

# Brief Counseling Effect on Behavioral Behavior, Adherences Adequacy, Results of Therapy and Quality of Patients Diabetes Mellitus With Hipertensi Outpatient in Jember Provide Clinical Processing

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## **Abstract**

*Diabetes Mellitus (DM) is a chronic disease whose prevalence increases. If the DM is not addressed properly will appear a variety of complications that affect the quality of life of patients. The presence of hypertension in DM disease increases the risk of heart disease, stroke, increases peripheral vascular resistance, albuminuria and renal injury. Non-compliance is one of the key factors that impede blood pressure control and blood sugar levels, requiring counseling interventions that are expected to change behavior, improve adherence to medication so that it can achieve blood pressure and blood sugar levels as well as improve the quality of life of patients. The purpose of this study was to determine the effect of brief counseling on the behavior, adherence of medication adherence, treatment outcomes, and quality of life of DM patients with outpatient hypertension at Jember Clinic Plantation Hospital. This research was conducted with experimental quasi design with prospective data taking outpatient during March-April 2018 period. Subjects who fulfilled inclusion criteria of 69 DM patients with hypertension were divided into two groups: 35 patients (50.72%) who received counseling as treatment group and 34 patients (49.28%) who did not receive counseling as a control group. Exclusion criteria are patients with conditions of pregnancy and deafness. The data were collected by conducting interviews based on the brief counseling procedure and completing the behavioral questionnaire, adherence compliance using the Morisky Modification Adherence Scale (MMAS) questionnaire and quality of life using the SF-36 questionnaire. Blood pressure data and blood sugar levels were taken from medical record records. This type of research is analytic with Quasi experimental research design. Results of the study using wilcoxon test to analyze differences in behavioral level, adherence adherence taking medication, blood pressure, Blood Sugar Occasionally (BSO) and patient life quality showed briefing counseling by counselor can change counselee behavior in treatment group (38.00%). Drug adherence adherence was increased in the treatment group (62%), the blood pressure in the treatment group did not decrease significantly ( $p > 0.05$ ) in both systolic and diastolic blood pressure and at a decrease in blood glucose (BSO) there is a significant difference that is marked with a value of  $p < 0.05$ , while the results of quality of life study also experienced a significant change marked with the value of  $p < 0.05$  that is in the general health domain ( $p = 0.090$ ), physical role ( $p = 0.05$ ), the role of emotion ( $p = 0.039$ ) and vitality ( $p = 0.022$ ), whereas in the domain of social function, mental health, physical function and pain did not change significantly. Based on the results of this study it can be concluded that the brief counseling therapy can be in DM patients with hypertension can change behavior, improve adherence compliance of patients to take medicine, decrease blood glucose (BSO) and improve quality of life in general health domain, the role of emotion and vitality in DM patients with hypertension.*

**Keywords:** *Diabetes Mellitus, hypertension, oral pharmacist counseling, adherence behavior level, adherence, therapy result, quality of life*

## **I. INTRODUCTION**

Diabetes Mellitus (DM) is a chronic disease that requires ongoing medical therapy. In the case of diagnosis it is stated that the disease is growing not only in the number of cases but in terms of diagnosis and therapy. From various studies, there is a tendency to increase the prevalence of DM both in the world and in Indonesia (Rachmawati et al., 2007). In cases of degenerative diseases, DM is ranked number four after cardiovascular disease, cerebrovascular, and geriatric diseases (Krisnatutidan Yehrina, 2008). Epidemiological studies, estimates that by 2030 the prevalence of DM in Indonesia reaches 21.3 million people. Basic Health Research (Riskesdas) in 2007, showed that the DM ranked 6th, that is 5.8%, while in the rank number 2 of 14.7% there are urban areas at the age of 45- 54 years the proportion of causes of death due to DM and rural areas, various complications of DM will occur if the DM is not addressed properly, such as neuropathy, nephropathy, retinopathy, hyperlipid, foot ulcer, and infection. These complications affect the quality of life of diabetic patients. Proper management of DM disease includes physical exercise, diet and other lifestyle changes as well as drug therapy (Palaian et al., 2006). The risk of cardiovascular disease including abnormalities of lipid metabolism, platelet function, and clotting factors is one of the risks of patients with DM (Epstein and Sowers, 1992). The number of DM patients with hypertension is currently increasing. Ibrahim (2010) in his research at the endocrinology clinic of Universiti Sains Malaysia Hospital (HUSM) showed that the majority of DM patients had hypertension (92.7%). One of the factors associated with the development of hypertension disease in DM is diabetic nephropathy. Disease DM with

hypertension increases the risk of heart disease, peripheral vascular disease, stroke (Yang et al., 2011). The presence of hypertension in DM patients also increases peripheral vascular resistance (Epstein and Sowers, 1992). One of the risk factors for DM and hypertension is cardiovascular mortality not only in the general population but also in specific groups, this will be a serious problem worldwide. Hypertension patients had a higher prevalence of albuminuria compared with normotensive and non-DM patients. The prevalence of albuminuria and renal injury was relatively higher in DM patients with hypertension compared with DM patients without hypertension (Yang et al., 2011). The risk of DM and hypertension is also a risk of stroke. Based on WHO data The cause of death number three in the world is Stroke. In developing countries the average incidence of stroke is 150 people per 100,000 population each year and the stroke associated with death ranges from 50 to 100 people per 100,000 population. DM disease increases the relative risk of stroke by up to 6-fold and hypertension increases up to 4-fold (Jozwiak et al., 2005).

WHO states that non-adherence to therapy is a key factor that impedes control of blood sugar and blood pressure levels requiring interventions to improve treatment adherence. The causes of poor adherence are complex, including the complexity of drug regimens, drug costs, age, low social support, and cognitive problems (Sabate, 2003), so a more comprehensive and intensive approach is needed to achieve optimal blood glucose and blood pressure control. Results of the study conducted by Ibrahim et al (2010) of 998 patients suffering from diabetes mellitus with hypertension, 601 patients (55.8%) of patients had not reached the therapeutic target. Therapeutic targets are influenced by patient compliance, lifestyle and other risk factors. Compliance based on knowledge delivery and awareness raising through counseling will be better than coercion or pressure (Notoatmodjo, 2010). The active participation of healthcare professionals who carry out their professional practice at every place of health care is indispensable for achieve that goal. Pharmacists can work with physicians to educate patients about DM and hypertension, monitor patient responses through community pharmacists, adherence to drug and nonobst therapy, detect and identify early adverse reactions, and prevent and / or resolve drug-related problems (MOH, 2007). Health practitioners in handling DM and Hypertension patients can use intervention method with counseling method approach. Counseling is aimed at improving therapeutic outcomes by maximizing the use of appropriate medications (Rantucci, 1997). One of the benefits of counseling is to improve patient compliance in drug use, so mortality and losses (both cost and productivity loss) can be suppressed (Palaian et al., 2006). An easy technique for counseling is brief counseling outlined in the 5A strategy, Assess, Advise, Agree, Assist, and Arrange. Short counseling has several advantages: time efficiency and more practical as there is an assessment of the patient's condition (Valliset et al., 2013).

Knowledge of DM with hypertension given to patients during counseling will form the rationale for making decisions about diet, exercise, weight control, blood glucose control, blood pressure control, drug use, foot and eye care, and control of macrovascular risk factors (Murata et al., 2003). Numerous studies have suggested the provision of patient education on DM and Hypertension and the treatment of their diseases, so the possibility of controlling their disease is greater (Ellis et al., 2004). Provision of education in DM patients with hypertension aims to optimize metabolic control, improve quality of life, influence behavior and produce changes in knowledge, attitudes and behaviors necessary to maintain or improve health (Falvo, 2004; Snoek and Visser, 2003). Based on the above, it is necessary to conduct research to see the effect of brief counseling on behavior change adherence, medication adherence, treatment outcomes and quality of life in DM patients with hypertension at Jember Clinic Plantation Hospital.

## II. RESEARCH METHOD

The type of this study was analytical using questionnaires and medical records of patients with experimental Quasi research design. This research was conducted at RS Perkebunan Jember Klinik period March-April 2018. Data were collected through interview using brief counseling procedure in treatment group and without brief counseling in control group by using questionnaire pre test and post test technique with brief counseling procedure and without procedure brief briefing. Data were collected from 70 DM patients with hypertension. Data collection with prospective outpatient of RS Jember Clinic Plantation Hospital. Result of research by using wilcoxon test

## III. RESULT

### I. Assessment of Initial Data

Preliminary research data is needed to look at samples from control groups and groups before intervening. Short counseling that has similarities or differences. Initial data for both groups should be the same in order to be used clearly. To see the initial false data, comparative pre-study data between groups and treatment groups (Table 4.1)

Table 1. Preliminary data for control and treatment groups (Mean  $\pm$  SD)

Preliminary data (pre)	Control group	Treatment group	P
Domain behavior is adherence:			
a. Cognitif	2,46 ± 1,01	2,79 ± 0,64	0,123
b. Affective	1,83 ± 1,18	1,73 ± 1,02	0,578
c. Psychomotor	0,89 ± 1,21	0,44 ± 0,93	0,150
Drug compliance	6,12 ± 1,75	5,85 ± 1,91	0,693
systolic TD	136,29 ± 21,71	139,41 ± 17,74	0,493
Diastolic TD	82,57 ± 9,50	86,18 ± 11,81	0,220
BSO	196,11 ± 106,85	192,50 ± 5,49	0,606
Domain quality of life:			
a. Public health	62,29 ± 13,48	59,19 ± 11,82	0,192
b. Physical function	79,00 ± 19,55	87,21 ± 10,67	0,170
c. Physical role	59,29 ± 40,71	55,88 ± 34,85	0,760
d. Pain	75,36 ± 30,69	63,24 ± 32,12	0,102
e. The role of emotion	69,52 ± 39,08	64,71 ± 27,14	0,302
f. Social function	80,79 ± 24,00	83,18 ± 20,94	0,822
g. Vitality	68,36 ± 15,96	73,24 ± 12,36	0,119
h. Mental health	82,74 ± 11,43	83,18 ± 13,17	0,693

Description: p is the value of significance

Based on preliminary research results, behavioral variables consisting of cognitive, affective and psychomotor domains, medication adherence, systolic blood pressure, diastolic, BSO and quality of life consisting of general health domain, physical function, physical role, pain, role, emotion, social functions, vitality and mental health of the control and treatment groups has a significant difference ( $p > 0.05$ ). It can be concluded that the initial state of the control group and the treatment group are the same.

## 2. Assessment of Behavior

Behavior is a response or a person's reaction to stimulus (stimuli from the outside). This human behavior occurs through the process of the stimulus of the organism and then the organism responds, the Skinner's theory is called the SOR theory or (Stimulus-Organism-Response) whereas health behavior is a response to a stimulus associated with illness or illness and service system health, (Notoatmodjo, 2012).

Results Analysis of differences in patient behavior level of Control Group can be seen in table 4.2

Table 2. Analysis of differences in patient behavior level

Behavior Level	Brief counseling				p-value
	Pre		Post		
	n	%	n	%	
Precontemplation	4	12	0	0	0,000
Contemplation	21	61	0	0	
Preparation	6	17	21	74	
Action	3	9	13	26	
amount	34	100	34	100	

Results Analysis of differences in patient behavior level Treatment groups can be seen in table 4.3

Table 3. Analysis of differences in patient behavior level

Behavior Level	Brief counseling				p-value
	Pre		Post		
	n	%	n	%	
Precontemplation	9	26	8	10	0.014
Contemplation	14	40	9	26	
Preparation	8	23	9	26	

Action	4	11	9	38
amount	35	100	35	100

Based on the results of the research in table 4.3 above can be seen that the value of p-value 0,000 <0.05, this indicates that there are differences in the level of patient behavior after a brief counseling. The highest level of behavior before the introduction of brief counseling was found in the Precontemplation stage of 9 respondents (26%), 9 respondents (26%) in the Contemplation stage, while at the time of the briefing counseling the highest level of behavior was in the action stage of 9 respondents 38%).

**At the end of the study, the percentage of behavior at the DM patient level with treatment group hypertension (38.00%) was greater than control (26.00%) (Table 4).**

Table 4. Levels of patient's adherence behavior at the beginning and end of the study

	Group	Behavior Level							
		Precontemplatio		Contemplation		Preparation		Action	
		n							
		N	%	N	%	N	%	N	%
Control (N=34)	Pre	4	12	21	61,00	6	17	3	9,00
	Post	0	0	0	0	21	74,00	13	26,00
Treatment (N=35)	Pre	9	26,00	9	26,00	8	23,00	4	11,00
	Post	8	23,00	14	40,00	9	26,00	9	38,00

These results suggest that counseling in DM patients with hypertension may alter the patient's adherence behavior level to the stage of action in which the patient has changed behavior and must retain the behavior to reach the maintenance stage.

### 3. Assessment of Drug Adherence Adherence Compliance

Drug compliance plays an important role in achieving the success of therapy, especially for chronic diseases such as DM with hypertension. Drugs given for chronic diseases are often many not only in terms of species but also in numbers. In addition, the drug should also be taken continuously because the goal of treatment for diabetes mellitus with hypertension not only lowers blood sugar and blood pressure but also to control it. Low understanding leads to low adherence to patient medication which is one of the causes of low blood sugar and blood pressure control. Various reasons that cause patients to be incompetent in the use of drugs as stated by Shankie (2001), that factors that affect patient non-adherence to taking medication are a lack of understanding of patients about the disease and therapeutic goals to prevent further complications of the disease. In addition, health workers such as doctors, nurses, or pharmacists also often do not ask about the patient's habits in taking medication, this is very likely due to the limited number of health workers so they do not have enough time to do so. One way to assess the adherence of DM patients with hypertension is to use a morisky medication adherence scale (MMAS) questionnaire.

Behavior of the subject in treatment may affect the success of therapy for chronic diseases such as DM with hypertension. With the knowledge base gained, good behavior in such patients will last a long time. Alfian (2013) states that poor knowledge in patients can lead to poor patient behavior in therapy, which will then affect some aspects such as not achieving therapeutic targets. The behavioral change starts from the cognitive patient where the patient initially does not know to know, then affective is where the patient initially did not want to be wanted and the last psychomotor is where the patient initially did not act to act. The explanation of the above behavioral changes shows that the patient's knowledge of DM with hypertension plays an important role in realizing good behavior in therapy. Given the knowledge on which the patient is based to behave, it is hoped that the patient will not only take action on the basis of the doctor's order or other health personnel but the knowledge of the patient will be the basis for wishing and acting.

From the results of the assessment of the questionnaire of the behavior of adherence, the level of patient behavior can be distinguished into four, namely preemplacation (no correct answer for the three questions in each domain), contemplation (all true answers for cognitive domains), preparation (true answer all for domain cognitive and affective) and action (all right answers to all three domains). The research conducted by Busari et al. (2010) was to assess the cognitive, affective, and psychomotor domains of patients using questionnaires with open-ended questions. Another study used to assess behavior against hypertension therapy was performed by Sabouhi et al. (2010) using a questionnaire whose contents were divided into three domains: cognitive, affective, and psychomotor. The results obtained in the Adherence Adherence Assessment Drug Assessment in the control group can be seen in Table 5.

Table 5. Analysis of adherence compliance differences in control group patients

Adherence Compliance	Brief counseling				p-value
	Pre		Post		
	n	%	n	%	
Low	14	41	0	0	0,000
Medium	12	35	13	38	
High	8	26	10	29	
Amount	34	100	34	100	

And the results obtained on Adherence Adherence Assessment of taking medication in the treatment group can be seen in Table 6

Table 6. Analysis of adherent adherence compliance differences in treatment groups

Adherence Compliance	Brief counseling				p-value
	Pre		Post		
	n	%	n	%	
Low	15	43	10	16	0.014
Medium	14	40	15	22	
High	6	17	10	62	
Amount	35	100	35	100	

Table 7. Percentage of compliance level Adherence of control groups and treatment groups

Group	Level compliance						
	Low Compliance		Medium Compliance		High Compliance		
	N	%	N	%	N	%	
Control (N=34)	Pre	14	41	12	35	8	26
	Post	0	0	13	38	10	29
Treatment (N=35)	Pre	15	43	14	40	6	17
	Post	10	16	15	22	10	62

#### 4. Assessment of Blood Pressure Therapy Results Systolic, Diastolic and BSO (Blood Sugar from time to time)

Therapy results in the form of blood pressure and controlled Blood Sugar Occasionally to measure the success of therapy in patients with hypertension DM. Research conducted by Ibrahim et al., Uncontrolled blood pressure and Blood Sugar Occasionally will lead to complications of DM with further hypertension such as heart disease, peripheral vascular disease, renal failure (Yang et al., 2011) and stroke (Jozwiak et al., 2005). The result of Systolic Blood Pressure Assessment of Patients in Control Group can be seen in table 8.

Table 8. Analysis of differences in systolic blood pressure of patients

Systolic TD	Brief counseling				p-value
	Pre		Post		
	n	%	n	%	
Normal	7	21	9	26	0,727
High	27	80	25	74	
Amount	34	100	34	100	

Results of Systolic Blood Pressure Assessment Patients in the treatment group can be seen in table 9.

Table 9. Analysis of differences in systolic blood pressure of patients

Systolic TD	Brief counseling				p-value
	Pre		Post		
	n	%	n	%	
Normal	11	31	8	23	0,375
High	24	69	27	77	

Amount	35	100	35	100	
Results of Diastolic Blood Pressure Assessment Patients in the control group can be seen in table 10					
Table 10 Analysis of differences in patient diastolic blood pressure					
Diastole TD	Brief counseling				p-value
	Pre		Post		
	n	%	n	%	
Normal	7	20	8	24	1,000
High	27	80	26	76	
Amount	34	100	34	100	

The results of Diastolic Blood Pressure Assessment Patients in the treatment group can be seen in table 11

Table 11 Analysis of differences in patient diastolic blood pressure

Diastole TD	Brief counseling				p-value
	Pre		Post		
	n	%	n	%	
Normal	5	14	4	11	1.000
High	30	86	31	89	
Amount	35	100	35	100	

Blood Sugar Occasionally or Blood Sugar At any time is the result of measurement of glucose level at that time without fasting first. The distribution of data and results of the analysis of differences in patient's Blood Sugar Occasionally before and after drug administration in the control group can be seen in table 12.

Table 12 Analysis of differences in patient's BSO in the control group

BSO	Brief counseling				p-value
	Pre		Post		
	n	%	n	%	
Low	4	19	3	9	0,405
Normal	9	26	3	9	
High	21	61	28	81	
Amount	34	100	34	100	

The result of the difference of Blood Sugar Occasionally Patients before and after Brief Counseling in the treatment group can be seen in table 13

Table 13 Analysis of differences in patient's BSO in the treatment group

BSO	Brief counseling				p-value
	Pre		Post		
	n	%	n	%	
Low	3	9	1	3	0.021
Normal	7	20	8	47	
High	25	71	26	50	
Amount	35	100	35	100	

### 5. Assessment Of Quality Of Life (Quality Of Life)

The presence of complications in DM disease will affect the quality of life of patients. Quality Of Life (QOL) can be defined as a welfare state that is a combination of two components of the ability to perform daily activities (which reflect physical, psychological, and social well-being) and patient satisfaction at the level of disease function and control (Gotay et al. 1992). QOL measurements provide a significant role in assessing the patient's healing rate. QOL measurements are used as a valid indicator to determine whether the treatment is beneficial or not. QOL measurements can be performed on specific individuals and population groups. Studying patient quality can help improve therapeutic quality and therapeutic goals (Spilker, 1996). Significantly different SF-36 scores between control and treatment only occurred in the general health domain, pain, vitality, and mental health as seen in table 14. Table 14 Analysis of differences Quality of life before (Pre) and post (Post) on drug administration in the control group

No	Average Life Quality	Average Pre	Average Post	Difference	p-value
1	Health General	58,78	69,57	10,79	0,000

2	Physical Role	55,88	57,35	1,47	0,317
3	The Role of Emotions	64,35	67,26	2,91	0,083
4	Social Functions	83	89	6	0,018
5	Vitality	73,23	91,83	18,6	0,000
6	Mental health	83,17	92,23	9,06	0,000
7	Physical Function	87,29	88,52	1,23	0,102
8	Pain	63,18	62,15	1,03	0,538

The quality of life in the study was assessed from 8 points: general health, physical role, emotional role, social function, vitality, mental health, physical function and myeri. The results of the research on the treatment group can be seen in table 15

*Table 15 Analysis of differences Quality of life before and after brief counseling*

No	Average Life Quality	Average Pre	Average Post	Difference	p-value
1	Health General	62,25	64,90	2,65	0,090
2	Physical Role	57,14	61,42	4,28	0,059
3	The Role of Emotions	63,68	69,4	5,72	0,039
4	Social Functions	80,65	82,05	1,4	0,141
5	Vitality	68,3	71,34	3,04	0,022
6	Mental health	82,02	84,11	2,09	0,167
7	Physical Function	79	79	0	1,000
8	Pain	75,36	70,37	4,99	0,314

#### IV. DISCUSSION

##### 1. Assessment of Initial Data

Initial data of the study are needed to look at examples of groups and groups before reaching verbal counseling from pharmacists have averages or differences. Initial data for both groups should be the same in order to be clearly visible. Differences in Behavior Levels before and after brief counseling of patients from the provision of counseling interventions to treatment groups. To see the description of preliminary data, a comparative test of pre-study data between the control group and the treatment group (Table 4.1) was performed. Based on preliminary research results, behavioral level variables consisting of cognitive, affective and psychomotor domains, medication adherence, systolic blood pressure, diastolic, Blood Sugar Occasionally, and quality of life consisting of general health domain, physical function, physical role, pain, emotional role, social function, vitality, and mental health as well as control group and treatment group had no significant difference ( $p > 0,05$ ). It can be concluded that the initial condition of the control group and the treatment group is the same so it is desirable if there is a difference between the control group and the treatment group after the intervention is due to intervention not because of the difference in the initial state.

##### 2. Assessment of Behavior

From the results of the assessment of the questionnaire of the behavior of adherence, the level of patient behavior can be distinguished into four, namely preemplacation (no correct answer for the three questions in each domain), contemplation (all true answers for cognitive domains), preparation (true answer all for domain cognitive and affective) and action (all right answers to all three domains). The research conducted by Busari et al. (2010) was to assess the cognitive, affective, and psychomotor domains of patients using questionnaires with open-ended questions. Another study used to assess behavior against hypertension therapy was performed by Sabouhi et al. (2010) using a questionnaire whose contents were divided into three domains: cognitive, affective, and psychomotor. Behavior of the subject in treatment may affect the success of therapy for chronic diseases such as DM with hypertension. With the knowledge base gained, good behavior in such patients will last a long time. Alfian (2013) states that poor knowledge in patients can lead to poor patient behavior in therapy, which will then affect some aspects such as not achieving therapeutic targets. The behavioral change starts from the cognitive patient where the patient initially does not know to know, then affective is where the patient initially did not want to be wanted and the last psychomotor is where the patient initially did not act to act. The explanation of the above behavioral changes shows that the patient's knowledge of DM with hypertension plays an important role in realizing good behavior in therapy. Given the knowledge that the patient base to behave expected the patient not only perform actions on the basis of orders of doctors or other health personnel but the existence of knowledge possessed patients will be the basis for desire and act three domains of cognitive, affective, and psikomotorik.

From the results of the assessment of the questionnaire of the behavior of adherence, the level of patient behavior can be distinguished into four, namely preemplacation (no correct answer for the three questions in each domain),

contemplation (all true answers for cognitive domains), preparation (true answer all for domain cognitive and affective) and action (all right answers to all three domains). The research conducted by Busari et al. (2010) was to assess the cognitive, affective, and psychomotor domains of patients using questionnaires with open-ended questions. Another study used to assess behavior against hypertension therapy was performed by Sabouhi et al. (2010) using a questionnaire whose contents were divided into three domains: cognitive, affective, and psychomotor. At the end of the study, the percentage of behavior at the DM patient level with treatment group hypertension (38.00%) was greater than control (26.00%) (Table 4.16). These results suggest that counseling in DM patients with hypertension may change the patient's behavioral level to the stage of action where the patient has changed behavior and must maintain good behavior to achieve the maintenance stage. The control group also experienced a change in the level of preparatory behavior in 21 respondents (74%) as seen in Table 4.16. The behavioral changes that occur in the control group may be due to compulsion or pressure. It is explained that actions or behaviors that are not based on knowledge and consciousness can not last long (Notoatmodjo, 2010). In table 4:16 it can be seen that the treatment group after being given Brief Counseling experienced a percentage increase in cognitive domain from 9 respondents (26%) to 14 respondents (40%). This happens because counseling provided by the counselor is able to increase the patient's knowledge to the maximum. While the control group is likely to receive information from the clinician who handles the patient or other media such as from advertisements, newspapers, health counseling, and other sources of information that have not been able to improve cognitive patients maximally with respondents 21 (61%).

Brief counseling given by health practitioners to the treatment group so that most of the research subjects changed into preparation or action. Changes in behavioral levels in the treatment group are due to counseling provided by health practitioners able to assist the counselee in identifying desired changes. The involvement of counselors' assistance in addressing priorities for finding solutions rather than addressing problems or problems, assuming that what we say most will be what we produce. Talk about the problem will produce the next problem. Talking about changes will result in a change. The counselee learns to use the resources and strengths to achieve the ultimate goal of therapy. (Nicholas and Schwartz).

The knowledge given when counseling pharmacists to the counselee is not just to provide information about the disease and therapy received by the counselee but also to raise awareness so as to change the behavior of the counselee to a better stage, especially the stage of action. While counseling on the counsel who is in the stage of action provide motivation to the counselee to maintain the position. Knowledge based on trust and awareness will change attitudes that continue to change behavior and the result of behavioral change will last long (Kholid, 2012).

### **3. Assessment of Drug Adherence Adherence Compliance**

Drug compliance plays an important role in achieving the success of therapy, especially for chronic diseases such as DM with hypertension. Drugs given for chronic diseases are often many not only in terms of species but also in numbers. In addition, the drug should also be taken continuously because the goal of treatment for diabetes mellitus with hypertension not only lowers blood sugar and blood pressure but also to control it. Low understanding leads to low adherence to patient medication which is one of the causes of low blood sugar and blood pressure control. Various reasons that cause patients to be incompetent in the use of drugs as stated by Shankie (2001), that factors that affect patient non-adherence to taking medication are a lack of understanding of patients about the disease and therapeutic goals to prevent further complications of the disease. In addition, health workers such as doctors, nurses, or pharmacists also often do not ask about the patient's habits in taking medication, this is very likely due to the limited number of health workers so they do not have enough time to do so. One way to assess the adherence of DM patients with hypertension is to use a morisky medication adherence scale (MMAS) questionnaire. The MMAS questionnaire is a more practical and valid approach to identifying low adherence in chronic treatment regimens in outpatients. The MMAS questionnaire provides information on habits related to low compliance such as accidental (eg negligence or forgetting to take medication), deliberately (not taking medication when the pain is worsening or improving), and lack of knowledge about the disease and its treatment goals (Alfian, 2013).

Adherence to treatment regimens is generally defined broadly to describe how patients use prescribed medications. The concept of adherence is often used in chronic diseases. There are three important terms to describe patient compliance, namely compliance, adherence, and concordance. The concept of adherence is preferred by many health workers because compliance gives the impression that patients follow passive doctor's orders and treatment plans are determined unilaterally by doctors. Adherence compliance of patients in taking medication on penicillin this is seen from the interview using a compliance questionnaire Morisky Medication Adherence Scale (MMAS). Based on the results of the research in Table 4.6 it is known that the p-value 0.000 < 0,05 indicates that there is difference of adherence compliance level of the patient in taking the medicine after

the brief counseling. Most respondents had low adherence compliance before briefing counseling, and at the time after briefing counseling most of the respondents had high adherence adherence compliance rates.

At the end of the study, the percentage of patients with high adherence in the treatment group (62%) was greater than control (29.00%) (Table 4.17.). These results suggest that counseling of DM patients with hypertension has a positive effect on improving patient adherence in the treatment group. This is in line with research conducted by Biradar et al., (2012) which states that counseling interventions given by pharmacists can improve patient compliance. Another study conducted by Palanisamy and Sumathy (2009) showed an increase in adherence from 0% to 95.4% after patients received counseling from pharmacists.

The increase in MMAS percentage in the control group is likely due to information, pressure, or coercion from the clinician who handles the patient or information from other media such as from advertisement, newspaper, health counseling, and other information sources so that the increase is not as large as the treatment group. Meanwhile, the treatment group received counseling from the Counselor that was deemed to be reliable and valid so that the percentage improvement of MMAS was greater than the control group.

This suggests that a pharmacist intervention in the form of oral counseling in the treatment group may improve patient adherence in taking medication. In line with the results of the above study, a study conducted by Neto et al., (2011) also stated that counseling performed by pharmacists in elderly patients with DM with hypertension was able to improve pharmacotherapy compliance in taking medication as measured by Morisky Green Test.

The approach to assessing medication adherence using MMAS is a more practical and valid approach to identifying low adherence in chronic treatment regimens in outpatients (Alfian, 2013). Low adherence is a challenge for clinicians and pharmacists to decide on a more effective treatment strategy. If pharmacists have the ability to identify patients with low adherence, appropriate interventions may be appropriate and appropriate to improve patient compliance in medication management (Alfian, 2013). Counseling from pharmacists is expected to improve patient understanding of the disease and its treatment so that therapeutic goals can be achieved (Shankie, 2001; Morisky et al., 2008).

#### **4. Assessment of Blood Pressure Therapy and Blood Sugar Occasionally**

##### **4.1 Blood Pressure Therapy Results**

Systolic blood pressure is the maximum blood pressure or upper number that shows the amount of blood pressure in the arteries when our heart is contracting, while diastolic blood pressure is the lower or lower blood pressure that shows the amount of blood pressure in the arteries when our heart is resting.

Uncontrolled blood pressure and Blood Sugar Occasionally will lead to complications of DM with further hypertension such as heart disease, peripheral vascular disease, renal failure (Yang et al., 2011) and stroke (Jozwiak et al., 2005). Based on the results of data analysis above showed no difference in systolic blood pressure before and after brief counseling in patients with p-value  $0.375 > 0.05$ . Based on the results of the analysis showed no difference in diastole blood pressure before and after brief counseling in patients with p-value  $0.375 > 0.05$ .

Result of Diastolic Blood Pressure Assessment Patient in control group that is Distribution of data and result of analysis of diastolic blood pressure difference before and after brief counseling can be seen in table 4.21 Based on result of data analysis in table 4:21 above show there is no difference of diastole blood pressure before and after brief counseling in patients with a p-value of  $1,000 > 0.05$ . The high rate of Systole and Diastole blood pressure even though Brief Counseling has been given due to too close the time or distance of measurement, so that the drug has not worked maximally, the healthy lifestyle of the counselee has not really been done considering the least time observation Researchers a week resulted in blood pressure not decreased .

##### **4.2. Blood Sugar Therapy Results At a Time (Blood Sugar Occasionally)**

Blood Sugar Therapy Blood Sugar Therapy Blood Sugar Therapy or Blood Sugar at any time is the result of measurement of glucose levels at that time without fasting first. Based on the result of data analysis in table 4:23 above shows there are difference of BSO before and after brief counseling in patient with p-value value  $0,021 < 0,05$  From Table 5.3 it can be seen that in the treatment group decreased mean of BSO post research significantly  $p < 0.05$  and also the mean decrease in treatment group was significantly different from the control group. In the control group, a decrease in BSO but not significant this is likely due to patients only taking the drug as usual. As for the treatment group using drugs and given counseling by pharmacists to maximize the outcome of therapy. Some things that cause blood sugar to rise, ie lack of exercise, increased amount of food consumed, increased

stress and emotional factors, weight gain and age, and the impact of treatment of drugs, such as steroids (Fox and Kilvert, 2010).

### 5. *Assessment quality of life*

The presence of complications in DM disease will affect the quality of life of patients. Quality of life (QOL) can be defined as a welfare state that is a combination of two components of the ability to perform daily activities (which reflect physical, psychological, and social well-being) and patient satisfaction at the level of disease function and control (Gotay et al. 1992).

QOL measurements provide a significant role in assessing the patient's healing rate. QOL measurements are used as a valid indicator to determine whether the treatment is beneficial or not. QOL measurements can be performed on specific individuals and population groups. Studying patient quality can help improve therapeutic quality and therapeutic goals (Spilker, 1996).

Domains on SF-36 experienced an increase in mean value in post-studies in the control group differing significantly in social, physical, emotional role, as shown in Table 5.4 The increase in the control group is likely to occur due to information from the clinician handling such patients as well as from other media such as from advertisements, newspapers, health counseling, and other information sources, so as to control the social, physical and emotional role

The domains of SF-36 experienced an increase in mean value in post-study in different treatment groups significantly occurring in General Health function, Physical role, emotional role, vitality as shown in Table 4:25, highest improvement analysis result after Brief counseling therapy occurred in dimension the role of fission with an average difference of 5.72 points with questions about how much the feelings and emotions affect the work or routine activities, the next highest increase in the magnitude is pain with point 4.28 with questions about how the role and physical activity of the counselee can affect the work and routine activities, meaning that by providing counseling therapy can improve the quality of life by lowering the limitation of daily activities because of physical problems that can affect work and routine activities.

All domains in SF-36 experienced an increase in mean value in post-study both control group and treatment differ significantly occurred in physical role and emotional role as shown in table 4:24 and 4:25 tables.

## V. CONCLUSION

### *Conclusion gained based on research result*

1. Brief counseling given by the health counselor is able to give a positive effect on behavior change to the stage of action that is the stage where the patient has changed the behavior and must maintain the good behavior to reach the maintenance stage into treatment group (38,00%) DM patient with hypertension care roads at Jember Clinical Plantation Hospital in Period March 2018.
2. Brief counseling given is able to give positive effect to drug adherence by changing medication group treatment compliance (62,00%) DM patient with outpatient hypertension at Hospital Jember Clinic in March 2018 period.
3. Brief counseling given The counselor is not able to give positive effect on the decrease of blood pressure both systolic and diastolic but in BSO showed the decrease number after given brief counseling treatment, DM patient with outpatient hypertension in Hospital Jember Clinic in March 2018 period.
4. Brief counseling given The counselor is able to give a positive effect on the quality of life by showing a significant difference  $P < 0.05$  on General Health function domain, Physical role, emotional role, vitality of treatment group in DM patients with outpatient hypertension in Polyclinic Disease In RS Jember Clinic Plantation period March 2018

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