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THE EFFECTIVENESS OF SELF HELP GROUP THERAPY TO TYPE 2 DIABETIC WOMEN WITH COMORBID DEPRESSION

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The International Diabetes Federation report indicates that the prevalence of diabetes has reached epidemic levels globally. Comorbid depression often occurs with diabetes, although often not recognized and did not get therapy. The prevalence of depression in women with diabetes is higher than men. Ironically, treatment of depression seems less attention. The self help group therapy is expected to be one form of diabetes management more holistically. This study aim is to identify the effectiveness of group of self help therapy to type 2 diabetic women with comorbid depression. This research is a quasi-experimental study with untreated control group design with pre-test and post-test study. Research subjects were women with type 2 diabetes in public health center Yogyakarta, Indonesia; Aged over 18 who meet the inclusion and exclusion criteria totaling 65 people. The results of this study showed the prevalence of depression in this study is 64,7%. Statistical analysis of the influence of self help group therapy between treatment and control groups showed there were significant differences in changes in Becks Depression Inventory score (p=0.001), and the changes in fasting blood glucose (p=0.002). While the changes in cholesterol levels found no significant difference (p=0.207). Contingency table analysis showed the influence of self help group therapy with improvement of depression with a value of relative risk = 2.08 in the determination of cut-off value of Beck Depression Inventory depression scores < 10 (p=0.003). The results from multivariate analysis showed that variable influences in changing depression scores is self help group therapy (p=0.008). Self help group therapy improves depression and reducing fasting blood glucose levels of type 2 diabetic woman with comorbid depression. Self help group therapy reduces depression 2-fold.

Keywords: Diabetes mellitus type 2, Depression, Self help group

1. INTRODUCTION

Reports from the International Diabetes Federation (IDF) indicated that the prevalence of diabetes has reached epidemic levels globally (IDF, 2009). The prevalence of diabetes for all ages in the world an estimated 2.8% in 2000 and 4.4% in 2030. The total number of people with diabetes is projected in all countries in the world in 2000, approximately 171 million people and is expected in 2030 will increase to 366 million. In Southeast Asia, especially in Indonesia the total number of people with diabetes in 2000 reached 8.4 million, and in 2030 was estimated at 21.3 million. Indonesia was ranked fourth in the number of people whom suffered from diabetes after India, China and America (Wild et al 2004).

Depression is a common problem in people with diabetes that needs attention. Comorbid depression often occurs with diabetes although it is often not recognized and does not get treatment

in 2/3 of patients with these conditions (Katon, 2008). A systematic review found that the prevalence of depression was significantly higher among patients with type 2 diabetes (17.6%) than those without diabetes (9.8%) (Ali et al 2006).

Female gender is associated with depression in type 2 diabetes (Gary et al 2000; Sahota et al 2008). A meta-analysis reported a combined prevalence of depression was significantly higher in women with type 2 diabetes than men with type 2 diabetes (De Groot et al 2001). According to (Li et al 2009), the prevalence of depression among women with diabetes (23.8%) is higher than the prevalence of depression among men with diabetes (12.8%). These conditions suggest that women with type 2 diabetes deserve clinical attention more holistically.

The impact of interaction of depression in people with diabetes studied quite extensively in a wide range of studies. Depression among people with diabetes associated with poor glycemic control either diabetes type 1 or type 2 (Lustman et al 2000), the value of HbA1C which persistent high (Wagner et al 2009), poor adherence to medication, diet, and exercise (Gonzales et al 2008; Gonzales et al 2009; Cramer et al 2004; Lin et al 2004). Comorbid depression in people with diabetes is associated with increasing number and severity of symptoms and complications of diabetes (Katon et al 2005). A meta-analysis showed clinically meaningful relationship between depression and various complications such as retinopathy, nephropathy, neuropathy, macro vascular complications of sexual dysfunction and the effect size from small to medium range. These results showed a significant association between complications of diabetes and it's consistent with the symptoms of depression (De Groot et al 2001).

Disturbances in the control of lipid levels can be caused due to depression, is associated with physical inactivity, unhealthy diet and poor adherence to lipid-lowering treatments (Lin et al 2004). Results from National Health and Nutrition Examination Survey studies indicate people with diabetes with depression have a 54% greater mortality compared with individuals without depression (Zhang et al 2005) and increased risk of death from any cause increased 36% -38% in a period of 2 years (Katon et al 2008).

Ironically treatment of depression in people with diabetes seems having less attention as compared to other diabetes complications. Lack of attention to these conditions is not supposed to be happened; furthermore the depression is associated with various complications of diabetes and death. Evidence suggests that the recognition and treatment of depression is less than ideal and particularly in primary care settings where most patients get diabetes care (Egede 2007).

Self Help Group (SHG), also known as mutual help, mutual aid, or support group is a group of people who provide peer support. In the self help group, every member share their problems related to their health problem. Their common goal is helping each other to cope with, if possible cure or restore of the problems they faced (Ahmadi 2007; Magura et al 2003). In the self help group every members share each physical and emotional problems or specific issues. Self help group is a form of group therapy that can be done in a variety of situations and conditions, consisting of two or more people who have similar problems to share experiences and ways to overcome the problems encountered (Keliatt et al 2007). Self help group is expected to be one of therapy in diabetes management more holistically. This study aim is to identify the effectiveness of self help group therapy to type 2 diabetic women with comorbid depression.

2. RESEARCH METHODOLOGY

This study is a quasi-experimental research with the untreated control group design with pre-test and post-test study. Subjects were women with type 2 diabetes over the age of 18 year old who conduct routine examination in primary health center in Yogyakarta, Indonesia. Assessment of

depression using Beck Depression Inventory (BDI) instruments. Research subjects who meet the inclusion criteria (aged > 18 year old with type 2 diabetes, BDI score >10, follow self help group theraphy, not consuming psychiatric drug) were asked to complete informed consent. The exclusion criteria are pregnant, suffering from severe complication related to their diabetes. Examination of height, weight, blood pressure, fasting blood sugar and total cholesterol levels in the beginning of research in both groups. Independent variable is self help group therapy and dependent variables are depression score, fasting blood glucose and total cholesterol. The treatment group received self help group therapy 4 times, each with interval of 1 week. Whereas the control group did not receive self help group therapy. To improve the compliance of research subjects in attending this event, each patient was asked to fill out a self-help group's schedule of activities that have been made and agreed upon, also carried out by phone checking or home visit. Post-test data capture at the end of the study, including the changing in depression scores, fasting blood glucose and total cholesterol in both groups. Based on the calculation formula samples to test two hypotheses mean using a 5% significance level ($Z\alpha$ = 1.960) and test the power of research by 80% ($Z\beta$ = 0.842) obtained the number of samples for each group is 25 people. The treatment group totaling 26 people and control groups totaling 25 people can complete the full stages of research. Samples selected from the diabetes patient data from primary health care Sedayu I and Kasihan 2 Yogyakarta, Indonesia, using purposive sampling technique.

3. RESULT AND DISCUSSIONS

3.1. Demographic information

The demographic characteristics of the subject of the treatment group and the control group can be seen in table 1, whereas the characteristic basic data of research subjects presented in table 2.

Table1: Demographic characteristics of research subjects

Variable	SHG (n =26)	Control (n = 25)	*P*
Age (mean)	55,11	58,28	0,165
Marital status (%)	73	64	0,555
Educated (%)	81	88	0.703
Household (%)	58	68	0,447

Table 2: Basic data of research subjects

Variable	SHG (n =26)	Control (n = 25)	*P*
Length of diabetes (Year)	3,74±4,13	6,68±5,05	0,022
Weight (Kg)	56,31±10,39	59,32±10,54	0,320
Height (Cm)	149,73±4,28	154,44±5,86	0,002

Obese (%)	54	13	0,447
Hypertension (%)	65	56	0,493
Length of hypertension (Year)	2,96±3,59	2,61±4,81	0,240
Systolic blood pressure (mmHg)	138,85±17,33	132,8±12,32	0,001
Diastolic blood pressure (mmHg)	86,92±12,89	81,80±12,32	0,001

3.2.   The effectiveness of self-help group therapy

The results of the pre-test analysis of BDI scores, fasting blood glucose and total cholesterol between the two groups showed no significant difference. After self-help group intervention there is a change in depression score, fasting blood glucose which was statistically significant whereas cholesterol levels were not statistically significant. Detailed data is presented in table 3.

Table 3: Value of depression score, fasting blood glucose, and cholesterol before and after treatment

Variable	SHG (n =26)	Control (n = 25)	*95% CI*	*P*
Depression Score				
Pre-test	15,92±4,15	16,92±5,94	0,753-1	0,880
Post-test	8,96±7,92	16,64±7,59		
Delta	9,58±4,58	5,72±4,90	1,188-6,526	0,001
Fasting Blood Glucose				
Pre-test	185,54±104,32	156,80±70,35	0,137-0,503	0,320
Post-test	143,12±59,10	167,12±64,16		
Delta	16,56±83,58	10,32±65,84	0,000-0,0117	0,002
Cholesterol total level				
Pre-test	219,50±46,71	219,96±51,56	0,615-0,918	0,713
Post-test	215,92±35,92	217,44±46,76		
Delta	3,57±28,95	2,52±27,73	-14,909-17,023	0,895

Intervention of self help group therapy to depression improvement is shown in the contingency table in table 4. From the analysis can be concluded if the group of type 2 diabetic

woman who do not get self help group therapy will increase 2 times the risk of depression compared to those treated with self help group therapy.

Table 4: The effectiveness of self help group therapy

	BDI Score ≥10	BDI Score < 10	*p*	*RR*	*95% CI*
Control	20	5	0,003	2,08	1,231-3,513
SHG	10	16			

Multivariate analysis as shown in table 5 shows that the only variable influencing the changes in depression scores therapy is the intervention of self help group therapy. This means that the change in depression score is only affected by self help group therapy after seeing the other variables in the analysis model.

Table 5: Multivariate analysis

Variable	Coefficient	P value
SHG therapy	-7,061	0,008
Age	0,750	0,602
Length of diabetes	0,003	0,904
History of hypertension	0,316	0,901

From the results of the study showed that the prevalence of women with diabetes with comorbid depression amounted to 64.7%. This prevalence is higher than other studies which have reported that the prevalence of depression in patients with diabetes mellitus ranged from 3.8% to 49.5% (Lustman et al 2000; Kruse et al 2003).

Characteristics of subjects with type 2 diabetes mellitus with comorbid depression in this study is dominated by obese women, married, educated, household, and hypertension. This condition according to the study (Fischer et al 2001) mention that the psychosocial factors that influence the prevalence of depression were women, racial minorities, unmarried, middle age, low social status.

According to the degree of depression based BDI depression scores in this study, the proportion of study subjects before treatment is dominated by the degree of mild depression that is equal to 74.5%, while the degree of moderate depression was 23.5% and the severe of only 2%. There are approximately 40% of women with diabetes experience a depressive episode in the life of this condition is higher if compared to men only 20% (Lustman et al 2004).

This study aim is to proof the effectiveness of self help group as one of non-pharmacotherapy towards improvement in symptoms of depression and other metabolic conditions (blood glucose and total cholesterol) in women with diabetes with comorbid depression. In this study, self help group therapy is given to the treatment group appeared to have an influence on

comorbid symptoms of depression that occurs on the subject of treatment. Self help group therapy is a new concept. Self help group profits compared to other models that include the provision of assistance from one patient to another, social support, strengthening of individual autonomy and self-determination. It can be defined as an organization that has the same problem or who have the same disease, which can share experiences about their problems and discuss it. Self help group can provide socio-psychological support (Chaveepojnkamjorn et al 2009). Social environments or family is the primary mediator of psychosocial to adapt to chronic diseases and health care (Anderson et al 2005).

The results showed that an improvement in fasting blood glucose levels in subjects receiving treatment self help group compared with the control group. These results are consistent with other research on the effects of self help group in men aged persons with diabetes. From these studies proof that the group that received therapy self help group for 18 meetings proved to have improvement of better glucose tolerance when compared to controls, lower depression and increased knowledge and quality of life (Gilden et al 1992). While research (Simmons 1992), the subject of the study patients with diabetes who attend meeting of self help group 2 times or more in one year proved to have a significant reduction in HbA1c levels.

In this study, the results were not statistically significant in reducing total cholesterol levels compared to controls. It may occur due to the short frequency and short duration of self help group therapy. It is also because lack of record in some details the circumstances that may affect the results of the research including diet, daily physical activity and sport.

4. CONCLUSIONS

Self help group therapy effects on improvement of depression and reduction in fasting blood glucose level in type 2 diabetic woman with comorbid depression. Women with type 2 diabetes who do not get self help group therapy will increase 2 times risk of depression compared to those getting self help group therapy.

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