Relationship of Family Support Towards Self-Management and Quality of Life of Patients with Type 2 Diabetes Mellitus

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Abstract

DM disease will be suffered for life, so the patient is expected to establish self-management behavior in managing the disease. Self-management behavior in patient tends to decline with increasing complications perceived by patients. The presence of social support one of important factors to improve adherence of self-management Diabetes patients. The purpose of this study was to assess the relationship of social support towards self-management and the quality of life in DM patients in Bandung. This research used correlational approach with purposive technique sampling. Numbers of respondent were taken from the region of 10 Puskesmas with highest DM in Bandung on 92 patients who came to Puskesmas. The questionnaires used were Hensarling Diabetes Family Support Scale (HDFSS), Summary of Diabetes Self-management Activities Measure (SDSCA) and SF-36. The analysis used analysis using frequency distribution, and Spearman-rho. Most respondents (51.1%) had social support below the group median. Most respondents (50%) had a quality of life below the group median. Most respondents (52.2%) had DM self-management behavior below the group median. Bivariate results showed no relationship between social support support and self-management and quality of life of respondents (p value = 0.801). There is no significant relationship between social support and self-management and quality of life. Therefore, the studies are expected to be recommendations of this study was integrate nursing care to improve self-management and quality of life of DM patients.

Keywords: Diabetes mellitus, quality of life, self-management, social support.

Introduction

Along with technological advances in the world of health, there has been a shifting disease pattern in the world. One of them is the number of diseases caused by lifestyle is growing more compared with the infectious diseases or other diseases. One of the diseases caused by lifestyle is Diabetes Mellitus. Based on data of WHO in 2010, the amount of DM patients in the world was 8.4 million people and Indonesia was ranked at the fourth largest number of DM patients in the world (WHO, 2010). Epidemiologically, WHO estimated that by 2030 the prevalence of DM in Indonesia will be reaching 21.3 million people (Ministry of Health Republic of Indonesia, 2011). Based on data of the International Diabetic Federation (IDF) in 2011, Indonesia was ranked at the 9th largest number in the world. The Results of Basic Health Research (Riskesdas) in 2013 conveyed that the prevalence of DM patients tended to be higher in urban than in rural area. Based on data of Riskesdas (2013) West Java Province was ranked at the 12th in Indonesia with the prevalence of 2% (Riskesdas, 2013). In Bandung, in 2010 the prevalence of DM disease reached 2% (Health Profile Public Health Agency of West Java Province, 2010). Every year the data of DM patients in Indonesia not only experiences an increase in its prevalence but also its morbidity. According to WHO (2014), Diabetes mellitus was the third disease that caused death and required palliative care. Diabetes mellitus (DM) is a metabolic disease characterized by elevated levels of blood glucose (hyperglycemia) occurs over a long period, due to insulin secretion abnormalities, insulin work, or either (ADA, 2013). DM disease will be suffered for life by the patient, therefore the patient is expected to establish self-management behavior in managing the disease.

The ability of DM patients in implementing self-care is influenced by internal and external factors (Orem, 2001). Internal factors can be influenced by individuals such as knowledge, self-efficacy, spiritual, while external factors are influenced by environments such as social support (Sonsona, 2014). Intensive family support was able to improve self-management behavior of type 2 DM patients hence increased the motivational factor of Latino women who suffered from DM to have exercise (Choi, 2009), decrease HbA1C (Barrera, Toobert, & Strycker, 2014) that ultimately affected the control of blood sugar and improved the quality of life of patients with type 2 DM (Isworo & Saryono, 2010; Yusra, 2011; Tamara, Bayhakki & Nauli, 2014; Rahmawati, Setiawati, & Solehati, 2015). Research King et al. (2010), revealed that better social support will result in better persistence of self-management. Complying with a series of self-management actions that will last a lifetime is basically a big challenge and not an easy thing to do, feelings of bored that causes DM patients no longer discipline self-management actions so that family support is needed to help the patient has the ability to remain maintaining self-management measures at an effective level in managing DM (Luthfa, Lukman, & Sari, 2016; Gao et al., 2013).

Support from the family can increase motivation and prevent stress in people with type 2 diabetes mellitus (Antari et al., 2011), improve adherence to diet (Fauzia, Sari, & Artini, 2013) and can improve self-management behavior persistence (Huang et al., 2014) that will ultimately affect blood sugar control and improve the quality of life of DM patients (Wahyuni & Anna, 2014; Yusra, 2011). In contrast to research conducted by Hasanat (2015) and Yin Xu et al. (2008) which states that there is no relationship between family support with self-management in patients with DM. Handayani research (2012) states that the support of awards and information has no effect because the patient feels his own knowledge so that reject the information provided by the family. Similarly, Rosland et al. (2008) found no association of family support with medication adherence, diet, physical activity, and foot care. The purpose of this study was to assess the relationship between family support towards self-management and the quality of life of DM patients in Bandung.

Method

This research design was a descriptive

correlational study with a population of Diabetes patients registered in the 10 highest health centers in the city of Bandung those were Pasundan, Babakan Sari, Ramdan, Sarijadi, Arcamanik, Pasir Kaliki, Garuda, Ibrahim Adjie, Babakan Surabaya, and Ujung Berung. Researcher was collect data from a list of diabetes patients in the Puskesmas. The technique used non probability sampling. The inclusion criteria of respondents were 1) age more than 15 years old. The number of 92 samples were type 2 Diabetes Mellitus who came to Puskesmas. Number of samples is taken using the Slovin formula with an error rate of 10%.

This study used 4 questionnaires. First, the questionnaire of Demographics Data of patients and families which was made by the researchers. Demographic data consist of general characteristics and health characteristics. Second, family support variables using Hensarling Diabetes Family Support Scale (HDFSS). This questionnaires consists of 25 statements with the answer of choice always, often, rarely and never include about infomational support, award support, emotional support and instrumental support. Third, self-management using modification of instrument of Summary of Diabetes Self-management Activities Measure (SDSCA) (Toobert, Hampson & Glasgow, 2000) and DSMI . Self-management Diabetes mellitus questionnaires consist of 29 statements with answer choices always, often, rarely, never. The questionnaire covered 5 domains: exercise, diet, health care control, and blood sugar checks. Fourth, the quality of life using the quality of life for DM patient instrument from SF-36. SF-36 questionnaire consists of 11 statements with a choice of answers always, every so often, sometimes, once in a while, never which consist of health conditions, physical activity, social activities and pain. The three questionnaires have been tested for validity and reliability.

Data processing was done by descriptive and inferential. Descriptive data analysis was used to process the patients and family demographic data, family support, self-management of DM patients, and the quality of life. The data were presented in the form of Median and Quartile. Inferential analysis was used to identify the relationship of family support towards self-management DM patients and the quality of life by using Spearman-rho analysis.

All the respondents in the study got explanation both verbally and in writing about this research. The respondents' willingness were considered by a written or verbal statement by them. Researchers had ensured that participation in the study was voluntary and they can take off participating at any time without negative consequences. The contact information of the researchers (telephone and address) was given to the research subject. All information was kept confidential. The results of the study were reported in groups and only for academic purposes. There was no hazard to participate in this research.

Result

Table 1 Respondents' Characteristics

Variable	N	%
Puskesmas (Public Health Center		
Pasundan	5	5.4
Babakan Sari	8	8.7
M. Ramdan	13	14.1
Sarijadi	10	10.9
Arcamanik	8	8.7
Pasirkaliki	11	12
Garuda	9	9.8
Ibrahim Adjie	6	6.5
Babakan Surabaya	12	13
Ujung Berung	10	10.9

Age		
40–50 years old	53	57.6
60–69 years old	39	42.4
Gender		
Male	27	29.3
Female	65	70.7
Marital Status		
Not yet married (single)	3	3.3
Married	69	75
Widow/Widower	20	21.7
Ethnic		
Sundanese	78	84.8
Javanese	14	15.2
Occupation		
House wife	60	71.7
Labor	10	10.9
Civil Employees	4	4.3
Private employees	4	4.3
Enterpriser	3	4.3
Other	3	4.3
Education		
Unschooling	1	1.1
Elementary school	36	39.1
Junior high school	28	30.4
Senior high school	22	23.9
University	5	5.4

Table 2 Respondents' Clinical Characteristics

Variable	n	%
Duration of Diabetes		
Less than 3 years	55	59.8
More than 3 years	37	40.2
Complaints after taking the medicine		
Yes	22	23.9
No	70	76.1
Smoking		
Never	66	71.7
Ever	10	10.9
Still	18	17.4
Activity		
Working	31	33.6
Doing household chores	61	66.3

Exercise/Sport		
Never	26	58.3
Walking	59	64.1
Running	1	1.1
Gymnastic	6	6.5
Diet		
Regular	59	64
Irregular	33	35.9
Control to hospital		
Regular	13	14.1
Irregular	79	87.8
Co-morbid		
Yes	54	58.7
No	38	41.3
BMI		
Thin	11	12
Normal	56	60.9
Overweight	20	21.7
Obese	5	5.4

Tabel 3 Mean, Standard Deviation and Self-management Level of DM and the Quality of Life of DM Patients

Variable	Min-Max Score	Mean	SD	Below Median		Above Median	
				f	%	f	%
Self-management	31–108	80.29	12.11	48	52.2	44	47.8
Quality of Life	72–111	91.23	7.31	46	50	46	50
Family Support	88–263	173.97	48.63	47	51.1	45	48.9

Table 4 The Results of Bivariate Analysis

Subvariabel	Self-management		Quality of Life	
	Correlation coefficient	p-value	Correlation coefficient	p-value
Social Support	0.27	0.801	0.27	0.801

From the table above, it can be seen that the sample was dominated at the age of 40–59 years (57.6%) with female gender (70.7%), Sundanese (84.8%), married status (75%), occupation as the housewives (71.7%), elementary school education (39.1%).

From the table above can be obtained that the clinical data of respondents who had suffered DM less than 36 months (55%), with no complaints after taking medicine (76.1%), did not smoke (71.7%), did the household chores (66.3%), had a walk for sport (64.1%), had regular diet (64.1%), controlled to doctors/hospital irregularly (87.8%), had no co-morbid disease than DM (58.7%) and got a Normal BMI (60.9%).

From the table above, most respondents (51.1%) had social support below the group median. Most respondents (50%) had a quality of life below the group median. Most respondents (52.2%) had DM self-management behavior below the group median. Bivariate results showed no relationship between social support and self-management and quality of life of respondents (p value = 0.801).

Discussion

The Relationship of Family Support with Self-management of DM Patients

Family support is the help given by other family members so it will provide physical and psychological comfort for people who faced the stressful situations (Taylor, 2006). The process of family support will occur during the lifetime, with the nature and type of social supports varying in each stage of the family life cycle. However, in all stages of the life cycle, family social support allows the family to fully function and can improve adaptation to family health (Friedman, 2010). Several studies have shown a relationship of family support to self-management of DM patients. In this study did not prove it. This is similar to the Hasanat study (2015) and Hidayati (2017), that family support has no contribution with self-management DM. According to Shumaker & Hill (in Hasanat, 2015), a too deep family support can cause stress if the support given in the form of control or rule, in addition, will benefit the emergence of healthy behavior, but it also can provoke stress to the patients so that affected on the self-management. According to Xu et al (2008), that family support has no relationship with self-management. However, family support will be indirectly influenced by the patient's own convictions in order to perform self-management well (Xu et al, 2008). In another study of 164 participants with DM, Rosland et al. (2008) found no relationship of family support with medication adherence, diet, physical activity, and foot care due to factors such as family characteristics and family culture itself thus influenced self-management in African-Americans. Similarly, Gallant's study (2003) found no strong relationship between support with pharmacotherapy adherence and monitoring glucose levels due to lack of family knowledge and understanding that sometimes limiting them to help with the emotional support that would be a barrier to self-management activities of people with chronic disease.

From the analysis of family support to self-management, there is no relationship between the two sub variables due to internal factors such as gender. In this study more are women who do not work. From the results of family support analysis of self-management, there is no relationship between the two sub variables due to internal factors such as sex and employment background. In this study more are women who do not work. In addition it is of the duration of DM felt by the patient. Most of the respondents are those who have DM duration less than 3 years.

In accordance with Huang, Zhao, Li, and Jiang, (2014) that family support can increase the persistence of self-management behavior. The supports given could be material and spiritual supports that will reduce psychological stress, relieve tension, improve social adaptability and patients will be more determined to fight the disease. In patients who have been diagnosed with DM, the participation of other family members in guiding medication, diet, physical exercise and positive spare time for family's health are the active roles for the success of DM self-management.

Along with the time, the family is the largest resource for DM patients' self-management at home. The family in its function as the primary caregiver provides continuous care that is needed deliberately over time (Luthfa, Lukman, & Sari, 2016). Regardless of the type of chronic illness experienced, the family is challenged to try helping family members who diagnosed with DM in order to stay healthy, to prevent additional complications, to incorporate changes in physical and mental status in the role and function of the family, and to manage any complications or disabilities (Kaakinen, Hanson, & Denham, 2010).

The Relationship of Family Support with Quality of Life of DM patients

The results of this study, there is no relationship with between family support and quality of life on the respondents. It meant, different from the previous research. The greatest relation value was shown by Antari et al.'s study (2011) which stated there was a significant relationship between family support and quality of life of Type 2 DM patients (p-value = 0.000) with an influence contribution of 95.5%. While the results of Yusra's research (2011) stated that there was a relationship between family support and

quality of life Type 2 DM patients (p-value = 0.001, r = 0.703). According to Antari, Rasdini, and Triyani (2011), the social support was very helpful for people with type 2 diabetes to be able to increase confidence in their ability in doing self-management. From these results, family support has a negative impact on patients' quality of life. This could be because the patients are already independent and no longer need the family support. In addition, the assumptions of family support researchers are below the median due to many factors. Age, gender, education and health characteristics of respondents such as old DM, comorbid disease owned.

Conclusion

There is no significant relationship between social support and self-management and quality of life. the results of this study can be used as a basis for other research and integrated nursing care to improve self-management and quality of life of DM patients.

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