

## **The Effect of Attitude Toward Behavior, Subjective Norm and Perceived Behavior Control At DM Therapy Adherence: Study Theory Of Planned Behavior**

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### **ABSTRACT**

**Background :** Diabetes Mellitus cause physical complications that can aggravate the psychological pressure. Provision of education is one of the four main pillars of the management of DM. Educational Theory of Planned Behavior-based DM is an education with individual approach that includes support and guidance DM therapy at home which aims to improve treatment adherence DM. In education TPB has been given to people with diabetes are among antesenden TPB The Attitude Toward Behavior, Subjective Norm and Perceived Behavior Control which would contribute significantly to the compliance behavior therapy with DM.

**Objective:** To identify a number of antesenden ie Attitude Toward The Behavior, Subjective Norm and Perceived Behavior Control described in TPB to behavior therapy adherence DM.

**Research Methodology:** This study used data analysis method that includes the step of measurement and interpretation of the value of Attitude Toward The Behavior, Subjective Norm and Perceived Behavior Control according to the principles Theory of Planned Behaviour (TPB), the next step performed statistical tests include test bivariate correlation third antesenden TPB attitude towards compliance DM therapy performed on 34 sampel with sample selection using purposive sampling.

**Results:** The results on the F test probability value (sign)  $0.000 > 0.05$ , so it can be concluded that the Attitude Toward The Behavior, Subjective Norm and Perceived Behavior Control unacceptable influential in predicting the intentions of people with diabetes to comply with therapy DM, with variable Attitude Toward The Behavior showed a stronger effect than any other variable that is obtained by value t-test (sign)  $0.033 > 0.05$  and the value of the regression coefficient  $\beta$  attitude and subjective norm is positive, it indicates that this variable has a strong correlation with DM therapy adherence. R<sup>2</sup> values obtained from the results of the three variables simultaneously perceived by 70.4% effect on DM therapy adherence.

**Conclusion:** The three antesenden TPB ie Attitude Toward The Behavior, Subjective Norm and Perceived Behavior Control DM attitude towards compliance with therapy showed that all three received antesenden influential in predicting intention to comply with DM DM therapy. TPB-based education so highly can be used to improve coping and treatment adherence penyandang DM.

**Keywords:** Educational DM, individual coping, compliance DM and Theory of Planned Behavior.

## INTRODUCTION

Theory of Planned Behavior (TPB) or the theory of planned behavior is one theory of learning for educational use in the patient's interpersonal approach. This theory was developed by Ajzen 1967. This theory includes three things namely; beliefs about the likely outcomes and evaluation of the behavior (behavioral beliefs), beliefs about the expected norm and motivation to meet these expectations (normative beliefs), as well as beliefs about the factors that can support or hinder behavior and awareness of the strength of these factors (control belief) (Nursalam, 2013)<sup>1</sup>. Many studies use TPB approach to look at the human intention, one study conducted by Tjahjono, HK et al, (2013)<sup>2</sup> who has studied the intention of management students Muhammadiyah University of Yogyakarta in IT-based entrepreneurship. In addition to viewing the intention TPB can be used to view human behavior as the research that has been done by (Zoellner et al, 2012)<sup>3</sup> concluded that the educational approach can decrease intentions TPB in sugar consumption. Research conducted by Rashidian & Russel (2012)<sup>4</sup> also concluded the use of TPB are very helpful in the intention (intention) in understanding a doctor's prescription, so that it can be concluded TPB is a theory of effective learning in the field of health one of them in the provision of health education.

In the health sector needs to approach interpersonal between nurses and patients in the delivery of education communication (Ajzen, 1988, in Nursalam 2013)<sup>1</sup>. Provision of education is one of the important part of diabetes management. These diseases include the category of non-communicable diseases in the world's biggest killer, no less than 36

million people die of infectious diseases every year, which is 63% of global deaths in the world (WHO, 2013)<sup>5</sup>. In 2035 is expected to rise DM 14,152.2 thousand people or 6.7% of the population of Indonesia soul (IDF, 2013)<sup>6</sup>. Boss, M & Cjarles, A., (2013)<sup>7</sup> shows that in North Africa DM complications ranged from 8.1% to 41.5% in retinopathy complications, 21% to 22% complications arise albuminuria, 6.7% to 46, 3% complications nephropathy and 21.9% to 60% neuropathic complications arise.

American Diabetes Association (ADA) (2014)<sup>8</sup> menganjurkan treatment to be followed with diabetes include diet planning, exercise and regular activity, drugs control, and follow the educational program DM. Education given to people with diabetes should be done continuously and progress must be observed by health workers (Soegondo 2009)<sup>9</sup>. Researchers have found that satisfaction with the quality of the interpersonal relationship between patients and health workers were significantly associated with treatment compliance DM (Sherbourne, 1992 in St. Paul, S et al., 2001)<sup>10</sup>, so it is necessary to educate health workers using interpersonal approach to patients with the aim of achieving therapeutic success DM. The provision of education to people with diabetes by strengthening the three basic beliefs of TPB are: behavioral beliefs, normative beliefs and beliefs control is expected to provide confidence, the intention (intention) to accept the conditions and the intention to recover so as to improve therapy adherence DM.

## HYPOTHESIS

In general it can be said that the better the attitude and subjective norms toward a behavior, and large semkain perceived

behavioral control, the stronger the intention of the individual to perform an action (Dharmmesta, 1998)<sup>11</sup>. Based on the above, the proposed hypothesis as follows:

H1: Behavioral therapy to comply with DM DM jointly influenced significantly by the attitude toward the behavior, subjective norm and perceived behavior control is in keeping with DM DM therapy.

Gordon Allfort in Setiadi (2003)<sup>12</sup> proposed a definition mengenai attitude toward the behavior is a mental and terms in connection with readiness to respond, organized through experience and influence that lead to behavioral or dynamic. If we analogy with the attitude towards compliance with DM DM therapy mean attitude towards compliance DM DM is studying the tendency to evaluate the therapeutic results either liked or disliked consistently. Based on the above, the researcher took hypothesis as follows:

H2: The behavior of people with diabetes to comply with therapy DM significantly influenced by the attitude toward the behavior of people with diabetes to comply with therapy DM

Subjective norm as social factors indicate the perceived social pressure to perform or not perform an action or behavior (Dharmmesta, 1998)<sup>11</sup>. Subjective norm formed of normative beliefs and willingness to obey the wishes of others that are considered important. Normative beliefs regarding the condition that the individual or group of important referents will agree or disagree with the execution behavior. The strength of each normative beliefs generated through the motivation of the person to follow referents and estimates of subjective norm is obtained by summing the results of all referents pentin). Based on the above, the researcher took hypothesis as follows:

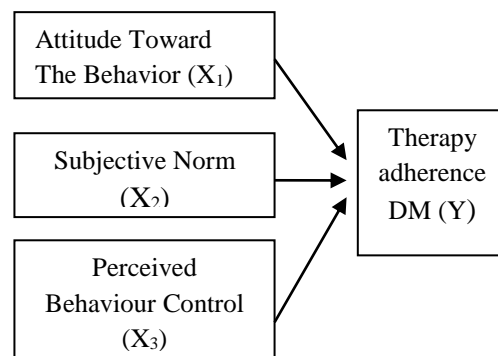
H3: The behavior of people with diabetes to comply with therapy DM significantly influenced by subjective norm with diabetes to comply with therapy DM

Perceived behavior control is a condition where people believe an action it easy or difficult to do (Dharmmesta, 1998)<sup>11</sup>. Ajzen in Dharmmesta (1998)<sup>11</sup> have stated that perceived behavior control effect on intent or directly on the behavior itself. Based on the above, the researcher took hypothesis as follows:

H4: The behavior of people with diabetes to comply with therapy DM significantly influenced by the perceived behavior control people with diabetes to comply with therapy DM.

## METHODS

Data analysis method used in this study includes the step of measurement and interpretation of the value attitude toward the behavior, subjective norm and perceived behavior control according to the principles Theory of Planned Behaviour (TPB), the next stage of statistical tests include test bivariate correlation third antesenden TPB attitude towards compliance with therapy DM , The research model form shown in Figure A below:



In this study, researchers used multiple linear regression analysis model. Formula of multiple linear regression model as follows:

- $Y = \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3$  Where:
- Y = the dependent variable (adherence therapy DM)
- X1 = Independent 1 (Attitude Toward The Behavior)
- X2 = Independent 2 (Subjective Norm)
- X3 = Independent 3 (Perceived Behavior Control)
- $\beta_1, \beta_2, \beta_3$  = coefficient of regression

Questionnaires spreadsheet of the data belief DM therapy made using the Theory of Planned Behavior approach made by researchers based on the results of discussions with experts Prof. Heru Kurnianto Tjahjono. Retrieved 28 instrument consists of variable beliefs (bi) is the variable that is the strength of your belief that by keeping DM therapy will gain certain benefits, variable evaluation (ei) is the variable that indicates to you whether to comply with the DM therapy will provide good benefits, variable normative beliefs (ni) is the variable that indicates that family / friends (group referents) advise you to adhere to the DM therapy, motivational variables (mi) is the variable of motivation to carry out compliance DM therapy with suggestions of family / friends (a group referent), variable access to the controls (ci) is an assessment you that in order to comply with the DM therapy is easy and not difficult, belief variables control (pi) that is your belief based on experience about the sources of opportunities such as information and facilities necessary to comply with the DM therapy with 5 answers that strongly agree, agree, neutral, disagree, strongly setuju. Sedangkan DM therapy adherence attitude measurement using a questionnaire developed by the research Hidayat (2013)<sup>13</sup> based on the Concept System Model Betty Neuman's developed that overall human

approach ( holistic) which is based on the framework of the adaptation system, consisting of 33 questions covering compliance with DM in terms of diet, medication, and exercise control. The answer from the compliance questionnaire using Likert scale with a scale of 1: TP (never), 2: JR (rarely), 3: KD (sometimes), 4: SR (often), 5: SL (always).

This research was conducted in the village of Wajak Lor, District Boyolangu, Tulungagung, East Java in March 2015 by all people with diabetes in the village Wajak Lor, District Boyolangu, Tulungagung Java Timur some 78 people. This study using purposive sampling or sampling with inclusion criteria set by the researchers. With sample calculation sample of 34 people. Criteria for inclusion in this study were DM willing as a respondent, can read and write, aged 15-70 years, with at least one elementary school, do not have other concomitant diseases eg heart disease. This study has been declared worthy of ethics on October 6, 2014 by the Research Ethics Committee of the Faculty of Medicine and Health Sciences University of Muhammadiyah Yogyakarta.

## RESULTS AND DISCUSSION

Correlation The Attitude Toward Behavior, Subjective Norm and Perceived Behavior Control Compliance Behavior Therapy Against Persons with DM in the village Wajak-Lor, Boyolangu-Tulungagung 2015

Variable	$\beta$	t	Sig.	F.Sig	R <sup>2</sup>
<i>Attitude Toward The Behavior</i>	,532	2,233	,033	0.000	0.444
<i>Subjective Norm</i>	,381	1,758	,089		
<i>Perceived Behaviour Control</i>	-,341	-2,008	,054		

- 1) *Attitude Toward The Behavior*  
Based on t test analysis significance value of 0.033 is smaller than the probability of error of 0.05. It concluded that compliance with therapy is significantly influenced by

the DM Attitude Toward The Behavior DM

2) *Subjective Norm*

Based on t test analysis significance value of 0.089 is greater than the probability of error of 0.05. It can be concluded that the therapy compliance with DM was not significantly affected by Subjective Norm DM.

3) *Perceived Behavior Control*

Based on t test analysis significance value of 0.054 is greater than the probability of error of 0.05. It concluded that compliance with diabetes treatment significantly influenced by Perceived Behavior Control DM.

4) From the table above it can be seen that the independent variable is the attitude toward the behavior, subjective norm and perceived behavior control simultaneously and significantly affect the dependent variable DM compliance with therapy that is indicated by the significance of 0.000 is smaller than the probability of error is 0.05, it can be said that the F-test reject  $H_0$  and accept  $H_a$  proposed that compliance with DM therapy jointly influenced significantly by the attitude toward the behavior, subjective norm and perceived behavior control is felt with DM.

5) From the above calculation is obtained Adjusted  $R^2 = 0.444$ , or 44.4%, this means that the variations in treatment adherence (Y), which can be explained by the regression equation was 44.4% influenced attitude toward the behavior, subjective norm and perceived behavior control while the rest to 55.6% influenced by other variables that are outside the equation.

Patient compliance is a health care concept that affects all areas of health nursing, including the handling of Diabetes

Mellitus. Attempts to change a behavior health improvements are constantly a component of compliance that requires a health education (Society of Endocrinology Indonesi, 2006)<sup>14</sup>. Health education is a process of dynamic change in behavior. Changes in behavior is not just a material transfer process but change happens awareness of individuals, groups or communities (Mubarak et al, 2007)<sup>15</sup>.

According to Edelman and Mandle (2002) in Widiastuti (2012)<sup>16</sup> health education purpose is to make people achieve optimal health levels through its own actions. Education is an effective strategy and the potential to reduce the risk of complications for patients with Diabetes Mellitus so as to reduce the economic cost of diabetes care. Patients with diabetes who understand the condition will be responsible for the compliance of DM therapy (Jenhani, M., et al., 2005)<sup>17</sup>. Edukasi would be more effective if nurses understand the theory of learning required. Educational process applied in this study is education DM using the theory of planned behavior (Theory of Planned Behavior / TPB). Correlation tests were conducted attitude toward the behavior, subjective norm and perceived behavior control simultaneously and significantly influence the behavior of people with DM variables in complying with Diabetes Mellitus therapy that is directed by the significance of 0.000 is smaller than the probability of error is 0.05, it can be said that the test F unity hypothesis is accepted that compliance behavior in keeping with DM DM therapy jointly influenced significantly by the attitude toward the behavior, subjective norm and perceived behavior control with DM. The results support the first hypothesis that explains that the behavior of people with

diabetes to comply with therapy together DM influenced significantly by the attitude toward the behavior, subjective norm and perceived behavior control with DM. So it can be explained that the better or the positive attitude of people with diabetes to compliance therapy and subjective norms are positive ie a willingness DM to follow the advice of people they consider important such as family and friends, as well as more easily control behavioral perceived in this case is a assessment of therapy that are not considered difficult and beliefs based on the experience of the sources of information and opportunities such as health facilities will encourage greater the behavior of people with diabetes to comply with therapy DM.

Of the t-test results it can be said that the attitude toward the behavior has a significant value for 0,033 is smaller than probabilitas error of 0.05. It can be concluded that the behavior of people with diabetes to comply with therapy DM significantly influenced by the attitude toward the behavior of people with diabetes to comply with therapy DM. Results of the study received the second hypothesis. This is because autonomy in being owned by people with diabetes to comply with therapy DM is high. It shows that the decision to comply with the DM therapy involves a lot of internal factors such as personality, perception, motivation and so forth.

Objective norm variable has a value of greater significance than the 0,089 error probability of 0.05. It can be concluded that the behavior of persons with DM DM ntuk adhere to therapy was not significantly affected by the subjective norm to comply with DM DM therapy. Results of this study contradicts the third hypothesis. So it can be explained that family and friends are considered important role has no role or lower for people with diabetes to comply with

therapy DM. This can be caused by the decision to adhere to the therapy prescribed by his own behavior.

Perceived behavior control variable has a value signikasi for 0,054 is greater than the error of 0.05. It can be concluded that the behavior of people with diabetes to comply with therapy DM was not significantly affected by the perceived behavior control people with diabetes to comply with therapy DM. The research result is in contrast to the fourth hypothesis. So it can be explained that the condition reality assessment of therapy is not considered difficult and beliefs based on experience about the sources of opportunities such as information and health facilities do not affect people with diabetes to comply with therapy DM, it is due to that raised still feel the difficulty adhere to therapy for life should be they live as well as information sufficient experience which is felt less so influence the behavior of people with diabetes who tend to be non-compliant in the implementation of DM therapy.

Determian coefficient of the test results are Adjusted R2 = 0.444, or 44.4%, this means that the variations in treatment adherence (Y), which can be explained by the regression equation was 44.4% influenced attitude toward the behavior, subjective norm and perceived behavior control while the rest to 55.6% influenced by other variables that are outside the equation. This is in line with research conducted by (Trinh et al, 2012)<sup>18</sup> learning theory TPB assessed effectively be a useful model to explain physical activity in patients with cancer of kidney, development interventions physical activity based on TPB effective in promoting physical activity in patients with cancer of kidney and can be important in the improvement of health. It can be concluded that the attitude toward the behavior, subjective norm and perceived behavior control influential in predicting the behavior of people with diabetes to comply with therapy DM.

## CONCLUSION

- 1) The first hypothesis test results showed that the attitude toward the behavior, subjective norm and perceived behavior control simultaneously significant influence on treatment adherence behavior with DM.
- 2) The second hypothesis test results showed that the attitude toward the behavior significantly in people with diabetes to comply with therapy DM
- 3) The third hypothesis results showed that significantly subjective norm no significant effect on the behavior of people with diabetes to comply with therapy DM.
- 4) The fourth hypothesis test results show that perceived behavior control is significantly no significant effect on the behavior of people with diabetes to comply with therapy DM.
- 5) From the test results are determinan coefficient Adjusted R<sup>2</sup> = 0.444, or 44.4%, this means that the variations in treatment adherence (Y), which can be explained by the regression equation was 44.4% influenced attitude toward the behavior, subjective norm and perceived behavior control while the rest of 55.6% is influenced by other variables that are outside the equation.

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