INFLUENCE OF ATTITUDE, SUBJECTIVE NORM, PERCEIVED BEHAVIOUR CONTROL TO PERFORM INTENTION IN PREVENTION ACTION OF DIABETES

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ABSTRACT

Introduction: This study aimed to identify influence of attitude, subjective norm, and perceived behavior control to intention on preventive behavior of type II diabetes in Theory of Planned Behaviour model. **Methods:** This study is an observational study with a cross-sectional and analytical design. The population in this study were all undergraduate students of Public Health FKM UA. The sample was determined by using simple random sampling technique, until a total sample of 234 respondents was obtained. **Result:** Research on type II preventive behavior showed that respondents who agreed to the positive impact of preventive behavior of type II diabetes and had confidence that they could implement preventive behavior of type II diabetes by 70.08% of the total respondents. Respondents who had subjective norms agree on preventive behavior of type II diabetes and havmd the confidence to be able to perform preventive behavior for type II diabetes by 70.09% of the total respondents. Respondents who had the confidence to be able to interpret themselves were able to perform preventive behavior of type II diabetes and had confidence in carrying out preventive behavior for type II diabetes by 47.44% of the total respondents. **Conslusion:** Based on the results of the study showed that the attitude variable (P < 0.905) did not significantly influence the intention variable. While the subjective norm (P > 0,001) and perceived variables control (P > 0,001) significantly influence intention.

Keywords: Type II Diabetes Mellitus, Prevention, TPB

INTRODUCTION

Diabetes is a non-communicable disease that is divided into two types based on the cause. Type I diabetes is caused by heredity (genetics) and type II diabetes is more due to lifestyle factors (IDF, 2015). According to the International Diabetes Federation (IDF) there are around 429 million people with DM worldwide with an age range between 20-79 years with a total number of deaths due to DM reaching 4 million people in 2017. Among the 429 million people with DM, 279 million people live in urban areas while 146 million people live in rural areas. The lift showed that 65% of people with DM live in urban areas. (IDF, 2017).

Indonesia itself, based on the latest IDF publication in 2017, occupied the 6th position from the previous 7th position in the country with the largest number of DM sufferers in the world in 2015. Meanwhile, the prevalence of people with DM in Indonesia nationally in 2015 and 2017 did not change, namely 6.2% (IDF, 2015, 2017). Although it did not increase, this figure was much higher than the 2013 Riskesdas data, namely the prevalence of DM in Indonesia was 2.1% (Ministry of Health, 2014b). The increase was due to the IDF data also calculating the possibility of people being undiagnosed, which was 52.8% of the total people with DM according to the IDF. Although people who are not diagnosed are not counted, the prevalence of DM in Indonesia is still high at around 3.2% (IDF, 2015). So that there was an increase of about 1.1% over a period of 2 years, namely 2013-2015. In addition, the prevalence of DM also experienced a significant increase during the period 2007-2013 in almost all regions in Indonesia. The prevalence of DM in 2007 was 1.1% (Ministry of Health, 2008a), almost doubled (1.0%) in 2013 to 2.1% (Ministry of Health, 2013b). Distribution of

data on Riskesdas in 2013, the highest prevalence of DM was in the 55-64 year age group with higher education levels, namely D1-D3/PT graduates and living in urban areas (Ministry of Health, 2013b).

One of the cities in Indonesia that experienced a significant increase in the prevalence of DM is the city of Surabaya. The prevalence of DM in Surabaya reached 4.8% in 2013 (Ministry of Health, 2013a), from the previous 2.7% in 2007 (Ministry of Health, 2008b). Based on the two Riskesdas data, the prevalence of DM in Surabaya is always above the prevalence of DM in East Java, namely 2.1% at Riskesdas 2013 and 1.3% at Riskesdas 2007 (Ministry of Health, 2008b, 2013a).

Diabetes is an incurable disease, diabetics must have strict dietary control, and are dependent on drugs or even have to receive insulin injections throughout their lives (IDF, 2015). In contrast to type I diabetes which cannot be prevented, type II diabetes can be prevented. Various researchers believe that unhealthy lifestyle factors are the trigger for type II diabetes. Khan said that diabetes can be prevented if the risk factors can be identified early (Khan et al, 2012). However, many people with type II diabetes are not aware that they have the disease. This is because the symptoms of type II diabetes have the nature of appearing slowly (insidious onset). This can happen because the bodies of people with type II diabetes can still use insulin, in contrast to people with type I diabetes (IDF, 2017). But along with the times, type II diabetes in the world, which used to only show clinical symptoms in people over the age of 60 years, is now experiencing an age shift. Type II diabetes patients who have shown clinical symptoms are found in the age group <40 years. Even in several studies, cases of type II diabetes have been found in the age group <40 years. Charles' research showed cases of type II diabetes at the age of 18-19 years (Charles, Pollack, & Britt, 2015). In another study found cases of type II diabetes in the age group 18-29 years as many as 17 respondents, in the age group 30-39 years as

many as 58 respondents, and 40-50 years found 69 respondents suffering from type II diabetes (Nguyen, et. al., 2012). Another study in Sydney Australia showed that cases of type II diabetes were found in the youngest age group, 15-30 years old (Al-Saeed et al, 2016). Another study in Australia from 2000 to 2013 showed an increase in type II diabetics for the 18-39 year age group. The increase in the prevalence of type II diabetes in Australia is also accompanied by an increase in BMI in the same age group (Charles et al., 2015).

The exact cause of type II diabetes is not known. However, many studies support the fact that lifestyle factors play an important role in the management of type II diabetes. Successful trials have shown that doing either diet or physical activity to prevent or delay the onset of type II diabetes will not produce significant results. However, by doing both, namely managing diet and physical activity, it can reduce or inhibit the incidence of type II diabetes in people who have shown disturbances in sugar consumption or what is known as Impaired Glucose Tolerance (IGT) (Hemmingsen et al., 2017). Wimalawansa stated that diet and physical activity can affect diabetes cases in obese people (Wimalawansa, 2015). Physical activity referred to as an effort to prevent type II diabetes is physical activity carried out for at least 30 minutes every day and at least 3 times a week. As for the dietary pattern, there are four factors that can affect the incidence of type II diabetes. The four factors are excessive fat consumption, excessive sugar consumption, not eating breakfast, eating less fruit and vegetables (Ministry of Health, 2014a).

Several experiments on dietary factors have proven that dietary factors have a role in the incidence of diabetes, especially type II diabetes. Increasing the amount of fat consumption starting from 25% can increase the fat content in the blood (Vitale et al., 2016). In another study, it was also proven that the habit of consuming beverages added with sweeteners was associated with the

incidence of type II diabetes (Imamura et al., 2016). In his research, Imamura did not specialize in just one sweetened drink, but included all drinks with added sweeteners. In addition, Imamura did not classify the sweeteners used. In another experiment, it was proven that the habit of not eating breakfast was also associated with the incidence of diabetes (Reutrakul et al., 2014). In his experiment, Reutrakul explained that the habit of not having breakfast had an impact on the number of calories in-take and sleep patterns of respondents. Respondents who do not eat breakfast have fewer calories in-take than respondents who eat breakfast, but the number of calories per meal is greater in respondents who do not eat breakfast. For sleep patterns, respondents who do not eat breakfast have an extra night's sleep at 24 hours and wake up at 8, while respondents who eat breakfast sleep at 11 and wake up between 6-7 hours. In another study, it was shown that the quantity of fruit and vegetable consumption was associated with the incidence of type II diabetes (Mamluk et al., 2017). In their research, Mamluk, et al., explained that the incidence of type II diabetes may occur because the amount of consumption of fruits and vegetables that are less can lead to a lack of fiber and magnesium intake in the body.

The Theory of Planed Behavior (TPB) is a theory put forward by Fisbein and Ajzen. This theory explains the intentions in a person who are the most influential in realizing an action. Intention itself is formed from three factors, each of which is influenced by two other factors. The three factors are attitudes, subjective norms, and perceived behavioral control. TPB has been applied to explain various health behaviors, including exercise, smoking, drug use, as well as HIV and sexually transmitted disease prevention behaviors. In type II diabetes itself, this theory is important to use to predict what kind of individuals are more likely to consistently carry out preventive behavior for type II diabetes, so that in the future this can be used to make interventions

that can provide good outcomes (Akbar, Anderson, & Gallegos). , 2015; Gomes & Nunes, 2018).

Based on this explanation, the purpose of this study was to analyze the effect of attitudes, subjective norms, and perceptions of behavioral control on intentions in type II diabetes preventive behavior in students in Surabaya. The results of the analysis were expected to be able to describe how preventive behavior for type II diabetes can emerge.

METHODS

This research used the type of observational research. The research design used was Cross Sectional. The population in this study were all active undergraduate students of the Faculty of Public Health, Airlangga University semester III, V, and VII with a total of 991 students. Students were selected as the population because based on the 2013 Riskesdas, the largest diabetics were people with a higher education level (PT) (Ministry of Health, 2013b). While the determination of the sample was done using a simple random sampling technique using the Slovin formula. So that the total samples obtained were 234 respondents consisting of students in semester III, V, and VII.

The research location was at the Faculty of Public Health, Airlangga University. The university was chosen because based on the 2013 Riskesdas, the prevalence of diabetes in Surabaya was ranked first with a prevalence of 4.8 / 6.2, besides that, most people with diabetes were in the diploma or college education group (Ministry of Health, 2013b). While the primary data collection using a questionnaire was carried out during August 2017.

The variables studied in this study consisted of independent variables and dependent variables. The independent variable consists of attitudes, subjective norms, and perceived behavioral control, while the dependent variable consists of intentions. Attitude is the willingness to

respond positively or negatively to a behavior. Subjective norms are defined as individual perceptions of social pressure to perform or not to perform a behavior. Perception of behavioral control is an individual's belief about the presence or absence of factors that support or prevent individuals from eliciting a behavior. While the intention is defined as an indication that a person is ready or able to perform a certain behavior.

Primary data collection was obtained through interviews with assistive devices in the form of a questionnaire regarding the respondent's type II diabetes preventive behavior in the form of physical activity at least 30 minutes/day and 3 times/week as well as dietary management which includes limiting sugar consumption, limiting fat consumption, limiting consumption of sweetened drinks, fruit consumption, and breakfast were studied based on the theory of planned behavior. The questionnaire was prepared following the guidelines for preparing a questionnaire that had been exemplified by Fishbein & Ajzen as the founders of TPB in their book entitled Predicting changing behavior. The data in this study used an ordinal scale on all variables. Ordinal data was chosen because the questionnaire used a linkert scale where respondents were asked to rate their level of agreement with the preventive behavior of type II diabetes.

After the data is obtained, then the data will be processed and analyzed. Univariate analysis will display frequency distribution information for each of the variables studied. Meanwhile, multivariate analysis will display information on the relationship between the independent variable and the dependent variable. The analysis of the influence of the independent variable on the dependent variable was analyzed using the help of the SPSS application using multiple linear regression tests that were carried out simultaneously at one time.

During the process of filling out the questionnaire, the respondent received an Explanation Before Approval (PSP) form and put a signature on the PSP before filling out the questionnaire. Respondents who fill out the questionnaire will receive souvenirs in the form of leaflets and drinking water bottles. This research has passed the ethical feasibility test with an ethical test certificate by the Health Research Ethics Commission, Faculty of Public Health No. 386-KEP.

RESULT

Based on Table 1, it can be seen that the age of the respondents ranged between the ages of 17-22 years and the majority of the respondents' gender was female, namely 88.03%. While the rest are male by 11.97%.

Table 1. Characteristics of Respondents Based on Age, Gender.

Characteristic	Frequency	%
Age	**Total**	
17	3	1.28
18	18	7.69
19	65	27.78
20	72	30.77
21	67	28.64
22	9	3.84
Total	234	100
Gender		
Male	28	11.97
Female	206	88.03
Total	234	100

Attitudes are formed from behavioral beliefs and evaluation of behavioral outcomes. The results of the study for the behavioral beliefs factor showed that 67.52% of respondents agreed that physical activity 30 minutes/day and 3 times/week could prevent type II diabetes and 96.15% of respondents agreed that dietary regulation in the form of not eating breakfast, limiting sugar consumption, limiting the consumption

of fried foods, and consuming fruit can prevent the occurrence of type II diabetes.

Table 2. Percentage of Respondents' Opinions Regarding Preventive Behavior of Type II Diabetes In Accordance With Theory Of Planned Behavior

Theory of Planned Behaviour	Opinion	
	Agree	Disagree
Attitude		
Behavioral Beliefs		
Physical activity	67.52	32.48
Diet management	96.15	03.85
Evaluation of Behavioral Outcomes		
Physical activity	65.38	34.62
Diet management	98.29	01.71
Subjective Norms		
Normative Beliefs		
Physical activity	94.02	5.98
Diet management	96.58	3.42
Motivation to Comply		
Physical activity	69.96	30.04
Diet management	84.19	15.81
Behavior Control Perception		
Control Beliefs		
Physical activity	67.52	32.48
Diet management	76.92	23.08
Perceived power		
Physical activity	82.91	17.09
Diet management	96.58	03.42
Intention	75.21	24.79

Meanwhile, the results of the study for the evaluation of behavioral outcomes showed that 65.38% of respondents agreed that physical activity 30 minutes/day and 3 times/week could prevent type II diabetes and 84.19% of respondents agreed that the management of eating patterns in the form of not eating breakfast, limiting sugar consumption, limiting the consumption of fried foods, and consuming fruit can prevent the occurrence of type II diabetes.

Subjective norms are formed by normative beliefs and Motivation to Comply. The results of the research for normative beliefs showed that 94.02% of respondents agree that physical activity 30 minutes/day and 3 times/week can prevent type II diabetes and 96.58% of respondents agree that the management of eating patterns in the form of not eating breakfast, limiting sugar consumption, limiting consumption of fried foods, and eating fruit can prevent type II diabetes. In addition, the results of the motivation to comply research showed that 69.96% of respondents agree that physical activity 30 minutes/day and 3 times/week can prevent type II diabetes and 84.19% of respondents agree that the management of eating patterns in the form of skipping breakfast, limiting sugar consumption , limiting the consumption of fried foods, and consuming fruit can prevent the occurrence of type II diabetes.

Perception of behavioral control is formed by control beliefs and perceived power. The results of the study for control beliefs show that 67.52% of respondents believe that they have the convenience of doing physical activity 30 minutes/day and 3 times/week as an effort to prevent type II diabetes and 76.92% of respondents believe that they have ease in carrying out dietary management in the form of not eating breakfast, limiting sugar consumption, limiting fried food consumption, and consuming fruit in an effort to prevent type II diabetes. In addition, the results of the perceived power study showed that 82.91% of respondents believe that they have the ability in each of the supporting factors when

doing physical activity 30 minutes / day and 3 times / week in an effort to prevent type II diabetes so as to be able to minimize existing obstacles and 96, 58% of respondents believe that they have the power to manage their diet in the form of not eating breakfast, limiting sugar consumption, limiting fried food consumption, and consuming fruit and are able to minimize existing obstacles.

The results of the study for the variable of type II diabetes preventive behavior intention showed that 75.21% of respondents are considered to have good intentions and can represent these intentions to become a type II diabetes preventive behavior.

Table 3. Lenier Regression Test for Attitude Variables, Subjective Norms, and Perceptions of Behavioral Control on Intentions.

| Model | Un-Sd. | | Sd. | t | Sig. |
	B	Std. Error	Beta		
Constant	2.554	2.283		1.119	0.264
Attitude	0.004	0.035	0.008	0.120	0.905
Subjective Norms	0.103	0.029	0.238	3.495	0.001
PBC	0.164	0.047	0.218	3.471	0.001

Based on Table 2, it can be seen the influence and magnitude of the influence of the attitude variable, subjective norm, and perceived behavioral control on the intention variable. In this study, the attitude variable had no significant effect on the intention variable. Meanwhile, the subjective norm variable and the behavioral control perception variable have an effect on the intention variable. It can be concluded based on the significance value of the regression test results where the significance value of the attitude variable is greater than 0.05. While the significance value of subjective norms and the value of the behavioral control perception variable is smaller than 0.05.

DISCUSSION

Based on the results of research on the attitudes of FKM UA students towards preventive behavior for type II diabetes, it showed that respondents agree that physical activity 30 minutes/day and 3 times/week and management of diet in the form of not eating breakfast, limiting sugar consumption, limiting fried food consumption, and consuming fruit can prevent type II diabetes.

However, respondents believe that diet management can be more influential in preventing type II diabetes than physical activity. This is evidenced by the respondents' answers (Table 3), that the value of respondents' approval for diet management is higher than physical activity, both in terms of behavioral beliefs and evaluation of behavioral outcomes. The results of this study are in line with research by Anam et al., which showed that dietary intervention had a greater effect on reducing body fat in 20 subjects (Anam et al., 2016).

The time for fulfilling the criteria for physical activity, which is a minimum of 30 minutes/day and 3 times/week, cannot be reduced, if the student does not meet these criteria, then the student has not behaved in preventive type II diabetes based on the criteria for physical activity. Time as an indicator of the implementation of physical activity assessed by students is often burdensome. This is because the demands of student activities are sometimes dense, making it difficult for students to meet the time limit for carrying out these physical activities. As revealed in other studies, respondents participated in sports groups due to looking for friends and the lack of time to exercise in the morning to evening (Ramadha, 2016). So that makes respondents formed or participate in a group to exercise together at night.

In addition, although there are Student Activity Units (UKM) engaged in

sports such as volleyball UKM, futsal UKM, basketball UKM, and other UKM, the existing UKM is more directed to accommodate student interest to hone skills and not infrequently for competition purposes. So that the majority of students who do not have the ability in the field of sports will participate in UKM other than the sports field. Students who do not have the ability in sports do not have a place to do physical activity.

Although the results of the attitude research showed a positive value along with two determinants of attitudes (behavioural beliefs and evaluation of behavioral outcomes) towards type II diabetes preventive behavior, based on the multiple linear regression test in this study, attitudes do not have a significant effect on respondents' intentions regarding diabetes preventive behavior type II. The results of this study are in line with the results of research conducted by Jaffar & Musa and Philippen. The results of Jaffar and Musa's research showed that subjective norm variables and behavioral control perception variables have a more significant influence in predicting respondents' intentions (Jaffar & Musa, 2016). Meanwhile, in Philippen's research, all the variables studied did not have a significant effect on the formation of respondents' intentions to reuse the used goods (Philippsen, 2015).

According to Soekidjo, the concept of behavior is known has three important domains, namely, knowledge, attitudes, and actions. The three domains can influence each other or not in the appearance of a behavior in individuals. In addition, attitudes themselves also have levels based on their intensity from the lowest to the highest, namely accepting, responding, appreciating, and being responsible (Soekidjo, 2010). The level defines the depth of a person's attitude towards a particular behavior. The deeper the level of a person's attitude towards a behavior, the greater the possibility of that person to bring up the expected behavior. However, although the influence of attitudes and behavior can be measured, it is not uncommon that the results of attitude measurements are not in harmony with the results of behavioral measurements. This is because the correlation between attitudes and behavior is still lacking. The lack of correlation is due to the different levels of attitude and behavior measurement. Attitudes are measured on a general scale but behavior is measured on a very specific scale (Ramdhani, 2011). So, even though the results of measuring respondents' attitudes in diabetes preventive behavior show high scores, it is not impossible that attitudes do not have a significant influence on the emergence of intentions to type II diabetes preventive behavior.

Subjective norm is a person's perception of doing or not doing a certain action/behavior which is more based on the social opinion that develops in the environment around a person. In the Theory of Planned Behavior (TPB) model, subjective norms are formed by normative beliefs and motivation to comply. Normative beliefs are a person's belief in the opinion of someone important to him about an action/behavior. Meanwhile, motivation to comply is a person's belief that the important person will support the behavior he will do (Fishbein & Ajzen, 2011).

In line with the results on the attitude variable, the results of the subjective norm research on preventive behavior for type II diabetes showed that respondents agreed that physical activity was 30 minutes/day and 3 times/week as well as dietary management in the form of not eating breakfast, limiting sugar consumption, limiting fried food consumption, and eating fruit can prevent type II diabetes.

Comparison of respondents' answers on the subjective norm variable between diet management and physical activity is also the same as the attitude variable, namely the respondent more believes that the environment around the respondent believes that diet management is more influential than physical activity. In addition, from the results of the factors forming the subjective norm variable, it can be seen that the

percentage of respondents' approval for the normative beliefs element is greater than the respondent's agreement for the motivation to comply element. These results indicate that some respondents are more influenced to carry out preventive activities for type II diabetes based on the opinions of others who are considered important than the support of others. This is because the personality that has been formed at the age of students, so what is needed by students is to know that what they are doing is good or bad. When students already know that the activities they are doing are good, students will carry out these activities by themselves. In this study, the respondents were FKM UA students, where FKM UA students would gain knowledge that preventive measures, whether in the form of physical activity or management of diet, are important for everyone to do. This knowledge will make students to take a preventive action without or with the support of other people who are important to them. It's just that, sometimes there are some obstacles that will be encountered by FKM UA students, one of which is the barriers to doing physical activities that have been described previously. Therefore, it is necessary to have another forum to encourage students, especially FKM UA students to be able to take preventive actions for type II diabetes, especially physical activity 30 minutes/day and 3 times/week. The container is expected to be able to overcome the problem of time that is often experienced by students. In addition to overcoming the problem of time, the availability of a place for physical activity will make the participants, namely students, even more excited, as has been explained in research conducted by Ramadha. That the "LibuRun" group was created apart from the time factor, it also aimed to find friends in doing physical activities. "LibuRun" was a running sports group created to accommodate the community's need for sports as well as for people who are busy working during the day. "LibuRun" was held at night when the members have completed their respective

work activities. With the formation of the group, making it members were able to meet the needs of physical activity. The implementation of "LibuRun" itself was carried out in the middle of the city by utilizing the existing sidewalks (Ramadha, 2016).

Another effort that can be done to increase respondents' interest in taking preventive measures for type II diabetes is to create media for promotion of type II diabetes preventive measures, both to increase respondents' interest in doing physical activity 30 minutes/day and 3 times/week or managing diet in the form of not having breakfast, limiting sugar consumption, limiting the consumption of fried foods, and consuming fruit. The making of this media is based on the results of research on respondents' assessments of preventive measures for type II diabetes, where respondents agree more to take preventive measures for type II diabetes based on the opinions of other people who are important to them. Making media can be by using a photo of a person added with words of invitation to take preventive action for type II diabetes.

Based on the results of multiple linear regression, it is known that the model in this study has met the requirements for regression testing. In addition to the results of the multiple linear regression test, it is known that the subjective norm variable has a significant influence on the respondent's intention to prevent type II diabetes. The results of this study are in line with the results of research conducted by Yean et al., (2015) and Nam et al., (2017). Where Yean et al.'s found that pressure from family, friends, coworkers, and superiors plays a major role in growing respondents' intentions to return to work (Yean et al., 2015). Meanwhile, according to Nam et al.'s research, when respondents feel that they are under pressure from people who are important to themselves to use environmentally friendly goods, they will be increasingly encouraged to use environmentally friendly goods (Nam et al.,

2017). The two research results proved that the opinions and encouragement of important people can lead to a person's intentions towards certain behaviors.

In this study, the opinions and encouragement of other people who are important for respondents can encourage respondents to carry out preventive behavior for type II diabetes, namely by carrying out physical activity 30 minutes / day and 3 times / week and managing diet in the form of not eating breakfast, limiting sugar consumption, limiting the consumption of fried foods, and consuming fruit.

In the linear regression test, besides being able to determine the strength of the influence between the independent variables on the dependent variable, the regression test can also determine the proportion of the influence of all independent variables on the dependent variable. The proportion of the effect of the independent variable on the dependent variable is explained by testing the classical assumption of autocorrelation using Durin-Watson. The classic assumption test of autocorrelation showed an R-Square value of 0.165. This value indicates that the proportion of the influence of the independent variable on the dependent variable in this study is 16.5%, the remaining 83.5% is influenced by variables not examined in this study. So it can be concluded that the influence of attitudes, subjective norms, and perceptions of behavioral control on the intentions of FKM UA students in 2017 in type II diabetes prevention behavior on intentions is 16.5%.

In addition, the regression test is also able to determine the sign and magnitude of the influence between the independent variables on the dependent variable. However, in this study, the regression test can only show signs of influence. The regression test cannot identify the magnitude of the influence of the independent variable on the dependent variable because this study uses a linkert scale, so the value in this study does not have a certain magnitude. The sign referred to in this study is the direction of the relationship between the independent

variable and the dependent variable. The positive sign indicates the direction of the relationship in the same direction but the negative sign indicates the opposite direction. The results of the model interpretation test in the regression test show a positive (+) value on the regression coefficient for subjective norms. So that the direction of the influence of the independent variable on the dependent variable is unidirectional. In this study, if there is an increase in the intention variable, the subjective norm variable will also increase and vice versa.

In this study, the interpretation of behavioral control is an individual's interpretation of the ease and difficulty of carrying out preventive behavior for type II diabetes, namely by doing physical activity 30 minutes / day and 3 times / week and managing diet in the form of not eating breakfast, limiting sugar consumption, limiting food consumption fried, and eat fruit. Based on the Theory of Planned Behavior (TPB) model, the interpretation of behavioral control is determined by control beliefs and perceived power. Control beliefs are a person's beliefs about the ease or difficulty in carrying out preventive behavior for type II diabetes. Meanwhile, perceived power is a person's belief that he has the strength of every supporting factor and inhibiting factor in him in carrying out preventive behavior for type II diabetes.

The results of the research on behavioral control interpretation variables showed that the respondents believed that they could carry out preventive behavior for type II diabetes. Based on the results of the research on the determinants of behavioral control interpretation, it can be seen that the respondents' confidence in carrying out preventive behavior for type II diabetes and being able to overcome existing obstacles is greater than the respondents' self-confidence in the supporting and inhibiting factors that arise in carrying out preventive behavior for type II diabetes. This is illustrated by the percentage of perceived power that is greater than the percentage of control beliefs. In

addition, the results of the study also show that respondents' beliefs to take preventive measures for type II diabetes are more inclined to managing diet than doing physical activity based on existing supporting factors and inhibiting factors that can be minimized by the respondents themselves. The results of the research on the PBC variable are in line with the results of the attitude variable research, namely that respondents are more confident that diet management can prevent type II diabetes than physical activity.

This could be due to the fact that physical activity requires additional time to be carried out rather than carrying out dietary management which does not require additional time. This opinion has been proven in Ramadha's research (2016), where several people living in Pekanbaru City formed a group called "LibuRun" which aims to accommodate the working community who do not have time to exercise to do sports activities at night. In addition, research conducted by Kasriman stated that the majority of urban people who come to Car Free Day (CFD) activities in Jakarta aim for refreshing, not for exercising (Kasriman, 2017). The results of this study illustrate that the interest of the urban community for refreshing is greater than the interest of the urban community for doing sports. In addition, the weather in the city of Surabaya is considered not very supportive of physical activities carried out during the day. This also makes students think again if they are going to do physical activities during the day. Therefore, making a container so that students can be active at night is a good idea. It is also known that the activities of SMEs engaged in sports are not infrequently carried out late in the evening and even at night.

Based on the results of multiple linear regression, it is known that the model in this study has met the requirements for regression testing. In addition to the results of the multiple linear regression test, it is known that the behavioral control interpretation variable has a significant

influence on the respondent's intention to prevent type II diabetes at FKM UA 2017. The results of this study are in line with the results of research by Shahrabadi et al., (2017) and research by Tseng et al., (2017). Research conducted by Shahrabadi et al., shows that PBC along with subjective attitudes and norms have a significant effect on determining respondents' intentions to marry (Shahrabadi et al., 2017). Meanwhile, in the research conducted by Tseng et al., the interpretation of behavioral control along with attitude has a significant influence on respondents' intention to quit smoking (Tseng et al., 2017).

As in the subjective norm variable, the regression test on the PBC variable also includes testing the classical assumption of autocorrelation which shows the proportion of the influence of the independent variable on the dependent variable. The value of the proportion shows the value of the influence of the independent variable as a whole on the dependent variable and cannot be separated. The value of the proportion of the influence of attitudes, subjective norms, and interpretation of behavioral control on the intentions of FKM UA students in 2017 in type II diabetes prevention behavior on intentions is 16.5%.

The regression test on the behavioral control interpretation variable also includes the classic multicollinearity assumption test. The test is able to determine the sign and magnitude of the influence between the independent variables on the dependent variable. The results of the classical assumption of multicollinearity resulted in the value of the regression coefficient for the behavioral control interpretation variable which was positive (+). The positive value indicates the direction of the unidirectional relationship. So in this study, if there is an increase in the intention variable, the behavioral control interpretation variable will also increase and vice versa.

Based on this research, it can be seen that even though FKM UA students are students in the health family, they also gain knowledge about preventive behavior,

especially preventive behavior for type II diabetes. However, students who have intentions that are considered to be represented so that they become a type II diabetes preventive behavior still need to be improved. This appears based on the results of the study where the results of the intention showed that 75.22%.

To get other people to do a new behavior knowledge of the impact and benefits that are qualified is not enough. There needs to be environmental factors that support and there needs to be self-will to carry out the intended behavior. This is in accordance with the results of the attitude variable which has no significant effect, but the subjective norm variable and the interpretation of behavioral control have a significant effect on this study. Efforts to support preventive behavior for type II diabetes must be carried out in an integrated manner, both from students, Faculty *(FKM)*, and University *(UA)*. It is hoped that an environment that fully supports type II diabetes prevention behavior will be created. In the end, FKM UA students will get used to doing preventive behavior for type II diabetes. So that it can be used as a reference for other similar behavioral models. A further impact is expected to contribute to reducing the increasing prevalence of diabetes. However, this study does not discuss further in detail about behavior change efforts.

CONCLUSION

There were 75.21% of FKM UA students who were considered ready to carry out preventive behavior for type II diabetes. Readiness for type II diabetes preventive behavior based on research is influenced by subjective norm factors and perceived behavioral control. While the attitude factor of FKM UA students is indeed of great value but does not significantly affect the readiness of FKM UA students to carry out preventive behavior for type II diabetes.

To accommodate the readiness of FKM UA students in carrying out preventive

behavior for type II diabetes, it is necessary to create a forum in the form of groups to do sports together and not aim at achievement and the implementation of sports activities is carried out at night. To avoid hot weather and lecture activities by students. In addition, there is also a need for mass sports activities that can be carried out every Sunday around the lake of Campus C UA.

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