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Social and Emotional Support Highly Associated with Helplessness among Coronary Heart Disease Patients

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Abstract

BACKGROUND: Helplessness is a factor that adversely affects patients with coronary heart disease (CHD). The factors related to this situation have become essential to be investigated. Meanwhile, one of the factors that have the potential to reduce this situation is social support. However, there has been no research related to this in the Indonesian population.

AIM: Therefore, this study aims to assess the relationship between social support and helplessness among patients with CHD.

METHODS: This was a correlational study where 107 outpatient and inpatient patients at a hospital in West Java, Indonesia, were obtained. The data were collected using a demographic questionnaire, Illness Cognition Questionnaire on the dimensions of helplessness, and the Enhancing Recovery in CHD Social Support Inventory. Furthermore, the data were analyzed by Pearson and linear regression.

RESULTS: The respondents were 78% of males, while 22% were female. Most of the patients (88%) were married. The bivariate analysis showed that social support and its subvariable emotional support were significantly related to helplessness ($p < 0.05$, $r = -0.248$), while the other subvariable structural and instrumental support were not significantly related ($p > 0.05$). The regression analysis results showed that social and emotional support had a significant effect ($p < 0.05$) with R^2 (95% CI) of 042 and 0.05, respectively.

CONCLUSIONS: The social and emotional support among CHD patients was associated with helplessness. The higher the supports obtained, the lower the patient's helplessness. Therefore, nurses need to encourage family or those closest to patients to provide adequate social and emotional support.

Introduction

Coronary heart disease (CHD) in Indonesia, based on the 2018 Basic Health Research data, provides a significant economic and health burden [1]. Furthermore, the prevalence for the incidence was 1.5% [2] and becomes one of the leading causes of death [3]. This condition emphasizes the importance of strategic efforts in controlling and preventing the increasing prevalence of this case. Therefore, comprehensive follow-up care is needed.

The recurrence, morbidity, and mortality in patients with CHD can be exacerbated by psychological problems [4], [5], [6], [7], [8]. This is presented by the increased risk of non-fatal and fatal complications such as death [5], [7], [9], [10]. However, patients' management of psychological conditions is not optimally managed [11], [12], [13]. One of the problems that need to be overwhelmed is helplessness. This is prone to patients that experience uncontrolled situations, such as in CHD [8].

Helplessness indicates poor emotional well-being and it is related to denial and avoidance coping [14]. These types of coping are part of emotional focused coping [14]. Furthermore, it may cause low adherence to treatment [15], and it is supposed that this coping is reliable to be anticipated because it determines the severity of patients in the first 3 months after hospitalization [16]. Furthermore, helplessness is a predictor of depression in the patients [10], [17], causing complications, recurrence, mortality, and low quality of life [18], [19], [20], [21].

One effort to reduce helplessness is through social support [8]. Several studies have implied that low social support is associated with low health-related quality of life [22], [23]. It is also a predictor of mental health and ascertains the health risks of patients with CHD [23].

Publications about the relationship between these two variables have been discovered in the United States and identified that social support and self-efficacy reduce helplessness [8]. However, data related to this in Indonesia are not well known. In contrast, there are

differences in demographics and health services for CHD patients in both countries. Furthermore, a previous study attempted to discover the helplessness problem among CHD patients in Indonesia. The study exposed that helplessness was relatively high experienced by patients undergoing treatment in the cardiac intensive care unit as well as outpatients [24]. This situation highlights the importance of addressing this issue.

Investigating the relationship and effect between social support and helplessness in patients with CHD is essential for nurses to determine appropriate interventions to maintain mental health. Therefore, this study aims to identify the relationship between helplessness and social support in patients with CHD in Indonesia.

Methods

Study design

This was a correlational study design with a cross-sectional approach. The data collection was carried out from March to May 2017.

Sample and setting

The population was CHD patients who were undergoing treatment at a referral hospital in West Java, Indonesia. The sample selection used a convenience sampling technique, and the inclusion criteria were (1) respondents aged at least 18 years and (2) undergoing treatment in Cardiac Outpatient Unit. Meanwhile, the exclusion criteria for potential respondents include (1) who do not understand Bahasa Indonesia and (2) who have a history of psychological or mental disorders.

The number of samples was determined using the size table for one correlation test [25], taking into account an expected correlation between two variables (r) 0.778 from Smallheer et al. 2018, with a 90% statistical power, alpha (α) 5%, and correlation coefficient of the null hypothesis (r) 0.6. It was found that the number of minimum respondents needed was 56, and a total of 107 were involved.

Instrument

Demographic questionnaire

A demographic questionnaire was used, and it included age, gender, educational level, marital status, and estimated monthly household income. Furthermore, the data about respondents' comorbidities, length of being diagnosed with CHD, perceived chest pain that lasts for a month, and type of intervention received were included in the study.

Helplessness in Illness Cognition Questionnaire (ICQ)

Evers *et al*. developed the ICQ, consisting of 18 questions categorized into three dimensions, namely, helplessness, acceptance, and perceived benefits [26]. This study only used the helplessness dimension in the ICQ instrument for measurement in CHD patients. All the questions were measured using a 1–4 Likert scale consisting of not at all (1), somewhat (2), to a large extent (3), and completely (4). The higher the score indicates a higher helplessness. Furthermore, the Bahasa Indonesia version of ICQ was used with the original author's permission. The construct validity of the Indonesian version was 0.525–0.80. Furthermore, a reliability value for helplessness is 0.751 [27].

The Enhancing Recovery in CHD (ENRICHD) social support inventory (ESSI)

The ENRICHD and ESSI developed by Mitchell *et al*. were used to measure social support in patients with CHD. This instrument consists of seven question items, which include three subvariables, namely, emotional (items 1, 2, 3, 5, and 6), instrumental (item 4), and structural supports (item 7). The categories ranged from 1 (none of the time) to 5 (all of the time), with item 7 (living with a spouse) scored 4 for "yes" and 2 for "no." The social support score is determined from the total ESSI, where the higher the score, the better the social support provided to patients [28].

Before using the ESSI instrument, back-translation had been completed and obtained permission to use the Indonesian version of ESSI from the developer. This version has a validity value of $r = 0.036–0.663$, $p < 0.01$. Furthermore, there were invalid items (items 4 and 7), but they were still used to measure instrumental and structural supports. The reliability of the Indonesian version of ESSI is 0.818, and when items no. 4 and 7 are omitted, the value increases to 0.825 [29].

Data analysis

Data analysis to describe the characteristics of respondents used the distribution of frequency, mean, standard deviations, and median with a minimum and maximum value. The relationship between social support and each subvariable and helplessness (emotional, instrumental, and structural supports) used Pearson with a significance level of $p < 0.05$. Furthermore, to compare differences in normally distributed variables of respondent's characteristics with helplessness and social support, we used an independent t-test and one-way ANOVA with $p < 0.05$ significance level. Furthermore, linear regression was used to investigate the effect of social support

on helplessness with a 95% confidence interval and $p < 0.05$ significance level.

Ethical consideration

This study obtained ethical approval from a public university Research Ethics Committee (140/UN6.C1.3.2/KEPK/PN/2017). All the respondents were informed and signed the consent form when they agreed to participate. Furthermore, the findings of this study were reported as grouped data. Therefore, the participants will not be identified from publications. In addition, the respondents had the right to leave the process without any consequences.

Table 1: Characteristics of respondents

Characteristics	Frequency (n = 107)	Percentage
Gender		
Male	78	73
Female	29	27
Age* (mean)	58.3 (±8.2)	
Education		
No formal education	1	1
Primary education	45	42
Secondary education	34	32
Higher education	27	25
Marital status		
Married	94	88
Widow/widower	13	12
Working status		
Working	62	58
Not working	45	42
Estimated monthly household income		
<2.8 million (IDR)	61	57
2.8–5 million (IDR)	32	30
>5 million (IDR)	14	13
Length of being diagnosed with CHD		
≤6 months	30	28
>6 months	77	72
Types of interventions		
Medication	22	21
Medication, fibrinolysis	19	18
Medication, PCI	30	28
Medication, CABG	11	10
Medication, fibrinolysis, and PCI	20	19
Medication and more than 2 reperfusion therapies	5	4
Comorbid		
Did not have	62	58
Have one or more comorbidities	45	42
Chest pain frequency (last 1 month)		
Never	34	32
Rarely	20	19
Often	35	32
Very often	18	17

Results

Table 1 shows that most of the respondents were male (78%), married (88%), working (58%), and diagnosed with CHD for more than 6 months (72%), in addition, they had undergone medical therapy accompanied by reperfusion therapy (62%) with 75% undergoing PCI therapy. Most of the respondents also had no comorbidities (58%), a history of chest pain from none to rare (51%), had a low estimated monthly income (57%), and an average age of 58 years.

The independent t-test was used for gender, marital and working status, duration of being diagnosed with CHD, and comorbidity. Meanwhile, the one-way ANOVA was used for education, estimated monthly household income, types of interventions, and chest pain frequency.

Table 2 shows that there is no significant difference between social support and helplessness based on the characteristics of the respondents, except for marital status, where social support differs significantly between married and widowed respondents.

Table 2: Social support and helplessness based on respondent characteristics (n = 107)

Characteristics	Support social	P/approx. sig.	Helplessness	P/approx. sig.
	Mean (±SD)		Mean (±SD)	
Gender				
Male	28.2 (±5.6)	0.637	12.6 (±4.2)	0.841
Female	28.7 (±6.5)		13.2 (±5.4)	
Education				
No formal education	30 (±0)	0.777	12 (±0)	0.839
Primary education	27.7 (±6.3)		13.2 (±5.2)	
Secondary education	28.5 (±6.0)		12.6 (±4.2)	
Higher education	29.1 (±4.9)		12.2 (±3.9)	
Marital status				
Married	28.9 (±5.4)	0.009b	12.8 (±4.5)	0.616
Widow/widower	24.4 (±7.1)		12.4 (±4.9)	
Working status				
Working	28.9 (±5.1)	0.240	12.8 (±4.7)	
Not working	27.5 (±6.7)		12.7 (±4.5)	
Estimated monthly household income				
<2.8 million (IDR)	27.7 (±6.1)	0.121	12.9 (±4.6)	0.077
2.8–5 million (IDR)	28.1 (±5.6)		13.5 (±4.5)	
>5 million (IDR)	31.3 (±4.7)		10.3 (±3.7)	
Duration of being diagnosed with CHD				
≤6 months	31.5 (14–34)	0.088	12.1 (±3.7)	0.554
>6 months	30 (14–34)		13 (±4.9)	
Types of interventions				
Medication	29.3 (±5.6)	0.651	12.6 (±5.2)	0.270
Medication, fibrinolysis	29.4 (±6.2)		14.2 (±4.9)	
Medication, PCI	27.4 (±5.3)		12.3 (±3.2)	
Medication, CABG	29.5 (±5.2)		10.3 (±2.4)	
Medication, fibrinolysis, and PCI	27.2 (±6.9)		13.7 (±5.4)	
Medication and more than 2 reperfusion therapies	27.2 (±6.5)		12.8 (±6.4)	
Comorbidity				
Did not have	27.6 (±6.0)	0.127	12.09 (±3.9)	0.210
Have one or more comorbidities	29.3 (±5.4)		13.7 (±5.2)	
Chest pain frequency (last 1 month)				
Never	28 (±6.7)	0.603	12.3 (±4.4)	0.458
Rarely	29.2 (±4.7)		11.7 (±3.3)	
Often	28.8 (±4.9)		13.6 (±4.7)	
Very often	26.9 (±7.0)		12.9 (±4.6)	

Significance [a]$p < 0.05$, two-tailed test, [b]$p < 0.01$, two-tailed test.

Table 3: The correlation between helplessness and social support (n = 107)

Variables	Social support	Emotional support	Instrumental support	Structural support	Helplessness
Social support	1				
Emotional support	0.982[b]	1			
Instrumental support	0.709[b]	0.603[b]	1		
Structural support	0.418[b]	0.373[b]	0.174	1	
Helplessness	−0.193[a]	−0.206[a]	−0.094	0.003	1

Pearson's with significance [a]p < 0.05, two-tailed test, [b]p < 0.01, two-tailed test.

Table 3 shows that there is a significant relationship between social support and helplessness (p < 0.05). Furthermore, based on subvariables of social support, emotional support shows a significant relationship with helplessness (p < 0.05). This result differs from the other subvariable instrumental and structural support, which does not show a significant relationship with helplessness (p > 0.05). However, these two subvariables were significantly related to emotional and social support (p < 0.05).

Table 4 shows that social and emotional support had a significant effect (p < 0.05) on the decrease in helplessness, which indicated by R^2 = 0.042 and 0.05. These findings mean social and emotional supports reduce helplessness by 4 and 5%, respectively.

Table 4: Regression analysis summary for social support and emotional support predicting helplessness

Variable	B	95% CI (LL, UL)	β	t	p	R^2
(Constant)	17.29	(13.021, 21.56)		8.030	0.000	
Social support	−0.160	(−0.307, −0.012]	−0.205	−2.145	0.034	R^2= 0.042
(Constant)	17.117	(13.292, 20.942)		8.873	0.000	
Emotional support	−0.213	(−.395, −0.030)	−0.220	−2.314	0.023	R^2= 0.05

Discussion

This study aims to investigate the relationship between helplessness and social support. The results showed that helplessness is related to social support, where the higher the social support, the lower the helplessness. This finding reinforces Smallheer's, which stated that social support reduces helplessness in patients with CHD [8].

Furthermore, Buursma identified that the perceived social support score is higher in married respondents than in unmarried and lack of perceived social support in patients with CHD is associated with hopelessness [30]; additionally, hopelessness is a negative sense about helplessness with future [31]. These results are contrary to the present study. Despite having a higher social support score, the helplessness in this study demonstrated the same both for married and unmarried respondents. Moreover, there was no relationship between helplessness and the presence of a partner (structural support).

These results occurred since most of the respondents have a Sundanese cultural background. In the outlook of Sundanese culture, even though a person has divorced, the support from the family is usually enormous, especially during difficult times. This has an effect on the psychological improvement [32], [33], [34]. In addition, the Sundanese people are known for several character values, they are human values as God's creation, individual axles, and social [34]. This character influences the way they interact with others, which is implemented in their daily life. This is expressed by loving, advising, and caring for each other [34], [35]. These reasons may instigate a high score of social support accompanied by low helplessness in patients with CHD who have or do not have a partner.

Based on this study, it can be seen that the three subvariables of social support consist of emotional, structural, and instrumental, were interconnected. These subvariables have a strong positive relationship with social support. Although structural and instrumental supports were not directly related to helplessness, these two subvariables were related to the social and emotional supports. This finding indicates structural and instrumental supports contributed to the reduction of helplessness indirectly.

In this study, social support had a strong correlation and also predicts low helplessness. Social support is a buffer from psychological stress and low-stress level indicates good adaptive coping [36]. The psychological stress in CHD patients was common in those who use maladaptive coping [37]. The study of Compas and Luecken reinforces that helplessness was associated with the use of denial and avoidance coping, which signifies the use of maladaptive coping [14]. This social support helps patients to obtain adaptive coping.

Helplessness is related to denial and avoidance coping mechanisms [14]. Hence, utilizing these two copings was dangerous for patients with CHD since they typically refuse treatment and the benefits [15]. In a different study, Roohafza *et al*. stated that patients with CHD with low social support showed a failure to modify a healthy lifestyle [36]. From these two studies, it can be seen that there are comparable effects between helplessness and low social support. The contrary occurs in patients with CHD who use adaptive coping with better social support. There is an increase in better lifestyle modification and a reduction in atherogenic processes [36], [38].

The compliance of CHD patients in carrying out a healthy lifestyle is associated with decreased cardiovascular events [39]. Furthermore, an increase in cardiovascular events such as recurrence increases pessimism about the benefit of treatment. This circumstance is associated with increased helplessness and psychological problems such as depression [10], [17].

Nurses implementing their role as care providers need to integrate body, mind, and spirit to provide nursing care to achieve optimal outcomes. Furthermore, one of the psychological problems that need to be cautious is helplessness. It is a psychological problem that reduces patient compliance with treatment and increases unexpected cardiovascular events [10], [17], [36], [38]. The effort that can be optimized is increasing social support. Therefore, nurses are expected to encourage the family to support and participate in the post-acute care process.

Conclusions

Social and emotional supports among patients with CHD are associated with helplessness. The higher the support, the lower the helplessness. Furthermore, it was identified that instrumental and structural supports showed a positive relationship with social support. The presence of partners and other people who assisted patients at home could increase social support and reduce helplessness. Therefore, nurses need to encourage those closest to the patient to provide adequate social and emotional support, especially those who do not have partners or are not married.

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