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ORIGINAL RESEARCH

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RELATIONSHIP OF SPIRITUAL-WELLBEING WITH ANXIETY AND DEPRESSION IN PATIENTS WITH CARDIAC HEART DISEASE

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Abstract

Background: Anxiety and depression are problems faced by patients with chronic diseases such as patients with Coronary Heart Disease (CHD). Both of these can also worsen the condition of CHD patients, thus needs to be prevented and handled. It is stated that spirituality can enhance constructive coping skills in patients with chronic diseases. But how it relates to anxiety and depression in patients with CHD in Indonesia is still unknown.

Objective: The study purpose was to identify the relationship of spiritual wellbeing with the incidence of anxiety and depression in CHD patients.

Methods: The research used descriptive correlative quantitative with cross sectional approach. The instruments used to measure the variables were Zung Self-rating Anxiety Scale, Beck Depression Inventory II, and Spirituality Index of Well-Being scale. Data were taken on 100 respondents within three months in outpatient cardiac unit with the consecutive sampling technique and analyzed by Spearman correlation test.

Results: The mean of anxiety, depression, and spiritual well-being respectively were 47.66, 43, and 60. Based on Spearman test, spiritual wellbeing was correlated with anxiety significantly $p=0.000(r=-0.371)$ and so was depression $p=0.000(r=-0.571)$.

Conclusions: There was a significant relationship between spiritual well-being with anxiety and depression with negative correlation direction. The higher the spiritual well-being, the lower the level of anxiety and depression will be. Thus, nurses need to strengthen the spiritual aspects of CHD patients to prevent psychosocial problems.

Keywords: anxiety; cardiac; coronary; disease; depression; spiritual

INTRODUCTION

Coronary heart disease (CHD) is a disease that arises due to blockage of coronary arteries. It can cause injury and infarction of the myocardium, causing various physical and psychological disorders to the sufferer especially during acute attacks. These disorders include severe chest pain, shortness of breath and even death ([Monahan, Sands, Neighbors, Marek, & Green, 2007](#)). Psychologically, the disorder can increase the level of anxiety ([Lewis, Heitkemper, Dirksen, O'Brien, & Bucher, 2010](#); [Monahan et al.,](#)

[2007](#)). In this phase, CHD patients should undergo reperfusion and medication therapy to avoid death or more severe complications.

Based on previous research, it was known that psychosocial problems such as anxiety and depression were often experienced by CHD patients ([Gustad, Laugsand, Janszky, Dalen, & Bjerkset, 2013](#); [Lane, Carroll, & Lip, 2003](#)). So was in Indonesia the number of anxiety and depression in patients with CHD after the acute attack was quite a lot

([Lismawaty, Nuraeni, & Rapih, 2015](#); [Rachmi, Nuraeni, & Mirwanti, 2015](#)), however, the treatment is still more focused on the physical needs of the patient than the psychological and spiritual needs.

Anxiety and depression has a negative impact on the development of CHD ([Rozanski, Blumenthal, & Kaplan, 1999](#)). Stress, anxiety or depression directly affect the heart because it can increase the workload of the heart through increased demand for oxygen ([Lewis et al., 2010](#)), this condition will lead to an increase in angina frequency as well as further physical limitations in patients with CAD ([Nuraeni, Mirwanti, Anna, & Prawesti, 2016](#)). Moreover, depression can lead to the formation of thrombosis which may increase the risk of new coronary artery blockage resulting in recurrence ([Libby & Theroux, 2005](#)). This condition, can further aggravate the patient's psychological condition and affect the deterioration of the disease.

Anxiety and depression should be prevented in patients with CHD, and there are aspects of each patient that can be used as a source of coping in the face of stressors due to this disease is the spiritual aspect. However, the aspect of spirituality in patients with CHD is still often disregarded by health personnel compared with physical aspects. Whereas, several studies have proven that the spiritual can decrease symptoms of depression in patients with chronic disease ([Lucette, Ironson, Pargament, & Krause, 2016](#)), other studies have suggested that the higher the level of spirituality the lower the level of anxiety ([Etnyre et al., 2006](#)). Indonesian people has a strong religious culture, however, this religious culture cannot necessarily determine the high level of one's spiritual well-being because spirituality and religion are fundamentally different ([Daaleman & Frey, 2004](#)). Furthermore, the influence of spiritual well-being on anxiety and depression in CHD patients in Indonesia has not been widely studied. The concept of spirituality in each person is different and influenced by culture, development, life experience, illness experienced and one's

perception of life and life ([Puchalski et al., 2009](#)) thus allowing the finding of different results in different populations.

This study was conducted to measure the relationship between spiritual well-being with anxiety and depression in CHD patients in Indonesia. As for anxiety in this study was an emotional response that lacked the specific object felt by CHD patients measured using the Zung Self Rating Scale (ZSAS) and depression were measured based on cognitive, affective and somatic symptoms based on Beck Depression Inventory II (BDI-II), while the spiritual well-being in this study was based on aspects of self-efficacy and life scheme developed in the spiritual index well-being scale. The study was expected increasing knowledge about aspects of spirituality and psychosocial problems in CHD patients in Indonesian population, and could increase the use of spiritual aspects by nurses in dealing with CHD patients in Indonesia particularly in West Java Province.

METHODS

Study design

This research used descriptive quantitative method with cross sectional approach. This study was conducted in a cardiac outpatient unit at a hospital in West Java and the data had been collected from April to June 2015, using consecutive sampling techniques with inclusion criteria were patients have been at least one month of treatment undergo post-acute heart attack, patients diagnosed with acute coronary syndrome (Unstable angina, NSTEMI, STEMI). The calculation of the number of samples used the formula for the study of correlation analysis in an unknown population. With type 1 error set at 5% two-way hypothesis, type 2 error is set at 10%, and the minimum correlation coefficient that was considered to be significant was 0.432, the number of subjects was 91 respondents. The total respondents who followed the study were 116 respondents, but who filled the instrument completely and in accordance with

the criteria set by the researchers was 100 respondents.

Instrument

Anxiety was measured using the Zung self-Rating Anxiety Scale (ZSAS). It had been tested and used in Indonesia with the result of validity and reliability i.e. 0.509 – 0.922 and 0.749 – 0.954 (Rachmi et al., 2015). Beck Depression Inventory II (BDI-II) Indonesian version used to measure depression, this instrument tested construct validity by Ginting, Näring, van der Veld, Srisayekti, & Becker (2013) in Validating the Beck Depression Inventory II research in Indonesia's general population and coronary heart disease patients with validation values $r = 0.55$, $p < 0.01$ and reliability measured by alpha Cronbach of 0.90. In addition, Spirituality Index of Well-Being (SIWB) was used to measure the level of spiritual well-being and the validity and reliability had been tested in this study. Based on study this questionnaire had a validity score of 0.373 - 0.614 and had a reliability value of 0.805 - 0.825.

Data analysis

To describe sociodemographic data including age, gender, income, and comorbidities,

quantitative descriptive analysis was performed using frequency distribution and percentage. Anxiety, depression and spiritual well-being were analyzed using frequency distribution, percentage and also mean scores with standard deviations. The relationship between variables was examined with bivariate data analysis using Spearman Rank test.

Ethical consideration

Ethical clearance for data collection had been obtained from the Research Ethics Committee of the General Hospital of Dr. Hasan Sadikin No. LB.04.01/A05/EC/179/V/2015. All respondents had informed consent and agreed to participate in the research.

RESULTS

A total of 116 respondents returned survey instruments, but only 100 respondents whose data were analyzed, because 16 respondents did not complete the survey or the criteria was not appropriate. Based on table 1, it can be seen that most of the respondents are over 45 years old and have male sex and had income between 1 - 3 million per month, and most did not have coexisting disease.

Table 1 Socio-demographic characteristics of respondents (N = 100)

Characteristics	Frequency (F)	Percentage (%)
Age (Year)		
≤ 45	9	9
> 45	91	91
Gender		
Male	77	77
Female	23	23
Income		
< 1million (Rp)	16	16
1 – 3 million (Rp)	51	51
≥ 3 million (Rp)	33	33
Coexisting disease		
Have	36	36
Not have	64	64

From table 2, it can be seen that respondents' anxiety levels were mostly at the mild to moderate level. While the level of depression as much as 37% of respondents experienced

mild to moderate depression, 3% of respondents experienced severe depression. And most respondents had a high level of spiritual well-being.

Table 2 The level of anxiety, depression and spiritual well-being

Variable	Frequency (F)	Percentage (%)
Anxiety		
Normal (score 24-44)	44	44
Mild – moderate (score 45-59)	48	48
Severe (score 60-74)	8	8
Depression		
Minimal (score 0-13)	60	60
Mild (score 14 -19)	22	22
Moderate (score 20 – 28)	15	15
Severe (score 29 – 63)	3	3
Spiritual-wellbeing		
Low (score < 36)	15	15
High (score ≥ 36)	85	85

Table 3 The relationship between anxiety, depression and spiritual well-being

Variables	Min score	Max score	Mean score	Standard Deviation	Spiritual-wellbeing	
					p	r
Anxiety	37.5	70.00	47.66	7.02	0.000	-0.371
Depression	0.00	43	12.1	8.3	0.000	-0.571
Spiritual-wellbeing	24	60	43.3	6.5	-	-

Based on table 3, it was shown that there was a significant relationship between spiritual-wellbeing with anxiety and depression with a negative correlation direction, the higher spiritual-wellbeing, the lower the level of anxiety.

DISCUSSION

From the results of the study revealed that 48% of respondents experienced mild to moderate anxiety and 8% experienced severe anxiety, in addition 22% of respondents experienced mild depression, 15% of moderate depression and 3% severe depression. This condition indicated that the anxiety and depression experienced by patients after acute attacks of CHD persist even in low level and percentages. Anxiety and depression experienced by patients with CHD disease following acute attacks may be occurred as a result of a diagnosis of serious illness, worsening health status, treatment interventions and recurrence of recurrent symptoms ([Amin, Jones, Nugent, Rumsfeld, & Spertus, 2006](#)).

Stress, anxiety or depression in CHD patients can directly affect the heart. This occurs as a result of sympathetic nerve stimulation, which

increases the conduction velocity through the AV node thus increasing the heart rate and vasoconstriction of the blood vessels that will activate the renin angiotensin system ([Monahan et al., 2007](#)). This condition will cause an increase in the workload of the heart as a result of increased oxygen demand. Other studies described the effects of anxiety with a risk of heart attack, the research explained that anxiety was an independent factor that caused myocardial infarction (MI) ([Scherrer et al., 2010](#)). While, depression can increase the inflammatory reaction and this reaction is an intrinsic part of the onset of atherosclerosis and is associated with the release of cytokines (C-reactive protein and IL-1 and IL-6), which are referred to as inflammatory markers ([Ridker, Hennekens, Roitman-Johnson, Stampfer, & Allen, 1998](#)). This inflammatory marker is a predictor of the incidence of CHD and may worsen the prognosis of patients with CHD ([Lindmark, Diderholm, Wallentin, & Siegbahn, 2001](#)).

Spiritual well-being based on the research showed positive results. There were 85% of respondents included in the category of having high spiritual-wellbeing, otherwise based on mean score, the spiritual well-being of the respondents was at a high value. Indonesian culture strongly upholds

religiosity. Many Indonesian people regard patience as well as resignation to God in the face of illness as part of worship, and it was further said that the knowledge and practice of religion can help someone to improve his spirituality ([Nuraeni, Ibrahim, & Rizmadewi, 2013](#)), this can be the cause of the high spiritual-wellbeing in the research. However, low spiritual well-being was still found, this condition may be occurred as a result of problems in dealing with God or disappointment to God ([Ellison & Lee, 2010](#)). Such perceptions can occur acutely to people who are experiencing stress or trauma conditions. Severe illnesses such as CHD may be perceived as severe and stressful events in some sufferers.

The results of research proved a significant relationship between spiritual-wellbeing with anxiety and depression with a negative correlation direction. The higher the spiritual well-being, the lower the level of anxiety and depression. The results of this study reinforced previous studies but in different patient populations, including research conducted by Bekelman et al ([2007](#)) in patients with heart failure. They stated that spiritual well-being was significantly related to depression, when a person's spiritual well-being was high it will be less likely to get depressed ([Bekelman et al., 2007](#)). It was generally mentioned that the spiritual can reduce depression in patients with chronic diseases ([Lucette et al., 2016](#)). And so also with anxiety, spirituality can lower the anxiety level of patients with chronic diseases ([Bekelman et al., 2007](#)).

Spiritual-wellbeing can reduce depression because it can be used as a coping when experiencing chronic illnesses, spirituality can streamline the potential for patient self-protection ([Bekelman et al., 2007](#)). Someone who was able to achieve spiritual comfort or spiritual well-being would gain peace of mind. Peace of the soul can bring a positive influence on health, which can reduce stress levels. Along with the decrease in stress levels the body's homeostasis would be more preserved. The decreased of stress levels can

also reduce the source of anxiety or depression, so that sympathetic activity could be lowered and workload of the heart would be decreased. This can lead to reduce physical complaints related to chest pain, fatigue and shortness of breath in CHD patients.

Spirituality and religion were positively related to mental, behavioral and physical health of patients with CHD ([Krucoff et al., 2001](#)). Nurse as a care provider must see the patient as a holistic entity including body, mind and spirit. Physical aspect is important but psychological and spiritual aspects also need to be considered. In providing spiritual nursing care, the nurse's task is helping the patient find or improve his spiritual well-being so that the patient is able to cope with the pain or suffering by using his spiritual power as a source of healing.

CONCLUSION

Spiritual-wellbeing was associated with anxiety and depression with negative correlation direction, the higher the spiritual well-being, the lower the level of anxiety and depression. Psychosocial conditions in CHD patients in the patient population in West Java Indonesia were still a problem, so this spiritual aspect can be considered to be used by nurses in overcoming the psychosocial problems of patients with CHD after experiencing acute attacks. Furthermore, it is necessary to study how spiritual in nursing intervention can influence the decrease of psychosocial problems in CHD patients.

Declaration of Conflicting Interest

None declared.

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Author Contribution

All authors contributed equally in this study.

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