Sapporo Medical Journal
Volume 55, Issue 10, October 2021

THE EFFECT OF THE FAMILY SUPPORT MODEL AND CONTROL CARD ON THE PRACTICE OF CONTROLLING THE RISK FACTORS OF NONCOMMUNICABLE DISEASES IN JAKARTA SELATAN

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Abstract— Currently, Non-Communicable Diseases (NCDs) are the main cause of death for 36 million (63%) of all deaths that occur in worldwide, of which around 29 million (80%) actually occur in developing countries (WHO, 2010). The increase in deaths due to NCDs in the future is projected to continue to occur by 15% (44 million deaths) with a time span between 2010 and 2020. The purpose of this study was to determine the effect of the family support model and control card for non-communicable disease risk factors (NCDs) as a media for health promotion on the practice of controlling NCDs risk factors.The research design used was a quasi-experimental design. The research location was in the South Jakarta area. The time of the research was August to October 2018. Sampling used purposive sampling technique. The average pre-test NCDs risk factor control practice in the intervention group increased after the intervention/health education (post-test) was given and there was also a significant change in risk factor control practice between the pre-test and post-test. The results of statistical tests obtained p value = 0.001 so it could be concluded that there was a change in the practice of controlling NCDs risk factors between the pre test and post test. Another factor related to the practice of controlling NCDs risk factors was the level of knowledge. Respondents who have good knowledge have 23 times the opportunity to carry out the practice of controlling NCDs risk factors compared to respondents who have a low level of knowledge. Suggestions for advocacy efforts to parties who can increase awareness of risk factor control practices with Installation of posters and distribution of leaflets, screening of promotional films.

Keywords: Family Support Model, Control Card, NCDs Risk Control.

1. Introduction

An epidemiological shift has occurred where previously the emphasis was more on infectious diseases that could cause outbreaks to health problems in a wider scope, namely Non-Communicable Diseases (NCDs), such as heart disease, hypertension, diabetes mellitus, cancer, etc. Shifts in disease patterns in society occur due to changes in lifestyle, improvement in social and economic conditions of the community as well as an increase in the wider reach of health services (Irwan, 2016). Non-communicable diseases cause the death of 40 million people every year or equivalent to 70% of deaths worldwide. Every year, 15 million people die from non-communicable diseases aged between 30 and 69 years. More than 80% of deaths due to NCDs occur in low- and middle-income countries. A total of 17.7 million people die each year from cardiovascular disease, followed by cancer (8.8 million), respiratory disease (3.9 million), and diabetes (1.6 million). These four disease groups account for more than 80% of all premature NCD deaths. Tobacco use, physical activity, use of alcohol and unhealthy foods increase the risk of death from NCDs (WHO, 2017).

In Indonesia, deaths due to NCDs in the period 1995-2007 increased from 41.7% to 59.5%. Basic Health Research in 2013 showed the prevalence of Stroke 12.1 per 1000, Coronary Heart Disease 1.5%, Heart Failure 0.3%, Diabetes Mellitus 6.9%, Kidney Failure 0.2%, Cancer 1.4 per 1000 , Chronic Obstructive Pulmonary Disease 3.7% and Injury 8.2%. In addition, the results of the study also showed a smoking prevalence of 36.3%, (divided into male smokers and female smokers) lack of physical activity 26.1%, less consumption of vegetables and fruits 93.6%, intake of foods that are at risk of NCDs such as sweet foods.

53.1%, 26.2% salty food, 40.7% high-fat food, 77.3% flavored food and 6.0% emotional mental disorder. general obesity 15.4%, and central obesity 26.6%. The increase in the prevalence of NCDs has an impact on increasing the burden of health financing that must be borne by the state and society. People with NCDs require relatively expensive costs, especially if their condition develops chronically and complications occur(Kemenkes RI, 2013b).

Prevention and control of risk factors is relatively cheaper when compared to the cost of treating NCDs. Control of NCDs risk factors is an effort to prevent risk factors from occurring for those who do not have risk factors, return the condition of NCDs risk factors to normal again and or prevent the occurrence of NCDs for those who have risk factors, then for those who already have NCDs, control aims to prevent complications, disability and premature death and improve quality of life(Kemenkes RI, 2014). One of the efficient and effective NCDs control strategies is to empower and increase community participation. The community is given facilities and guidance to participate in controlling NCDs risk factors by being equipped with the knowledge and skills to carry out early detection, monitoring of NCDs risk factors and follow up. This activity is called the Integrated Development Post (Posbindu) noncommunicable disease (Kemenkes RI, 2013a).

Efforts to increase public awareness about NCDs risk factors are not always carried out during NCDs Posbindu activities but can be carried out outside of NCDs Posbindu activities that can be carried out by nurses by providing support to families, especially clients who have risk factors for non-communicable diseases by providing education and assistance to clients and family in order to control the risk factors for NCDs (Sadock, 2017). In addition to provide family support for controlling NCDs risk factors for at-risk clients. It also needs to be supported by the media to be able to help control NCDs risk factors, namely the non-communicable risk factor control card. This control card will be very helpful to remember clients and families about what NCDs risk factors are in themselves, how the development of NCDs risk factor conditions from time to time. In addition, clients and families can learn the information on the card about what to do regarding the existing conditions.

Efforts to increase the community's ability to control risk factors have been carried out, including through health education to clients, families and communities about the risk factors for NCDs. However, this has not been effective in controlling the existing NCDS risk factors. For this reason, it is necessary to form a breakthrough to enable clients and the community to control NCDs risk factors, namely through the use of NCDs Control Cards accompanied by messages given to overcome or control risk factors.

2. Methods

The research design used in this study was a quasi-experimental pre-test and post-test design with control group which aims to see the effect of family support and control cards on controlling NCDs risk factors. Identification of clients who have risk factors for non-communicable diseases based on data obtained from visitors to Posbindu as an intervention group, after which a home visit was being carried out to conduct family health coaching the intervention group. Monitoring and evaluation of the implementation of NCDs risk factor control was being carried out for 6 weeks, where every 2 weeks a home visit was being carried out to monitor and evaluate and develop client health related to NCDs risk factor control by involving the family.

This research was being conducted in the South Jakarta area. The time of the research was August to

October 2018. The population in this study were individuals who had risk factors for non-communicable diseases who participated in NCDs Posbindu activities who lived with their families. Sampling using purposive sampling technique was based on inclusion criteria, namely living in the south Jakarta area, having risk factors for non-communicable diseases, being able to read and write and communicate fluently and willing to be a respondent. The number of samples used were 30 respondents who were included in the intervention group and 30 respondents who were included in the control group. Thus the total number of samples was 60 respondents

The data analysis used in this study was the dependent t test which measures the practice of controlling NCDs risk factors before and after treatment and the Independent t test analysis to compare the client control practices after treatment in the intervention group and the control group. knowing the relationship of characteristic variables with the practice of controlling NCDs risk factors in the intervention group after the previous treatment has been transformed into categorical form

3. Result

The results of the study on the effect of the family support model and control card Non-communicable disease risk factors (NCDs) on the practice of controlling NCDs risk factors are explained as follows:

Table 1
Distribution Characteristics of Respondents for the Intervention group and Control group

No	Variables	Intervention Group		Control Group		Total	
		n	%	n	%	n	%
1	**Sex**						
	Man	8	26.7	9	30.0	17	28.3
	Woman	22	73.3	21	70.0	43	71.7
2	**Age**						
	Old	27	90.0	15	50	42	70
	Young	3	10.0	15	50	18	30
3	**Marital status**						
	Married	27	90.0	30	100.0	57	95.0
	Single	3	10.0	0	0	3	5.0
4	**Education**						
	Low Education	17	56.7	10	46.7	25	41.7
	High Education	13	43.3	20	53.3	35	58.3
5	**Occupation**						
	Does not work	19	63.3	20	66.7	39	65.0
	Work	11	36.7	10	33.3	21	35.0
6	**Knowledge level**						
	Not enough	3	10.0	22	73.3	25	41.7
	Well	27	90.0	8	26.7	35	58.3
7	**Client Behaviour**						
	Not enough	3	10.0	21	70.0	24	40.0
	Well	27	90.0	9	30.0	36	60.0
8	**Control Level**						
	Not enough	7	26.7	24	80.0	32	53.3

No	Variables	Intervention Group		Control Group		Total	
		n	%	n	%	n	%
	Well	22	73.3	6	20.0	28	46.7
9	**Family Support**						
	Does not support	4	13.3	29	96.7	33	55,0
	Support	26	86.7	1	3.3	27	45.0
10	**NCDs Control Card**						
	Do not use	4	13.3	30	100.0	34	56.6
	Use Control Card	26	86.7	0	0	26	43.4

The table above shows that most of the respondents from both the intervention group (73.3%) and the control group (70.0%) were women. Respondents in the intervention group were mostly old age (90%) while the control group was balanced between young and old age (50.0%). All respondents were married with most of them having low education (56.7%) in the intervention group and most of them having higher education (53.3%) in the control group. Some of the intervention group (63.3%) and the control group (63.7%) did not work. Respondents who have a good behaviour in controlling NCDs risk factors are much more in the intervention group (90.0%) than the control group (30%). As many as 86.7% of respondents in the intervention group received family support, while on the contrary 96.7% of respondents in the control group did not receive family support. All respondents in the intervention group (100%) have used control cards.

Table 2
The Differences in Practice of Controlling NCDs Risk Factors before and after treatment In intervention group and control group

Variable	Mean	SD	SE	P value	N
Practice of Controlling NCDs Risk Factors in the Intervention Group					
Pre test	83.10	12.344	2.254	0.005	30
Post test	91.57	7.659	1.398		30
Practice of Controlling NCDs Risk Factors in the Control Group					
Pre test	72.00	12.790	2.335	0.001	30
Post test	75.10	11.427	2.086		30

The average practice of controlling NCDs risk factors pre-test in the intervention group was 83.10 with SD 12.34 and increased after being given intervention/health education (post test) to 91.57 with SD 7.65. It can be seen that the difference in the mean value between the pre test and the post test was 8.46 with a standard deviation of 15.24, the statistical test results obtained a p value = 0.005, so it can be concluded that there was a significant change in risk factor control practices between the pre test and post test. The practice of controlling NCDs risk factors early (pre test) in the control group was 72.00 with SD 12.79 and after being given health education (post test) was 75.10 with SD 11.42. It can be seen that the difference in the mean value between the pre test and post test is 3.10 with a standard deviation of 4.47, the statistical test results

obtained a p value = 0.001 so it can be concluded that there was a change in the practice of controlling NCDs risk factors between the pre test and post test.

Table 3
The Differences in Practice of Controlling NCDs Risk Factors after treatment In intervention group and control group

Variabel	Mean	SD	SE	P value	N
Practice of Controlling NCDs Risk Factors					
Post test Control Group	75.10	11.427	2.086	0.000	30
Post test Intervention Group	91.57	7.659	1.398		30

The average practice of controlling NCDs risk factors in the control group after treatment was 75.10 with a standard deviation of 11.42, while in the intervention group the practice of controlling NCDs risk factors was 91.57 with a standard deviation of 7.65. The average risk factor control practice was higher in the intervention group than the control group with a mean difference of 16.46, the statistical test results also obtained a p value = 0.000, so it can be concluded that there was a significant difference in risk factor control between the intervention group and the control group.

Table 4
The Correlation between Characteristics and Practice of Controlling NCDs Risk Factors in the Intervention Group

No	Variables	Control Practices				Total		p-value	Odds Ratio
		Not enough		Well					
		n	%	n	%	n	%		
1	**Age**								
	Old	8	29.6	19	70.4	27	100	0.271	0.704
	Young	0	0	3	100	3	100		
2	**Sex**								
	Woman	6	27.3	16	72.7	22	100	0.901	1.125
	Man	2	25.0	6	75.0	8	100		
3	**Education**								
	Low Education	3	17.6	14	82.4	17	100	0.201	0.343
	High Education	5	38.5	8	61.5	13	100		
4	**Occupation**								
	Does not work	6	31.6	13	68.4	19	100	0.424	2.077
	Work	2	18.2	9	81.8	11	100		
5	**Knowledge level**								
	Not enough	7	100	0	0	7	100	0.000	23.000
	Well	1	4.3	22	95.7	23	100		
6	**Client Behaviour**								
	Not enough	2	66.7	1	33.3	3	100	0.099	7.000
	Well	6	32.3	21	77.8	27	100		
7	**Family Support**								
	Does not support	4	100	0	0	4	100	0.000	6.500

No	Variables	Control Practices				Total		p-value	Odds Ratio
		Not enough		Well					
		n	%	n	%	n	%		
	Support	4	15.4	22	84.6	26	100		
8	**NCDs Control Card**								
	Do not use	4	100	0	0	4	100	0.000	6.500
	Use Control Card	4	15.4	22	84.6	26	100		

Based on the table above, another factor related to the practice of controlling NCDs risk factors was the level of knowledge with a p value of 0.000. The results of the study also showed that the results of the analysis also obtained an OR value of 23.00, meaning that respondents who have good knowledge have 23 times the opportunity to carry out the practice of controlling NCDs risk factors compared to respondents with less knowledge.

4. Discussion

The results showed that respondents who were given health education, family support and control cards for NCDs risk factors affected to practice of controlling NCDs risk factors. Research by Kamaludin & Rahayu (2009) also showed that there was an influence between family involvement and patient compliance in reducing fluid intake, with p value = 0.003(Kamaluddin, R. & Rahayu, n.d.). Family support is how to help someone find what they want from the position where they are now, by exploring what resources are needed, the mental attitude that must be built, and appropriate techniques in applying them so that the treatment group will experience increased compliance due to the treatment given

The results also showed that there were significant differences in the practice of controlling NCDs risk factors between the control group and the intervention group after the provision of health education and support. Before the post-test the intervention group was given treatment in the form of health education and family support so that this group experienced an increase in the practice of controlling NCDs risk factors. While the control group before the post test was not given any treatment so that there was no improvement in the practice of controlling NCDs risk factors..

Family support is a form of interpersonal relationship that protects a person from the effects of bad stress (Sadock, 2017).Family support is an attitude, an act of family acceptance of family members, both in the form of informational support, assessment support, instrumental support and emotional support. So family support includes attitudes, actions and acceptance of family members, so that family members feel that someone is paying attention to them. Family social support also refers to social supports that are seen by family members as something that can be accessed or provided for families who are always ready to provide help and assistance if needed.(Friedman, 2008).

The results showed that there was a significant relationship between family support and the practice of controlling NCDs risk factors. These results are in accordance with Bisnu and Kepel's research showing that there is a relationship between family support and the degree of hypertension with p value = 0.000(Bisnu & Kepel, 2017). In addition, there is also a significant relationship between NCDs risk factor control cards and the practice of controlling NCDs risk factors. This result is in accordance with the use of

control cards in Gunawan et al's research which showed that knowledge has a relationship with the ability to fill cards towards health with a p-value of 0.006(Gunawan et al., 2018). Respondent's knowledge was also meaningful with the practice of controlling NCDs risk factors. According to Notoatmodjo, knowledge is the result of knowing and this occurs after people have sensed a certain object. Knowledge or cognitive is a very important domain for the formation of one's actions (Notoadmodjo, 2003). Someone who has high knowledge will tend to be more obedient to treatment than someone who has low knowledge(Notoatmodjo, 2010). These results are in accordance with Kurnia R's research which states that there was a relationship between respondents' knowledge and visits by productive age people at Posbindu NCDs Puri with a p value = 0.000(Kurnia R, 2017). The existence of a relationship between knowledge and the practice of preventing stroke was also stated by the results of Muswanti's research with a value of p = 0.003(Muswanti, 2016). The results of Rusdiyanti's research showed that there was a relationship between knowledge and the activeness of NCDs Posbindu visits with p = 0.000(Rusdiyanti, 2018).

5. Conclusion

The majority of the respondents' gender from both the intervention group and the control group were women. All respondents were married with most of them having low education in the intervention group and most of them having higher education in the control group. Most of the respondents do not work. Respondents who have a good attitude in controlling NCDs risk factors were much more in the intervention group than the control group. The average pre-test NCDs risk factor control practice in the intervention group increased after the intervention/health education (post-test) was given and there was also a significant change in risk factor control practice between the pre-test and post-test. It can be seen that the difference in the mean value between the pre test and post test is 3.10 with a standard deviation of 4.47, the statistical test results obtained a p value = 0.001 so it can be concluded that there was a change in the practice of controlling NCDs risk factors between the pre test and post test. Another factor related to the practice of controlling NCDs risk factors is the level of knowledge. The results of the study also show that the results of the analysis also obtained an OR value of 23.00, meaning that respondents who have good knowledge have 23 times the opportunity to carry out the practice of controlling NCDs risk factors compared to respondents with less knowledge. Suggestions for advocacy efforts to parties who can increase awareness of risk factor control practices wirh using posters and distribution of leaflets, screening of promotional films.

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