Self Regulation And Emotional Aspect Among Diabetes Mellitus Survivor

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Abstract. Diabetes mellitus survivor have to propose a long-life Diabetes Mellitus treatments regulation which may produce many emotional problems. Self regulation-related to the emotional problem is one of the problem. This study purpose was to explain the correlation between self regulation and emotional aspect among Diabetes Mellitus survivor. The design of this study was a correlational with cross-sectional approach. Population of this study were all Diabetes Mellitus survivors in Public Health Services (Puskesmas) of North Ponorogo within 31 survivors as the total sample. Quota sampling used as sampling technique. Results showed majority of the study participant with the high ability of self regulation did not experience a distress/slightly distress (15 people, 48.4%). About two survivor (6.4%) with low ability of self regulation also did not experience a distress/slightly distress. *Kolmogorov-Smirnov* analysis test result showed $p = 0.020 \leq \alpha$ (0.05), and thus may conclude that there was significant correlation between self regulation and emotional aspect among Diabetes Mellitus survivor. It is suggested to the health service provider establish an counselling session to the Diabetes Mellitus treatment regulation in order to assists and increases the self regulation and minimize the emotional problem among survivor.

Keywords: Self regulation, emotional aspect, Diabetes Mellitus

1. Introduction

Highly incidence rate of Diabetes Mellitus (DM) become one of serious problem in Indonesia (Sutandi, 2012). The acute and chronic complication of this silent disease also increase fatality. DM regulation in order to prevent the disease complication are including 5 standards: dietary planning, physical activity, medication, education and self monitoring of blood glucose level (Perkeni, 2015). All of this standards have to be complete trough the survivors life-span, sure the long way process may produce another problem on highly number of non-compliance incidence and hopelessness (Aini et al., 2011). Stress, depression, possibility of long-term complication, fearness of living with diabetes, loss of motivation on Diabetes treatment, apprehensive on the blood-glucose result and feel of bored become usual emotional problems experienced by DM survivors (Kusniawati, 2011). Having low self regulation become one of

the causing factor among all of this emotional problem. Self regulation here defined as self controlling ability (Schunk & Zimmerman, 1998)

The 2016 WHO Global Report on Khairani (2019) mention that 1.5 millions of global death in 2012 was caused by Diabetes Mellitus. The slightly increase of blood-glucose level above the upper limit also produce another 2.2 millions of this death number, with induce another risk of complication on cardiovascular system and other. Interestingly, the 43% of 3.7 millions of this global death happen before the patient achieve 70 years old. Moreover, this highly death percentage related with Diabetes were showed on the countries within low and middle economic income rather than highly economic income country. Indonesia become the 5th-world rank country with Diabetes survivor based on the 2012 WHO reports on Khairani (2019). Additionally, supported by the Indonesia Baseline Health Research (Riskesdas) (2018) that DM prevalence was 10.9 among Indonesian population age greater than or equal by 15 years old.

Zimmerman & Pons (1988) state about some predispose factors in self regulation, including individual factor, behavioral and environmental factor. Individual factors here known as personal knowledge. The better personal knowledge will help survivor to produce the better self regulation. Non-compliance of DM survivor to their treatment mostly caused by less knowledge about the disease prognosis, resulting a less self regulation or less control. Continuously state, the behavioral factor are including three steps: self-observation, self-assessment and self-reaction. The impact on negative self-observation and self-assessment will produce negative self-reaction. Environmental factor are including social influence and self experience. DM survivor who receive less social support and less experience on the treatment of DM will have low self regulation and control among themselves. Based on Bandura & Cervone (1986) self regulation component is ability to manage the emotion. Ormrod (2009) also stated the characteristic of person who had a good self regulation are they will be able to control the emotion, always doing self assessment or intentionally change their emotion if the emotion will resulting a contraproductive behavior. The person who had a good self regulation will be able to control their emotion, thus they will able to avoid the distress emotional during treatment.

Bandura (2005) mention that self regulation could be the best medication to the individual who want to be healthy. Individual may actively adapts to the environment as long as they are able to control their psychology process, including emotional aspect and behavior related to Diabetic self treatment. Having low self regulation should be improves in purpose the survivor are able to independently control themselves during the DM treatment. Hence, the correlation between self regulation and emotional aspect itself still be questioned.

2. Methods

The study design was correlational study with a cross-sectional approach. Study population were all Diabetes Mellitus survivor in Public Health Service (Puskesmas) of North Ponorogo within 31 person as the total sample. Quota sampling technique were used as sampling technique. Self regulation in this study was assessed using a modified instrument of Treatment Self-Regulation (TSRQ) for Diabetes by Williams et al. (1998). The emotional aspect was assessed using questionnaire of Diabetes Distress Scale (DDS) by Polonsky et al. (2005) and

using intrerpretation by Fisher et al. (2012). Data was analyzed using *Kolmogorov-Smirnov* test.

3. Results and Discussions

Table 1 Distribution frequency of demography in Puskesmas of North Ponorogo per June 6th to 22nd, 2017 (n=31)

Demography	Frequency	%
Gender		
Male	16	51,6
Female	15	48,4
Age (Years)		
35-40	2	6,5
41-46	2	6,5
47-52	9	29,0
53-58	7	22,6
59-64	7	22,6
65-70	4	12,9
Educational background		
No educational background	1	3,2
Elementary	9	29,0
Junior High School	8	25,8
Senior High School	7	22,6
College	6	19,4
Job		
Jobless	5	16,1
Government employees	7	22,6
Private employees	13	41,9
Other	6	19,4
Income		
< Rp. 1.388.900	25	80,6
$\geq$ Rp. 1.388.900	6	19,4

Source: 2017 primary data

Table 1 shows the majority of the respondent (51.6%) are male. Almost half of the participant's age (29%) are ranges between 47 to 52 years old, within elementary as the study participant's educational background. Majority are working as private employees (41.9%) and mostly (80.6%) producing monthly income less than Rp. 1.388.900.

Table 2 Distribution frequency of DM medical history at Puskesmas of North Ponorogo per June 6th-22nd, 2017 (n=31)

DM Medical History	Frequency	%
Period time experiencing the disease		
1-5 years	23	74,2
6-10 years	7	22,.6
>10 years	1	3,2
Complication		
Yes	16	51,6
No complication	15	48,4
Last checked blood glucose level		
< 200 mg/dL	12	38,7
≥ 200 mg/dL	17	54,8
Unknown	2	6,5

Source: 2017 primary source

Table 2 shows the majority of study participants (74.2%) are experience Diabetes Mellitus for 1 – 5 years. About half of the participant (51.6%) have another disease complication and majority (54.8%) had blood glucose level greater than or equal by 200 mg/dL on last time checked

Table 3 Cross tabulation on self regulation and emotional aspect using *Kolmogorov-Smirnov*

Variable		Emotional aspect			Total
		Non/slighlty distress	Moderate distress	Highly distress	
Self regulation	High	15 (48,4%)	2 (6,4%)	3 (9,7%)	20 (64,5%)
	Low	2 (6,4%)	6 (19,4%)	3 (9,7%)	11 (35,5%)
Total		17 (54,8%)	8 (25,8%)	6 (19,4%)	31 (100%)
Kolmogorov-Smirnov analysis results $p = 0,020$					

Table 3 shows almost half of the participant (15 person, 48.4%) within the high ability of self regulation experience non/slightly distress. Only two person (6.4%) within the low ability of self regulation experience non/slightly distress. *Kolmogorov-Smirnov* analysis result shows $p = 0.020 \leq \alpha$ (0.05), it may be conclude that there was significant correlation between self regulation and emotional aspect among Diabetes mellitus survivor.

Kolmogorov-Smirnov analysis test results shows there was correlation between self regulation and emotional aspect among DM survivor. The emotional problems previously known as usual problem happen among DM survivor. Stress, depression, possibility of long-term complication, fearness of living with diabetes, loss of motivation on the Diabetes treatment,

apprehensive on the blood-glucose result and feel of bored were the usual emotional problems experienced by DM survivors (Kusniawati, 2011).

Based on Shontz in Kusumadewi (2012), chronic-illness patients will be adapt to their disease through the four states of adaptation. 1) Shock, this state will raise up when the patients on the early knowing of the unwanted disease is positively acquire among themselves; 2) Encounter reaction, during this state the patients will shows a reaction to the emotional distress and shows the feeling of lose; 3) Retreat, the denial state of reality, usually patient will deny the reality and the stage of their disease; 4) Reoriented, in this state patient will take a look back the reality and impact of their disease to their life. Patient will start to modify their life target and re-thinking about the new way of life. Based on this theory, psychological adaptation of chronic-illness disease is dynamic, rarely happen on one state only. For some other patients the process also may repeatedly back, happen every of new life challenge, become the response of the lost and grieving. Moreover, to another patients these process may be missed.

Adaptation to the fluctuation of emotional were needed in order to set the succesful treatment program among Diabetes Mellitus survivors. The survivor will adapt to the disease condition and also acceptance on the treatment consequence (Kusniawati, 2011). Ormrod (2009) continously stated, a person who had the good character or ability of self regulation will able to control the emotion trough self assessment or they will intentionally change the feeling which may resulting a contraproductive behavior. Bandura & Cervone (1986) also state that self regulation component are including ability to control the emotion and motivation trough monitoring and modification of motivation and emotional reaction. High ability on self regulation will lowering the Diabetes Mellitus survivor distress level. It showed in the cross-tabulation results (Table 3) that almost half of the participant (48.4%) who had a high ability on self regulation experience non/slightly distress. This finding similar to the study by Santoso (2015), the positive significant relationship between self regulation and problem- related coping stress means that there are individual effort to encounter the stress. Personal control is one of the significant factor that influence person to deal with stress (Potter & Perry, 2010) in this case is the self regulation. Conclusion of this study, the higher ability of self regulation implement by the survivor, the more positive a person to cope with the stress and they will experience non/slightly distress.

A study was done by Al-Jufri & Ervina (2015) in Jember proven that there are significant effect between self regulation to the emotional maturity. Moreover, the emotional maturity also influence by personal self regulation. Self regulation here define as a process, dynamic motivational system from a person to manage and modify the thinking process, feeling, the needs, and action or behavior in stipulate, develop, measure, revise and adjust the specific life goals, to the highest target, including managing the response of emotional to some trigger (Apranadyanti, 2010). Which means, the higher self regulation will increase the emotional maturity. Amiril (2013) through his study specifically mention that self control was correlated with work-related stress. Emotional maturity also correlate with work-related stress. Together, the high ability of self controlling and emotional maturity will influence the personal level of stress.

4. Conclusions

Almost half of the study participant have a high ability of self regulation, and minority experience a moderate level of distress. There was a significant correlation between self regulation and emotional aspect among Diabetes Mellitus survivor.

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