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ORIGINAL RESEARCH

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EFFECT OF PSYCHOEDUCATION ON ANXIETY IN PATIENTS WITH CORONARY HEART DISEASE

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Abstract

Background: Cardiovascular heart disease still remains high in Indonesia. Various interventions have been implemented as an effort to deal with cardiovascular disease. However, little is known about intervention to reduce anxiety in patients with cardiovascular disease although anxiety is related to angina attack in this patient. Psychoeducation is considered effective in decreasing anxiety.

Objective: To examine the effect of psychoeducation in decreasing anxiety in patients with coronary heart disease (CHD) at the General Hospital of Semarang, Indonesia

Methods: This was a quasi-experimental design with pretest posttest control group design. The study was conducted in the inpatient wards of the General Hospital of Semarang on 17 January until 8 March 2017. Fifty-six respondents were recruited using consecutive sampling, with 28 assigned in the experiment and control group. Hamilton Anxiety Rating Scale (HARS) was used to measure anxiety levels. Paired t-test and Independent t-test were used for data analysis.

Results: Paired test showed that there was a statistically significant effect of psychoeducation on anxiety level in the experiment group with p-value 0.001 (<0.05), and significant effect of given a brochure of CHD on the anxiety level in the control group with p-value 0.001 (<0.05). Independent t-test showed a statistically significant difference of anxiety level after intervention in the experiment and control group with p-value 0.001 (<0.05). The mean anxiety level in the experiment group (22.46) was lower than the mean anxiety level in the control group (41.54).

Conclusion: Psychoeducation is effective in reducing anxiety levels in patients with CHD. It is suggested that psychoeducation can be used as one of nursing intervention in an effort to reduce anxiety in patients with CHD.

Keywords: psychoeducation; anxiety; coronary heart disease

INTRODUCTION

Cardiovascular disease, such as coronary heart disease (CHD) is one of the leading causes of death, not only in developed countries but also in developing countries, including Indonesia (Berndt et al., 2012). This disease is responsible for more than 25% of all deaths worldwide (Cole, Smith, Hart, & Cupples, 2011). In the United Kingdom, for example, over 90,000 people die from CHD every year (Kones, 2011). According to the World Health Organization (WHO), coronary

heart disease causes 70% of global deaths, and considered as the first rank cause (Mahdavi, Abbasi, & Mohammadi, 2015). According to the American Heart Association (AHA) in Heart Stroke Statistic 2010, indicated that every 25 seconds there is one person has coronary heart disease and every minute there is one death caused by CHD (Dalusung-Angosta, 2013). In the countries of West Asia, especially in Iran, cardiovascular disease exists 7-10 years earlier than in other

countries ([Khayyam-Nekouei, Neshatdoost, Yousefy, Sadeghi, & Manshaee, 2013](#)).

By 2015, the estimated death rate caused by heart disease and blood vessels increases to 20 million ([MOH, 2013](#)). In Indonesia, prevalence of CHD based on a doctor's diagnosis is 0.5%, or an estimated 883,447 people; and based on symptoms is 1.5% or an estimated 2,650,340 people; whereas, the prevalence of heart failure based on a doctor's diagnosis in Indonesia is 0.13% ([MOH, 2015](#)), and based on a physician or symptom diagnosis is 0.3%. In Central Java, the proportion of new cases of non-communicable diseases of heart disease ranks fourth by 4.77% after hypertension 57.89%, diabetes mellitus 16.53%, and asthma bronchial 11.61% ([Dinkes, 2014](#)). CHD complication and risk factors not only increase mortality, but also reduce productivity and increase disability and healthcare costs ([Sadeghi et al., 2009](#); [von Känel, 2008](#)).

Treatment with drugs is routinely used as the preferred method for CHD ([Indonesia, 2006](#)). In addition, patients with CHD are confronted with some psychological problems ([Reid, Ski, & Thompson, 2013](#); [von Känel, 2008](#)). Studies have shown that 40%-65% of those patients have anxiety symptoms ([Hashemzadeh, Garooci Farshi, Halabianloo, & Maleki Rad, 2011](#)). This problem occurs due to lack of social support, which among other things have the most adverse effects and the most common psychological responses in patients with cardiovascular disease, but also the recurrence of the disease. Studies show that anxiety and psychological problems are reduced through the use of psychological treatments, such as behavioral cognitive-therapy and psycho-education programs (Ppe) ([Dehdari, Heidarnia, Ramezankhani, Sadeghian, & Ghofranipour, 2009](#); [Tarr, Launay, & Dunbar, 2014](#)). More recently, researchers have focused on using Ppe methods as a basic treatment for the patient's with psychological problems ([Ågren, Evangelista, Hjelm, & Strömberg, 2012](#)).

Patients with CHD will be accompanied by anxiety, which will add pain such as angina attacks. Angina is a stressor or a threat to one's integrity including physiological inability and decreased capacity to perform

daily life ([Stuart, 2014](#)). Patients tend to experience anxiety conditions either as independent or interrelated (e.g. anxiety leads to chronic illness, and/or chronic disease causes anxiety) ([DeJean, Giacomini, Vanstone, & Brundisini, 2013](#)). In recent years, cases of cardiovascular disease, especially CHD, are handled holistically by the Bio-Psycho-Cultural-Spiritual-Cognitive-Social approach ([Dossey, 2008](#); [Dossey, Certificate, Keegan, & Co-Director International Nurse Coach, 2012](#); [Greco, 2013](#)) in psycho-education to reduce anxiety ([Aghayusefi, Mirzahoseini, Khazaeli, & Assarnia, 2016](#)).

In addition, studies show less anxiety after given a psychological treatment approach, such as cognitive-behavioral therapy, Ppe ([Guo et al., 2013](#); [Tarr et al., 2014](#)). The majority of studies on Ppe have been performed on patients with psychiatric disorders. However, little is known about the impact of this program on patients with physical disorders such as cardiovascular disease. Thus, a nurse as an educator plays an important role in assisting the patient in increasing knowledge, decreasing anxiety, and understanding the symptoms of the illness and the action given through psycho-education program, which will impact to the behavioral changes of the patients. It is also found that the treatment of patients with CHD is not only from the physical aspects, but also psychosocial aspect needs to achieve a normal life ([McGillion, Arthur, Victor, Watt-Watson, & Cosman, 2008](#)). This study aimed to examine the influence of psychoeducation on anxiety in patients with coronary heart disease (CHD) in the General Hospital of Semarang City.

METHODS

Study design

This was a quasi-experimental design with pretest posttest control group design. The study was conducted in the inpatient wards of the General Hospital of Semarang on January 17 until March 8, 2017.

Sample

Consecutive sampling was used for this study to recruit 56 respondents. Twenty-eight respondents were assigned in the experiment

and control group. The inclusion criteria of the sample were: patients with CHD, in first or recurrent CHD events, able to communicate verbally, not in the emergency condition or mental disorder, have been treated for at least 1x24 hours, and have family support assistance.

Instruments

Anxiety was measured using Hamilton Anxiety rating Scale (HARS) ([Yazici, Demir, Tanriverdi, Karaagaoglu, & Yolac, 1998](#)), which was developed by Max Hamilton in 1959 with good validity and reliability. The scale consisted of 14 items with 5 levels of score (between 0-4). The anxiety level was classified based the number of scores summed. It refers to no anxiety if score <14, mild anxiety if score 14-20, moderate anxiety if score 21-27, and severe anxiety if score > 28. Anxiety was measured before and after given intervention.

Intervention

Psychoeducation was implemented for 3 days in five sessions, with 30 minutes in each session. It was performed in the inpatient ward of the General Hospital of Semarang.

The intervention was given by the researcher about psychoeducation. While the control group was given a brochure of CHD only.

Ethical consideration

Ethical clearance of the research was obtained from the ethics commission of Poltekkes Kemenkes Semarang with No.054 / KEPK / Poltekkes-Smg / ec / 2017. Each respondent signed the informed consent prior to the data collection. The researcher explained about the objective and procedures of the research

Data analysis

Paired t-test and independent t-test were performed for data analysis.

RESULTS

Based on Table 1, the average age of respondents in the experiment group was 54.68 and control group was 50.75. The majority of respondents were males (57.1%), with senior high school background (42.9%), and working as entrepreneur (experiment group=42.9%, control group=46.4%). Homogeneity test showed p-value >0.05, which indicated that both groups were homogeneous.

Table 1 Characteristics of respondents based on age, gender, educational level and type of jobs

Variable	Group			
	Experiment		Control	
	n (28)	%	n (28)	%
Age (year)				
26-35	2	7.1	2	7.1
36-45	5	17.9	6	21.4
46-55	9	32.1	13	46.4
56-65	7	25	4	14.3
>65	5	17.9	3	10.8
Mean age	Mean= 54.68 (min 30 – max 80)		Mean= 50.75 (min 30 – max 76)	
Gender				
Male	16	57.1	16	57.1
Female	12	42.9	12	42.9
Education level				
Elementary	10	35.7	5	17.9
Junior high	6	21.4	11	39.3
Senior high	12	42.9	12	42.9
Type of jobs				
Labor	8	28.6	9	32.1
Housewife	4	14.3	3	10.7
Trader	2	42.9	3	10.7
Retired	1	3.6	0	0
Civil servant	1	3.6	0	0
Entrepreneur	12	42.9	13	46.4

Table 2 Anxiety levels before and after given intervention in the experiment and control group

Anxiety level	Group				Total	
	Experiment		Control		n	%
	f	%	f	%		
Pretest						
Severe	28	50	28	50	56	100
Moderate	0	0	0	0	0	0
Mild	0	0	0	0	0	0
Posttest						
Severe	0	0.00	25	44.6	25	44.6
Moderate	23	41.1	3	5.40	26	46.5
Mild	5	8.90	0	0.00	5	8.9

Table 2 shows that all respondents before given intervention in the experiment and control group experienced severe anxiety (100%), while after given intervention there was a decrease of anxiety level to moderate (41.1%) and mild level (8.90%) in the experiment group; but there was only slight difference in the control group that 44.6% of respondents still had severe anxiety and 5.40% had moderate anxiety.

Kolmogorov Smirnov test as shown in the Table 3 shows p-value >0.05, which indicated that the experiment and control group were in normal distribution; while Levene's test as shown in the Table 4 obtained p-value >0.05, which indicated that the experiment and control group were homogeneous.

Table 3 Normality test of respondents based on anxiety level in the experiment and control group using Kolmogorov Smirnov (n=56)

Anxiety level	Group	
	Experiment	Control
Pretest	.502	.450
Posttest	.713	.362

Table 4 Homogeneity test of respondents based on anxiety level in the experiment and control group using Levene's test (n=56)

Anxiety level	P-value
Pretest	.461
Posttest	.090

Table 5 Effect of psychoeducation on anxiety level before and after given intervention in the experiment and control group using paired t-test

Anxiety level	n	Mean ± SD	t	p
Experiment group				
Pretest	28	41.54 ± 4.426	22.083	0.001
Posttest	28	22.46 ± 2.236		
Control group				
Pretest	28	41.54 ± 4.426	20.937	0.001
Posttest	28	22.46 ± 2.236		

Table 5 shows there was a statistically significant effect of psychoeducation on anxiety level in the experiment group with p-value 0.001 (<0.05), and significant effect of

given a brochure of CHD on the anxiety level in the control group with p-value 0.001 (<0.05).

Table 6 mean differences of anxiety levels before and after given intervention in the experiment and control group using Independent t-test

Mean difference	Group	n	Mean	SD	t	p-value
Pretest - posttest	Experiment	28	19.07	4.570	9.017	0.001
	Control	28	10.14	2.563		

Independent t-test as shown in the table 6 shows p-value 0.001, which indicated that there was a statistically significant difference of anxiety level before and after intervention in the experiment and control group. However, the experiment group shows the greater mean difference (19.07) compared with the mean in the control group (10.14).

Table 7 shows that there was a statistically significant difference of anxiety level after intervention in the experiment and control group with p-value 0.001 (<0.05). The mean anxiety level in the experiment group (22.46) was lower than the mean anxiety level in the control group (41.54).

Table 7 Anxiety levels after given intervention in the experiment and control group using Independent t-test

Anxiety level	Group	n	Mean \pm SD	t	p-value
Posttest	Experiment	28	22.46 \pm 2.236	20.937	0.001
	Control	28	41.54 \pm 4.426		

DISCUSSION

Findings of this study showed that there was a significant effect of psychoeducation on the anxiety level in patients with CHD. Differences in anxiety levels after given intervention indicated a positive effect of psychoeducation. Psychoeducation can improve the patient's ability to overcome anxiety. This is in accordance with previous study stated that psychoeducation is one way that nurses can be carried out in community, especially in hospitals in solving psychological problems related to family physical problems (Stuart, 2014). By doing psychoeducation, a nurse will be able to directly provide effective service and efficient to solve problems. Another study also shows that psychoeducation therapy could reduce psychosocial problems due to physical illness. It is also effective for the prevention of emotional expression and the burden of treating patients with the first episode of psychosis (Nurbani, 2009). Furthermore, it is supported by previous study proved the effectiveness of psychoeducation in the development of psychosocial health and family performance in patients with schizophrenia in China (Chien & Wong, 2007).

This study also revealed that there was a significant effect of given a brochure of CHD in reducing anxiety levels of patients with CHD. Differences in anxiety levels in the

posttest in control group indicated a positive effect of providing brochures to improve the ability of patients to overcome anxiety. Study stated that every human has the ability to learn from birth until the end of life (Dalimunthe, Se, & Heldy, 2007). Health education in this study will increase the knowledge of the respondents and may influence the behavior. However, the increased knowledge is influenced by various factors.

In this study, providing a brochure of CHD is less effective compared with psychoeducation for patients with CHD. This is consistent with previous studies revealed that psychoeducation therapy is much better in reducing anxiety in patients with cancer compared with health education. It could be said that health education using brochure may be less effective in lowering anxiety.

CONCLUSION

It can be concluded that there was a significant effect of psychoeducation on anxiety level in patients with CHD, and psychoeducation is effective compared with providing brochure of CHD only. Therefore, it is suggested that psychoeducation can be used as one of nursing intervention in an effort to reduce anxiety.

Declaration of Conflicting Interest

None declared.

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Author Contribution

All authors contributed equally in this study.

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