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FACTORS AFFECTING ANXIETY IN FAMILIES OF ACUTE CORONARY SYNDROME PATIENTS AT THE ALOEI SABOE HOSPITAL IN GORONTALO

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ABSTRACT

Families with treated patients suffering from Acute Coronary Syndrome in the Intensive Room, mostly experience anxiety and symptoms of depression, fatigue and poor quality sleep. The reality of the impact of anxiety on the patient's family member is causing problems with the physical and mental health of the patient. The purpose of this study was to determine the factors that influence family anxiety of acute coronary syndrome patients. The method used is correlative analytic cross sectional study approach with a sample of 60 respondents. Family anxiety measurements used the Hamilton Rating Scale for Anxiety (HRS-A) questionnaire. The results showed that there were effects of age, length of stay of patients, sex, education level, experience on family anxiety with statistical values (0.000; $P<0.05$). Linear regression analysis shows the results that female gender is the most influential variable positively on anxiety scores ($\beta=1.7$). The conclusions of this study are gender, length of stay of patients and family experience, positively and significantly influence the increase in family anxiety scores.

Keywords: Anxiety, Family, Acute Coronary Syndrome

INTRODUCTION

Acute Coronary Syndrome (ACS) is one of the most common health problems in the world and the main cause of death. Significantly, causing more than 17.3 million deaths per year worldwide (Alexandri *et al.*, 2017). In addition, SKA is the most important determinant of the most difficult chronic heart failure and most often causes permanent disability (Hodzic *et al.*, 2018).

Patients diagnosed and experiencing ACS emergencies can cause personal, family, social and economic burdens that make disease management more complicated (McLaughlin *et al.*, 2005). Most families of patients have moderate anxiety levels of 29.2% and severe anxiety levels 41.7% (Woretma & Utami, 2016).

Patients who are treated in the intensive care unit (ICU) cannot make their own decisions. Therefore, their families must be substitute decision makers for important parts of the treatment process. Therefore, measuring family satisfaction with intensive care to patients has become an important and essential component of the quality of nursing services (Hopkins, 2015).

The reality of the impact of anxiety on the patient's family member is causing problems with the physical and mental health of the family (Wartella *et al.*, 2009). Another impact of anxiety for families is experiencing sleep disorders (Carter & Clark, 2005). Poor sleep has been identified as an important factor in the physical and mental health of caregivers and can result in changes in stress response, irritability, depression, reduced attention, decreased immune function and impaired decision-making abilities (Day *et al.*, 2013).

Some studies have discussed that most families who treat patients with ACS in the intensive room experience anxiety and symptoms of depression, fatigue and poor sleep quality (McAdam *et al.*, 2010; Rusinova *et al.*, 2014) and symptoms tend to persist for several months after the patient's hospitalization. Most family members experience 70% anxiety and depression 35% (Bolosi *et al.*,2018; Schmidt & Azoulay, 2012).

Other literature shows that family members who care

for ACS patients in intensive spaces experience relevant psychological distress and they need support as long as patients are treated in that space (Pochard *et al.*, 2005). This needs to be done to provide family psychological needs for the creation of quality care and help in the healing process of patients (Fumis *et al.*, 2015).

Based on the exposure of the problem above, the researcher wanted to know the factors in terms of the characteristics of the respondents that could affect the family anxiety of acute coronary syndrome patients in Aloei Saboe Hospital, Gorontalo City.

RESEARCH METHODOLOGY

This study used a correlative analytic cross-sectional study approach. The population in this study were families with Acute Coronary Syndrome patients who were treated at Aloei Saboe Hospital, Gorontalo City. Sampling applied purposive sampling. Based on inclusion criteria, there are 60 respondents. Multivariate model. Family anxiety measurement using the Hamilton Rating Scale for Anxiety (HRS-A) questionnaire.

RESULTS

The results of the study of respondents' characteristics and the effect of slow deep breathing on decreasing family anxiety in patients with the acute coronary syndrome are as follows:

Table 1: Characteristics of Respondents Based on Age, Length of Patient Care Day and Anxiety

Variable	N	Min-Max	Mean±SD
Age	60	23-56	34.83±0.105
Length of Stay	60	1-6	2.78±1.425

Table 1 showed the age of the youngest respondent is 23 years and the oldest age is 56 years. In addition, length of stay for patients with a span of 1 to 3 days.

Table 2: Characteristics of Respondents Based on Gender, Education, Experience and Economic Status

Variable	*f*	%
Gender		
Males	28	46.7
Females	32	53.3
Education		
Senior High School	32	53.3
Academic	28	46.7
Experience		
Ever been	27	45.0
Never	33	55·0
Economic Status		
Own cost	11	18·3
Insurance	49	81·7

Table 2 showed for gender, the most dominant are women with 32 people (53.3%), the dominant education is Senior High School with 32 people (53.3%). Based on family experience in caring for patients with ACS, the most dominant were 33 families (55%) who had never treated. Based on the most dominant economic status with the insurance costs of 49 respondents (81.7%).

Table 3: Factors Associated with Anxiety in 60 ACS Patient Families

Variable	r	*P*
Age	-0.490	*0.000
Length of Stay	0.456	*0.000
Gender	0.526	*0.000
Education	-0.575	*0.000
Experience	0.665	*0.000
Economic Status	-0.088	0.503

** P, 0.05*

Table 3 showed the average anxiety of respondents in the treatment group before being given a combination of Slow Deep Breathing and health education is 24.82 with a standard deviation of 3.868, after being given a combination of Slow Deep Breathing and health education, the average anxiety respondent is 15.45 with the standard deviation 4.344. The results of further analysis obtained *P* value 0.000 ($p<0.05$) with a difference of 9.36 (95% CI 8.38 to 15.61).

Table 4: Multiple Linear Regression Analysis

Model		Unstandardized Coefficients		Sig.	Collinearity Statistics
		B	Std. Error		VIF
1	(Constant)	25.826	2.301	0.000	
	Age	-0.044	0.021	0.039	1.252
	Gender	1.744	0.432	0.000	1.207
	Education	-1.756	0.467	0.000	1.412
	Length of Stay	0.338	0.154	0.033	1.221
	Experience	1.566	0.522	0.004	1.752
a. Dependent Variable: Family Anxiety					

Table 4 shows all the independent variables have a significant effect on the dependent variable, so the final linear regression modeling is as follows:

Anxiety =25.8 + 1.7 Gender + 0.3 Length of Stay + 1.5 Experience – 0.04 Age – 1.7 Education

Assumption Test

Test the assumptions in this study, first the existence assumption is seen by doing a descriptive analysis of the residual variables of the model. The results of the study show a residual number with a mean of 0.000 and a standard deviation of 1.453, thus the existence

assumption is fulfilled. Second, the assumption of independence can be seen from the value of Durbin Watson in the research, which is 1.728. This value is still between the range of values of -2 to +2 so that the independence assumption is fulfilled. Third, the multicollinearity assumption can be seen in the tolerance value of the coefficients table where if the tolerance value of each variable in each model is greater than 0.4 then this assumption is fulfilled. In this study, the tolerance value for each model is more than 0.4 so that the assumption of multicollinearity is fulfilled. Fourth, the assumption of heterosensity can be assessed by dividing the residual plot. This study shows that the results of the scatter plot residual plot are not patterned and spread evenly around the zero point line so that the assumption of heterosensity can be said to be fulfilled.

DISCUSSION

Association between Gender with Anxiety in ACS Patient Families

The significance value of the gender variable is 0.000 which is smaller than 0.05, meaning that gender has a significant effect on family anxiety. In addition, the gender regression coefficient of 1.7, is positive, it can be interpreted that gender will affect the increase and decrease in anxiety scores. Respondents of female sex were considered to have higher anxiety scores compared to respondents of the male sex. Because in this study women had more than 32 people (53.3%).

Anxiety thoughts affect girls more than boys, they have more metacognitive beliefs about uncontrollable worries and believe that these concerns must be avoided (Bahrami & Yousefi, 2011). In developed countries, women are found to be two to three times more likely to experience anxiety than men and have a higher anxiety score (Leach *et al.*, 2008). The US National Institute of Mental Health reports that the prevalence of 60% more women experiences anxiety than men (NIMH, 2012).

Biologically, the fluctuations in the hormones estrogen and progesterone in women are believed to be able to increase the body's response to stress, thereby increasing susceptibility to anxiety. Estrogen activity will increase the activity of the hypothalamus-pituitary adrenal axis through CRF (Corticotropin Releasing Factor) and ACTH (Adrenocorticotropic Hormone) so that the secretion of stress hormones also increases. In addition, men are psychologically adaptable and have better coping mechanisms. The presence of androgen hormones in men will inhibit the activity of the hypothalamus-pituitary adrenal axis, a different effect from estrogen in women (Donner & Lowry, 2013).

Association between Length of stay with Anxiety in ACS Patient Families

In this study, the length of stay in question was how long the patient was admitted to the hospital from the start of hospital admission. Regression coefficient value of length of stay is 0.3, positive value, it can be interpreted that if the longer the day of care the patient will affect the increase in family anxiety. The length of stay for ACS patients in this study ranged from 1 to 6 days.

The length of stay, inadequate information about medical actions and patient prognosis, as well as an intensive care environment, can cause anxiety to the family (Askari *et al.*, 2013). This is supported by the results of research by (Shorofi *et al.*, 2016), obtained after entering into the intensive care room, the length of time the patient cared for in the hospital and the intensive care environment will cause anxiety to the family.

In Greece, the patient's family experience, the first week after entering intensive space experiences high levels of anxiety and symptoms of depression (97% and 81%, respectively). In addition, research studies on 223 family members keep patients experiencing high levels of anxiety on the third day when entering intensive rooms (Konstanti *et al.*, 2016).

Association between Family Experience with Anxiety in ACS Patient Families

In this study, the family experience in question was a family experience that had or had never treated a family with Acute Coronary Syndrome. The regression coefficient of family experience of 1.5 is positive, meaning that family experience in caring for a family with SKA will affect the increase and decrease in anxiety scores. Respondents who have never treated are considered to have higher anxiety scores compared to respondents who have treated families with SKA. Because in this study the respondents who had never treated had a greater number of 33 people (55%), compared to 27 respondents who had treated (45%).

The experience of families who have never treated

with an ACS case is easy to experience anxiety. Because it faces an unpleasant situation with the condition of the intensive care unit room. It was the first time facing a situation with medical equipment and technology, to continuously monitor the patient's condition. This situation can cause stressors in the form of mental, emotional, and physical stress to family members (Shorofi *et al.*, 2016).

Association between Age with Anxiety in ACS Patient Families

In this study, the age regression coefficient value of -0.04 was obtained, negative, it can be interpreted that the age of the respondent will influence the increase and decrease in anxiety scores. Respondents with higher age were considered to have lower anxiety scores compared to respondents with a young age. The age of the respondents in this study was found in a range of 23 years to 56 years.

Based on a survey of 6,300 families, a young person, provides a comprehensive picture of mental health, is easily experiencing anxiety, so the role of health and education services is needed in providing assistance to address the psychological stresses they face (Lawrence *et al.*, 2015).

Age differences directly influence decision making. Older adults have open minds so that they can be easier and faster to make decisions than younger adults (Queen & Hess, 2010).

Association between Family Education Level with Anxiety in ACS Patient Families

The educational regression coefficient of -1.7, has a negative value, can be interpreted that education will affect the increase and decrease in anxiety scores. Respondents with higher education were considered to have lower anxiety scores compared to low education respondents. Because in this study more respondents were equal to Senior High School totaling 32 people (53.3%), Academic education totaling 28 people (46.7%).

The results showed that age, gender, and level of education have important effects on one's anxiety level. Anxiety is more common in someone with a lower education status than among those with higher education. Someone with higher education has emotional maturity, develops a good personality, has a sense of responsibility, creativity and has a better ability to solve problems (Talo Yildirim *et al.*, 2017).

CONCLUSION

Based on the results of multiple linear regression analysis, it is known that the three variables consisting of gender, length of stay of patients and family experiences, with each value of (1.7; 0.3; 1.5) positively and significantly influencing the increase in family anxiety score. This study can be used as an evaluation so that families get intervention in family psychological needs, so families can control their anxiety well.

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