behavior (Fishbein & Ajzen 2005). Intention includes a person's motivation towards goals and target behavior in terms of direction and intensity. Intention can be interpreted as a cognitive representation of a person's readiness to carry out a certain behavior or action, and this intention can be used to measure a person's behavior or action (Fishbein & Ajzen 2005).

Basically, intention is a person's interaction with a certain situation they are facing. Notoatmodjo (2010) stated that intention is a drive from within a person that causes the person to carry out certain activities in order to achieve a goal. Within a person there is a need or desire for objects outside the person. Intention plays a very large role in shaping the behavior of DM sufferers, including compliance in following a diet. Intention is a predictor of compliance in regimen and glycemic control (Butler, 2002). Several studies have shown that someone who has High intention will show positive results in DM management such as increased participation in physical exercise programs and reporting low symptoms of depression (Wu, 2007).

The results of this study are in line with research conducted by Muflihatin, S. K & Komala (2016) and research conducted by Isnaeni (2017) which states that there is a significant relationship between intention and DM diet compliance. Behavioral attitudes in individual health are influenced by the intention within the individual to behave healthily and maintain health. Without intention in regulating the diet, DM sufferers will experience non-compliance in regulating their daily diet. Research by Akbar & Anderson (2015) states that intention is related to compliance with the DM diet. Respondents who have High intentions have a 329.667 times greater chance of complying with the DM diet compared to respondents who have less intention.

According to researchers, individuals will intend to take action if the action has a planned goal. The intention that exists within an individual is formed within a person and is influenced by two main factors, namely stimuli which are factors that come from outside a person (external factors) such as physical environmental factors such as culture, habits, economy, and responses from within (internal factors) such as attention, observation, risk perception, expected results, and self-confidence. So that the factors embedded in oneself can affect self-resilience in maintaining the intention to achieve a goal. Based on the research results obtained, researchers argue that regarding the relationship between intention and compliance with the DM diet, there are many factors that influence the intention in compliance with the DM diet. Respondents who have High intentions also have good diet patterns.

CONCLUSION

Based on the discussion in the previous chapter, it can be concluded that the research is related to risk perception, outcome expectancies, task self-efficacy, and intention with dietary compliance in type 2 DM patients. Risk perception is one of the factors that is significantly related to dietary compliance in patients with type 2 DM. Outcome expectancies is one of the factors that is significantly related to dietary compliance in patients with type 2 DM. Task self-efficacy is one of the factors that is significantly related

to dietary compliance in patients with type 2 DM. Intention is one of the factors that is significantly related to dietary compliance in patients with type 2 DM.

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