

PROMOTING SELF CARE BEHAVIOUR IN DIABETES TYPE 2 BASED ON LEVINE'S CONSERVATION MODEL

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ABSTRACT

Introduction: Diabetes type 2 is chronic disease which is needed long term treatment, so the patient need self management education to prevent the complications. Self management will be effective if patients have knowledge, skills and self care behaviour. One of the nursing model theory is Myra E. Levine conservation model. This model is oriented towards energy conservation, structural integrity, personal integrity and social integrity. The objectives of the research are the influence of health education based on levine's conservation to self care behaviour in diabetes type 2. **Method:** This research is quasi experiment research with non randomized control group pretest posttest design. The treatment group given treatment, and the control group don't give treatment. **Results:** The result of the research indicates that there are significant difference of self care behaviour between treatment group and control group that effect of applying health education based on levine's conservation. Result of t test independent test at the self care behavior t value 25,790 ($p = 0.000$). **Discussion:** The conclusion is the application of health education based on levine's conservation has significant impact in improving the self care behaviour of patients with type 2 diabetes, because Levine Conservation affect the way people think (cognitive), feeling (affective), motivational, and selection of the behavior of the selected treatment by individuals.

Key words: *levine's conservation, self care behaviour, dm type 2*

INTRODUCTION

Diabetes Mellitus (DM) is a group of metabolic illness which categorized as the higher level of glucose in blood (hyperglycemia) because of the secretion disorder of insulin, insulin process disorder, or the combination of both (ADA, 2010). The result from many epidemiology researches showed the tendency of increasing incident and DM's prevalence type 2 in all over the worlds.

National prevalence of Diabetes Mellitus is 1,1%. East java is included to the highest prevalence of DM above the national prevalence. It also shows the tendency of be 10th grades of illness with the most visitation frequency of sentinel health care center in east java at the period of 2010 – 2012. Jombang is one of the regency in east java which suffered the 15th grades of Diabetes Mellitus with the most cases especially in 2013 and 2014 for about 16.380 cases (public health Office Jombang, 2014). The health care center in Perak Jombang has many sufferer Diabetes which called paguyuban diabetes (*Diabetes association*)". The total cases of Diabetes Mellitus in Perak's health care service in 2014

are 559 cases (health department of Jombang, 2015).

The diabetes association was held on august 26th 2015. The historical of it was held because there are many sufferers Diabetes Mellitus who have the worst blood sugar control, up to 200 mg/dl for the blood sugar indicators time. The education of patient and his/ her family is aimed to give more understanding about the historical of DM, prevention, information, and the implementation of DM, will be helpful to increase the contribution of family in the process of better result management. The existence of sufferer Diabetes like PERKENI, PERSADIA, PEDI and others are become very important, because this association support the knowledge of DM about its and increased their active role in the treatment modification (PERKENI, 2011).

One of the nursing models that already improved in the nursing assistance is a conservation model which is improved by Mira E. Levine. It is oriented to energy conservation, structural integrity, personal integrity, and social integrity, which is focused on ability

improvement of client to adapt increase the ability of the client to be able to adapt as much as possible to achieve optimal quality of life, Conservation model approach which is pioneered by Myra Estrin Levine appropriate to improve Self Care Behavior patients, thus optimal diabetes management.

The main concept of the model consists of wholism Levine (overall/integration), adaptation and conservation. Healthy wholism (overall) is something which is organic, change / progress, mutual benefit between the different functions and parts in the body, open and interact each other with the surrounding environment. Conservation model allows the nurse can help the individual achieve his integrity. This model provides guidance on how the relationship between the nurse - client by focusing on the influence and promote the integrity of the client's response to the client through the principle of conservation. Interventions to maintain the integrity of the network, energy conservation, personal integrity and psychosocial.

METHOD

This research is a quasi experimental research design Nonequivalent Control Group Design or Non-Randomized Control Group Pretest-Posttest Design, ie quasi experiment by dividing the existing group and the control group without differentiating significantly while still referring to existing natural form (Notoatmodjo, 2012).

The population in this study were all patients with type 2 diabetes who registered as members of the association of diabetes in Perak healthy care center's Jombang as many as 38. Based on the formula, the samples are the analytical numeric paired of samples obtained 16 respondents for each group.

The variables in this study consisted of two variables, namely the independent variable (free) and the dependent variable (dependent). The independent variable in this study is a Levine Conservation's model application. And the dependent variable is Self Care Behavior. This research instrument is SDSCA (Summary of Diabetes Self Care Activities). The study was conducted in two stages, by allocating the sample into two groups (treatment group and the control group). Furthermore, researchers carry out pre-test Self Care Behavior in the treatment group and the control group.

Then, Researchers used posttest in the treatment group and the control group. Then, the data is collected used analyzed and processed. Activity in processing the data include: checking the data (editing), coding (coding), and collating data (tabulating).

RESULTS

Based on Table 1 it can be seen that the Self Care Behavior of respondents in the experimental group before the intervention, the vast majority are in the medium category, are 9 respondents (56.3). After the implementation of the intervention, the Self Care Behavior respondents increased, the majority of respondents, 8 (50%) had levels of Self Care Behavior in the high category.

Table 1 : Self Care Behavior of respondents in the experimental group

No	Self Care Behaviour Level	treatment			
		Pre test		Post test	
		Σ	%	Σ	%
1	Very Low	-	-	-	-
2	Low	5	31,2	-	-
3	Moderate	9	56,3	6	37,5
3	High	2	12,5	8	50
4	Very high	-	-	2	12,5
Total		16	100	16	100

In table 2, the Self Care Behavior of respondents is the control group. Most of the pre-test during in a category is moderate those are 9 respondents (56.3%). Meanwhile, when the post-test, the majority of the Self Care Behavior respondents were in high category as many as 15 respondents (93,8 %).

Table 2 : Self Care Behaviour level to the control group

No	Self Care Behaviour	Kontrol			
		Pre Test		Post test	
		Σ	%	Σ	%
1	Very low	-	-	-	-
2	Low	4	25	-	-
3	Moderate	9	56,3	15	93,8
3	High	3	18,8	1	6,2
4	Very high	-	-	-	-
Total		16	100	16	100

In Table 3 it can be seen that the increase of Self Care Behavior which is occurred in the treatment group was higher than in the control group, the increase in the average value of Self Care Behavior in the treatment

group was 19 compared to the control group which only amounted to 0.15.

Table 3. The difference of Self Care Behaviour to the experimental group and control group.

No	Variable	Mean		Mean Difference
		Early	End	
1	Self Care Behaviour to the experimental group	106	125	19
2	Self Care Behaviour to the control group	106,7	106,9	0,15

Based on table 4, obtained the results of paired t test in the differences treatment of group before intervention Self Care Behavior with after the intervention. The test results paired t test in the control group found no difference Self Care Behavior in pre test and post test. Where negative values in the t test showed that the pre-test value is lower than the value of post test.

Table 4 Result test of Paired t Test Self Care Behaviour to the experimental group and control group

No	groups	Self efficacy	t	p
1	Experimental	Pre test	-	0,000
		Post test	8,061	
2	Control	Pre test	-	0,960
		Post test	0,051	

While based on table 5 it can be seen results of t test independent of the variable Self Care Behavior between treatment and control groups Self Care Behavior. There were differences significant between the treatment group and the control group. A positive value indicates that the value of the t Self Care Behavior treatment group is higher than in the control group.

Table 5 The result t Test Independent Self Care Behaviour to the treatment group and control group

No	Variabel	t	p	df
1	Self Care Behaviour treatment group	25,055	0,000	30
2	Self Care Behaviour control group			

DISCUSSION

The results showed that the Self Care Behavior in the treatment group experienced an increase after the intervention (Conservation Levine). Levine Conservation Model focuses on the individual as holistic beings that interact with the environment. The results also show that there are different levels of Self Care Behavior in both groups during the pre-test that is lower in the treatment group than in the control group. It is related to the difference predisposing factors which is owned by the two groups, namely the difference duration of illness and income levels in both groups, the average length of hospital in the control group longer and the average income is greater than in the treatment group. This difference makes the Self Care Behavior differences between the two groups during the pre-test.

In addition a higher income level also contributed to the Self Care Behavior because they would have the economic resources to gain access the health services. On the other hand, the treatment group, the number of male respondents less than in the control group, so it affects the Self Care Behavior differences in both groups. This is according to research from Mystakidou (2010) men have Self Care Behavior higher than in women.

Improved Self Care Behavior that occurs in the control group, although it is lower than in the treatment group due to the control group also received health education in health centers. Therefore, it will contribute the Behavior of patients in the control group. Because according to the research results Falvo in Atak (2010) which states that health education can increase a person's Self Care Behavior.

During the activities of Diabetes patients association in the treatment group receive health education in a more structured, is the implementation of Conservation Levine. With the implementation of Conservation Levine the patient will undergo a gradual learning process which is divided into four phases. So the difference in the increase of Self Care Behavior in both groups due to differences in the way of health education implementation. In which the treatment group receive health education by using the concept of conservation Levine while the control group only receive health education as was done in the health care center.

CONCLUSION

Nurses can apply levine's conservation in conducting health education to patients with type 2 diabetes that will further improve the management of diabetes independently by the patient and family. Advanced research in a longer period of time, such as longitudinal studies or randomized controlled trials with larger sample can be carried out to evaluate the effect of conservation levine on Self Care Behavior of patients with type 2 diabetes in-depth advanced research can be done to evaluate other factors the effect on self-efficacy, such as: internal factors and external of the patient, such as: demographic factors and ethnicity of patient, type of personality, quality of social support and others.

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