

The Degradation of Cortisol in Coronary Heart Patients Receiving Islamic Nursing Care: A Pilot Study

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Keywords: Islamic Nursing, Coronary Heart, Cortisol, Psycho-spiritual.

Abstract: Islamic nursing care provides a nursing service intended for worship, based on the Qur'an and Hadith to reach the blessings of Allah SWT. This study aims to analyze the influence of Islamic nursing care towards psycho-spiritual comfort and cortisol of coronary heart patients. The research design was pre-experimented with a control group designs only as post-test design. The population of the study are heart patients in hospital wards. A sample of 20 respondents was selected using a consecutive sampling technique. Independent variables are the Islamic Nursing Care and the dependent variable is the psycho-spirituality of coronary heart patients. Psycho-spiritual data were measured using a questionnaire and the patients' levels of cortisol. Analysis was conducted using independent t-test statistics with the significance level $\alpha < 0,05$. Results showed that Islamic nursing care influenced the psycho-spirituality of coronary heart patients with a p value = 0,036. There was no effect of Islamic nursing care on cortisol levels of coronary heart patients with p = 0.688 ($\alpha \geq 0.05$). The mean of the cortisol treatment group decreased compared to the control group. Islamic nursing care enhances psycho-spiritual comfort and lowers coronary heart patients' cortisol. Psycho-spiritual heart patients in subsequent studies should be observed in detail for clinical signs, such as electrocardiography and biomarkers.

1 BACKGROUND

The anxiety of coronary heart patients is often associated with adverse cardiovascular outcomes for people who have suffered heart attacks (Nur'aeni, Ibrahim, & Agustina, 2013). Anxiety sufferers with untreated coronary heart disease may increase the risk of CHD from non-fatal to life-threatening (Shibeshi, Young-xu, & Blatt, 2007). Research shows that spiritual or religious behavior greatly supports the reduction of anxiety (Ai, Pargament, Kronfol, Tice, & Appel, 2010). Previous research has shown that nursing care is still more focused on physical problems (Bakar & Kurniawati, 2013). Circumstances indicate the need for Standard Operating Procedures (SOPs) to carry out Islamic nursing care.

Islamic nursing provides professional care that adheres to the Islamic principles of Ihsan and consistently provides guidance relating to worship and health (Fadilah, 2009). Islamic nursing is a service that is provided with an intention of worship

based on Al-Qur'an and Hadith to reach Allah SWT (Sudalhar, 2011). Research shows that good nursing care is closely related to patient satisfaction (Kurniawati et al., 2013). Patient satisfaction can be described as patient psycho-spiritual comfort. The comfort of Muslim patients (psycho-spiritual) is the attainment of well-being through displaying gratitude for all favors and accepting all trials from God with patience and sincerity (Bonab, Miner, & Proctor, 2013). Anxiety or psychiatric illness can be cured by the method of faith shown; a person becomes one of gratitude, patience, and sincerity (Izzan, 2010). Gratitude, patience, and sincerity can be seen biomolecularly by observing cortisol levels (Ramadhani, 2007). Cortisol plays a role in ensuring the availability of energy in the body for tackling and preparing the body for stress (Guyton & Hall, 2014). The needs of Muslim patients (psycho-spiritual) require fulfillment; in fulfilling the needs of Muslim patients, the nurse needs to know the habits of a Muslim patient (Barolia & Karmaliani, 2008). Islamic nursing care can fulfill a Muslim

patient's habits to assess their comfort (psycho-spiritual). The purpose of this study is to analyze the effect of providing Islamic nursing care for the psycho-spirituality of coronary heart patients.

2 METHODS

The research design used was pre-experimental with a control group for post-test only. The population in the study comprised of cardiac patients in the patient ward of the Haji Hospital, Surabaya. The sample of 20 respondents (10 respondents in the control group and 10 respondents in the treatment group) were selected using a consecutive sampling technique. The independent variable in this study is Islamic nursing care and the dependent variables are the psycho-spiritual comfort and coronary heart disease levels of cortisol.

Convenient psycho-spiritual and cortisol data retrieval were performed for two months (March–April 2017) according to these criteria: no complications of arrhythmias and not in serious condition. Psycho-spiritual data were measured using a questionnaire consisting of the patience, sincerity, and gratitude aspects developed by Bakar, Adriani, Qomariah, & Hidayati (2017). The psycho-spiritual questionnaire was valid and reliable with Pearson correlation values in the range 0.726–0.974 and Cronbach alpha in the range 0.866–9 969. Psycho-spirituality was also measured by the cortisol levels in the blood using the enzyme-linked fluorescent immunoassay (ELFA) method. Measurements of the cortisol content were performed by the Haji Hospital Laboratory in Surabaya. This research was tested and declared ethical by the Ethics Research Commission of the Haji Hospital, Surabaya on 03 October 2016, with the letter and number approval No.073/26/KOM/ETIK/2016. The inferential analysis used was the independent t-Test with SPSS 13 software, and the significance level $\alpha < 0,05$.

3 RESULTS

The results of data collections show the subjects characteristics are as follows: both groups showed similar characteristics in age, economy, education, and period of treatment. Most respondents were elderly. Their economic status was mostly in adequate. The respondents' education status was mostly deficient and included both formal and non-

formal education. Based on the treatment period, both groups had received long-term Islamic nursing.

The prognosis and treatment experience was distinctly characteristic in both groups. The prognosis of the control group was largely lighter for heart disease than the treatment group. Experiences treated by the most control groups have experienced Islamic nursing care from the treatment group, for the complete result can be seen in Table 1.

Table 1: Distribution table of heart patient characteristics.

No	Patients' Characteristics	Number of Control Group/ percentage	Number of Treatment Group / percentage
1	Age		
	a. 36–45 years old	1/10%	0/0%
	b. 46–55 years old	3/30%	1/10%
	c. 56–64 years old	4/40%	6/60%
	d. >65 years old	<u>2/20%</u>	<u>3/30%</u>
	Total	10/100%	10/100%
	Prognosis		
	a. UA	5/50%	2/20%
	b. NSTEMI	2/20%	3/30%
	c. STEMI	<u>3/30%</u>	<u>5/50%</u>
	Total	10/100%	10/100%
3	Economic Status	2/20%	2/20%
	a. Deficient	5/50%	7/70%
	b. Adequate	<u>3/30%</u>	<u>1/10%</u>
	c. Good	10/100%	10/100%
	Total		
4	Education Status	6/60%	7/70%
	a. Deficient	1/10%	3/30%
	b. Adequate	<u>3/30%</u>	<u>0/0%</u>
	c. Good	10/100%	10/100%
	Total		
5	Experience of Treatment		
	a. 1 time	1/10%	5/50%
	b. 2–3 times	7/70%	2/20%
	c. \geq 4 times	<u>2/20%</u>	<u>3/30%</u>
	Total	10/100%	10/100%
6	Period of Treatment		
	a. 1 day	0/0%	0/0%
	b. 2–3 days	8/80%	7/70%
	c. \geq 4 days	<u>2/20%</u>	<u>3/30%</u>
	Total	10/100%	10/100%

Table 2: The differences in the patients' psycho-spiritual and cortisol tests.

Measurement	Control Group (X ± SD)	Treatment Group (X ± SD)	Independent t-test
Psycho-spirituality of patients	34,80 ± 5,09	39,10 ± 3,18	p = 0,036
Patience	13,80 ± 2,97	14,70 ± 2,50	-
Sincerity	12,90 ± 2,68	13,60 ± 1,65	-
Gratitude	9,40 ± 2,37	9,40 ± 0,70	-
Cortisol level	131,29 ± 97,05	117,05 ± 51,57	p = 0,688

Table 2 explains the effect of providing Islamic nursing care for psycho-spiritual patients. The psycho-spiritual level of patients in the treatment group was higher than that of the control group. The standard deviation value of the small treatment group shows the psycho-spiritual patient at the same level. Gratitude demonstrates an average deficiency level in both groups. Patience and sincerity in both groups were at a good level. There was no effect of Islamic nursing care on cortisol levels. The mean value of the cortisol examination in the treatment group was lower than the control group. The average level of cortisol in both groups was within the normal range of morning cortisol levels.

4 DISCUSSION

4.1 Psycho-spirituality of Coronary Heart Patients

Islamic nursing care can improve the psycho-spirituality of the patient. The results of this study are in accordance with previous research, which stated that Islamic nursing care is closely related to patient satisfaction and the religious culture of patients (Fini, Mousavi, Sabdani, & Hajbaghery, 2012). Satisfaction, according to Islam, is full of gratitude for the favors of God in physical, spiritual, and social aspects (Fadilah, 2009). Psycho-spiritual heart patients can be exemplified by the state of a change in their condition. Coronary heart patients are patient and sincere when they are healed but there is still a disability encountered with patience and when pain is severe or there is no hope to heal,

patients willingly accept this condition (Izzan, 2010).

Psycho-spiritual patients who show patience and sincerity are found within the 'good' category. The 'adequate' category shows that patients still cannot be patient and are unwilling to accept pain.

This situation is not in accordance with the advice of the holy book of Al Qu'an of Surat Al Baqarah verse 153, which states "O you who have believed, seek help through patience and prayer. Indeed, Allah is with the patient." The Word of God is reinforced by the letter of Ash-Shu'ara 80: "And when I am sick, He is the God who heals." This verse shows that we must be sure God will help his servant, for God Almighty heals the sick. Although attempts are made, not everyone can recover as before. Patience can also be demonstrated by believing that everything that happens is the destiny that God set for us. A Muslim must be sure that whatever happens to them, they must have an element of goodness.

Being sincere means to observe merely the act of seeking the pleasure of Allah and purifying all sorts of worldly deeds (Gymnastiar, 2006). Al Qur'an letter of Al Bayyinah 5 states "And they were not commanded except to worship Allah, [being] sincere to Him in religion, inclining to truth, and to establish prayer and to give zakah. And that is the correct religion." Sincerity limitations, for example, do not care if all human appreciation and praise is on him, because his heart sincerely hopes only Allah's pleasure, and he does not want others to pay attention to his actions even though only small (Taimiyah, 2016). Sincerity also includes all deeds and words.

The study also found that patients were not grateful for the conditions they experienced. Patients' gratitude is not done, among others, most patients do not perform the five obligatory prayers. This situation indicates that the patient still cannot practice and carry out God's commands in the verses. The Qur'an Ibrahim 7 states "And [remember] when your Lord proclaimed, 'If you are grateful, I will surely increase you [in favor]; but if you deny, indeed, my punishment is severe.'" This book explains that the ordeal that befell us, is merely a sign of love and affection of Allah to his servants. If one has finished treatment and has been given a chance by God to heal again then one should be grateful. Gratitude to God has given us mercy. We must be grateful that God still gives us the opportunity to repent and cleanse ourselves (Taimiyah, 2016). Be grateful, not just say Alhamdulillah, but put something according to its

function and the will of Allah (Taimiyah, 2016). The health favors we have received we must do by God's command to increase faith and piety. We always do good to seek God's approval as proof of gratitude.

Regarding patients who are not grateful, it is possible that the characteristics of patients are very minimal, including a formal or non-formal education status at a deficient level. This situation is in accordance with research that states that knowledge affects the formation of attitudes and behavior (Utami & Supratman, 2009). Education related to the psycho-spiritual, especially non-formal, is linked to patients' knowledge of religion. Other studies have determined the effect of informal education on the willingness or behavior of patients in worship (Bakar & Kurniawati, 2013).

4.2 Cortisol

The results of biomolecular examinations of psycho-spiritual indications of patients regarding cortisol levels showed no significant effect. This result is consistent with previous studies showing that the cortisol levels of patients receiving dzikir intervention was not significant compared to the control group of patients with heart failure (Yusuf, Nihayati, Iswari, & Okviasanti, 2017). The insignificant level indicates that between the treatment group and the psycho-spiritual condition control, patients' distress levels are the same. This could be because the research patients are within the elderly age range. An elderly age promotes a better self-acceptance and consistent gratitude (Sirojammuniro, 2015). This will affect the psycho-spiritual biomolecular (cortisol) because acceptance signifies the absence of distress. In theory, distress produces prominent physiological responses in the body with increased cortisol (Kunz-Ebrecht, Mohamed-Ali, Feldman, Kirschbaum, & Steptoe, 2013).

The results of the cortisol treatment group showed lower levels than the control group. The reduction in cortisol levels in the treatment group demonstrates a form of physiological adaptation of the body to the stimulus from Islamic nursing care demonstrate reduced distress at a hormonal level. Hormonal changes due to positive cognitive responses are sent by amigdala as a decoy towards the hippocampus. Amigdala then stimulate the hypothalamus through the hypothalamic-pituitary-adrenal (HPA) axis to reduce CRH spending. A decrease in CRH levels stimulate the anterior pituitary to lower ACTH levels so that cortisol is

released into the controlled bloodstream (Newberg, 2011).

Cortisol patients who show an average decrease can be used as guidance that Islamic nursing care can promote changes in patients. This shows that Islamic nursing care affects the learning process to form the correct perceptions so that it can decrease depression, which indicates decreased levels of stress hormones in the body. Many previous studies have shown positive results of cortisol use as an indicator, including decreased levels of cortisol in patients with leprosy distress who received modified intervention Cognitive Behavioral Stress Management (CBSM) - asthma Asmaul Husna (Satiti, 2013). This situation shows that it is important to maintain and continue improving Islamic nursing care. Islamic nursing care affects patients' perception of stress as shown by the physical or biological changes in the body of respondents in the form of decreased cortisol levels.

5 CONCLUSIONS

The comfort that is experienced by coronary heart patients is due to the success of Islamic Nursing Asuha. The comfort characteristics can be assessed from the patient's psycho-spiritual patience, sincerity, and gratitude. Psycho-spirituality was assessed using patients' cortisol levels and resulted in an average degradation of the treatment group compared to the control group. Subsequent research should study clinical signs, such as electrocardiography and biomarkers, when observing psycho-spiritual heart patients. The limitation of this study is that no data were collected before action was taken.

ACKNOWLEDGEMENTS

We would like to acknowledge all the participants, nurses, and other hospital staff who cooperated in this study. We also acknowledge the Directorate of Research and Social Dedication, the Ministry of Research Technology, and the Higher Education of Indonesia (Agreement No 004/ADD/SP2H/LT/DRPM/VIII/2017) for their support during the conduct of this research, the collection, analysis, and interpretation of data, in the writing of the report, and the preparation of this article.

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