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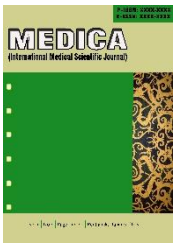

Investigating the Correlation among Variables in the Islamic Spirituality Model for Comfort in Patients with Coronary Heart Disease

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Abstract

Comfort in patients with coronary heart disease (CHD) is crucial to accelerate the healing process during their stay in intensive care units (ICUs). Factors contributing to patient comfort are essential in providing comprehensive nursing care. This study aims to investigate the relationship among variables, including patient characteristics, emotional response, healthcare service, Islamic spirituality, spiritual meaning, and comfort in patients with CHD. A cross-sectional study was conducted, involving 110 respondents in the ICUs of hospitals across Central Java Province, Indonesia, from January to May 2023. The sample was taken using purposive sampling. The data were collected using questionnaires that had been modified under a permission from the authors. SmartPLS 3 with partial least square structural equation modelling (PLS-SEM) was employed to analyze the correlation among the variables. The result showed that patient characteristics showed significant correlations with emotional response (t=2.082, p=0.038) and spiritual meaning (t=3.142, p=0.002). Similarly, support significantly correlated with emotional response (t=4.032, p<0.001) and spiritual meaning (t=2.448, p=0.015). Healthcare service exhibited significant correlations with emotional response (t=9.485, p<0.001) and spiritual meaning (t=5.249, p<0.001). Emotional response was found to correlate with Islamic spirituality and spiritual meaning (t>1.96, p<0.05), while Islamic spirituality showed a significant correlation with spiritual meaning (t=2.727, p=0.007). Finally, spiritual meaning significantly correlated with comfort (t=6.119, p<0.001). In conclusion, this study demonstrated significant correlations among variables such as patient characteristics, support, healthcare service, emotional response, Islamic spirituality and spiritual meaning to enhance patient comfort in ICUs. Policymakers should pay attention to factors affecting patient comfort during their stay in ICUs, including physical, psychospiritual, sociocultural, and environmental comfort based on self-regulation.

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1. INTRODUCTION

Discomfort during stays in intensive care units (ICUs) is a major concern for patients with coronary heart disease (CHD). These patients often experience pain due to treatment procedures, dyspnea, fatigue, sleep disorder, changes in the care environment, fear, sadness, feelings of loneliness due to separation from family, emotional issues, spiritual distress, and depression (Aziz et al., 2020; Geense et al., 2021; Tavakoli et al., 2022). Therefore, providing care that addresses the physical, psychospiritual, sociocultural, and environmental needs is essential to make patients with CHD comfortable during their stay in ICUs (Klimasinski, 2021; Willemse et al., 2020). Failure to comprehensively address comfort issues can lead to prolonged hospital stays, increased treatment costs, delayed healing processes, and decreased quality of life after ICU care (Carrillo-Torres et al., 2018; Sollgruber et al., 2018). For this reason, it is important for nurses to consider patient comfort during their ICU stays. While meeting the physical needs of patients is of utmost importance, other needs, such as psychological needs, are often overlooked (Ismail & Hatthakit, 2018; Ramadhani et al., 2019).

Previous intervention models developed to address comfort in cardiovascular patients have primarily focused on rehabilitation for CHD patients. Theoretically, these models include mental, emotional, and social comfort and are used to evaluate patients' ability to perform self-care during cardiovascular rehabilitation processes (Sun et al., 2021). However, no study has either analyzed the relationship between variables in developing intervention models in ICUs or linked them to the patient's spiritual needs. In addition, spiritual care is important for heart failure patients as it helps them cope with the considerable suffering and provides a sense of well-being (Clark & Hunter, 2019). Another other study found that such variables as levels of spirituality, particularly trust, caring for others, and connectedness with nature, were associated with lower levels of depressive symptoms, anxiety, and anger in individuals with CHD (Ginting et al., 2015). However, this study did not link it with patient comfort. Considering the foregoing, the current study developed by the researcher is worth conducting since it connects the variables that influence comfort in Islamic spirituality model for patients with CHD in ICU.

Islamic spirituality model is an integrated patient care intervention model that aims to give patients both physical, psychospiritual, sociocultural, and environmental comfort. This model can enhance patient comfort and be implemented for CHD patients during their ICU stays (Moreira et al., 2021). This nursing intervention model involves specific actions that nurses perform to provide spiritual care to patients, These measures can affect their beliefs, knowledge, and rituals through activities such as prayer, dhikr (remembrance of God), and contemplation by reflecting on what the Qur'anic verses mean (Amin et al., 2018). This model combines cognitive, emotional, behavioral, and spiritual practices. Findings from previous studies had shown that Islamic spirituality based on religious beliefs positively affected the spiritual health of patients with cardiovascular disease. The development of an Islamic spirituality model, combined with the provision of knowledge, support, coping strategy, and spiritual meaning formation, had a positive impact on meeting the spiritual and emotional needs, as well as enhancing comfort, spiritual well-being, and satisfaction among families of CHD patients during their ICU stays (Moeini et al., 2016; Willemse et al., 2020).

This study aims to explore the correlations among various variables affecting comfort in the Islamic spirituality model. Several variables, including patient characteristics, emotional response, healthcare service, Islamic spirituality, spiritual meaning, and comfort, were examined for their direct correlations with comfort based on self-regulation among patients in ICU settings. Enhancing patient comfort by alleviating

discomfort is essential for improving their health outcomes during treatment (Noor et al., 2016).

2. METHOD

This study employed a cross-sectional design to investigate the correlations among multiple variables. These variables were (i) patient characteristics, (ii) support, (iii) healthcare service, (iv) emotional response, (v) Islamic spirituality, (vi) spiritual meaning, and (vii) comfort in patients in ICUs across Indonesian hospitals.

The sample size for this study was estimated using the rule of thumb formula referring to the Structural Equation Model (SEM) with the maximum likelihood estimation method. According to the formula, the minimum sample size should be 5-10 times the number of indicators (observed variables) or, in this case (Wijayanto, 2008). A total of 110 patients with CHD in ICUs of hospitals across Indonesia were obtained using non-probability sampling, i.e., purposive sampling. To be included, the patients must be: 1) able to communicate verbally, 2) Identified themselves as Muslim to reduce bias in the research, 3) demonstrate compos mentis consciousness level, and 3) had stable hemodynamics. Meanwhile, they would be excluded if the patients were: 1) on ventilators, and 2) experiencing critical conditions.

This study involved six (6) latent variables, with 24 indicators representing exogenous variables. All the instruments to measure the variables had been approved by their authors for use and modification in this study. The questionnaires were translated, proofread, and used for the preliminary study. The patient characteristics, especially their knowledge level, were measured using the Brief Illness Perception questionnaire, with “true” or “false" response options (Moss-Morris et al., 2002). Support, especially family support, was evaluated using the Family Support Questionnaire, with “yes” or “no” options (Muhamad et al., 2011). Meanwhile, healthcare support was measured using a questionnaire developed by the researchers, consisting of 10 items with “yes” or “no” options. This instrument had been tested for its validity and reliability. The healthcare service variable consisted of facility availability and nurse competence. The facility availability was assessed using the Healthcare Resource Use questionnaire, offering “yes” or “no” options (Ilhan et al., 2009). Furthermore, nurse competence was assessed using the Spiritual Competence Scale (SCCS) with Likert scale responses ranging from strongly disagree (1) to strongly agree (5) (Willemse et al., 2020). The illness interpretation variable included anxiety and fear indicators, with the anxiety being evaluated using the DASS-42 and fear using the Cardiac Anxiety Questionnaire (Eifert et al., 2000; Ware, Kosinski & Keller, 1994).

The Islamic spirituality consisted of caring presence, transcendence, and harmonious connectedness. Caring presence was evaluated using the patient satisfaction instrument (Rahman et al., 2021), and transcendence was measured using the Spiritual Assessment Scale (SAS) with Likert scales ranging from strongly agree (4) to strongly disagree (0) (O’Brien, 2021). Additionally, the harmonious connectedness was assessed using the Caring Behavior Assessment Tool Nursing (Akgün et al., 2020). Furthermore, the spiritual meaning variable included the meaning of life, emotional experience, and spiritual experience. The meaning of life and emotional experience were assessed using the Presence of Meaning in Life instrument and the Modified Differential Emotions Scale (MDES), respectively, with such response options as “never at all (1)”, “a little (2)”, “moderately (3)”, “quite a bit (4)”, and “very often (5)”. The spiritual experience was measured using the Daily Spiritual Experience Scale (DSES), with such response options

as “never (1)”, “once (2)”, “once a few days (3)”, “almost once every day (4)”, “once every day (5)”, and “several times a day (6)”.

The comfort variable in this study consisted of physical, psychospiritual, sociocultural, and environmental comforts. Physical comfort was measured using the Numeric Rating Scale (NRS) and hemodynamic status. Meanwhile, psychospiritual comfort was evaluated using the patience instrument with response options of “never (1)”, “rarely (2)”, “sometimes (3)”, and “always (4)” (Al-Jauziyyah, 2006). Sociocultural comfort was measured using the Nursing Care Interpersonal Relationship Questionnaire (NCIRQ) with “yes” or “no” responses (Borges et al., 2017). Finally, environmental comfort was assessed using the Richards Campbell Scale (RCSQ), with patient ratings on a scale from 1 to 10 (Richards & O’Sullivan, 2000).

The instruments used in this study had been tested for their validity using the Pearson product-moment correlation by testing them to 30 respondents. For their reliability, Cronbach’s alpha was used and they scored greater than 0.6, meaning their reliability was acceptable. The Cronbach’s alpha scores for patient characteristics, disease interpretation, support, Islamic spirituality intervention, coping strategy, spiritual meaning, and psychospiritual comfort ranged from 0.757 to 0.950, indicating that all instruments were suitable for measuring the variables.

The researchers collected the data for this study by distributing the questionnaires from January to May 2023. Several stages were involved in this data collection. Firstly, the researchers submitted the questionnaires for an ethical review to the ethics committee of each hospital. Secondly, upon receiving the ethical approval, the researchers asked for and obtained a permit from the hospital to collect the data. After this, the researchers started to collect the data. The data were collected based on the inclusion and exclusion criteria set by the researchers according to the research procedures. The data were collected in compliance with the research ethics principles, including obtaining informed consent, respecting human dignity, and ensuring fairness and confidentiality.

The data in this study were analyzed using descriptive and inferential analyses. The descriptive analysis was performed to assess the frequency distribution. This frequency distribution was assessed using SPSS version 26. Meanwhile, the inferential analysis was conducted to test the model and research hypotheses using the Partial Least Square Structural Equation Modeling (PLS-SEM) approach using SmartPLS 3 version software. PLS-SEM is a statistical method that evaluates a series of correlations that are typically difficult to measure simultaneously.

PLS-SEM was used to analyze the data in this study because it was considered an alternative to Covariance-based structural equation modelling (CB-SEM) when assumptions could not be met or when the proposed model was exploratory and did not have substansial empiric evidence. It could also be used to test the correlations between constructs in modelling research. PLS-SEM has been evidently consistent in modeling research (Afthanorhan et al., 2021). PLS-SEM had more consistent predictions in analyzing modeling research. Since this study was exploratory and not many established modeling methods for hypothesis testing were available, PLS-SEM was suitable for this study (Ardian et al., 2023; Hair et al., 2021).

The measurement model, also known as the outer model, was used to assess construct validity and instrument reliability. Outer model indicators were considered valid if they had an average variance extracted (AVE) value greater than 0.5 or if all outer loading dimensions of the variables had an outer loading value greater than 0.5. The structural or inner model test was used to predict the causal relationship between latent variables. In addition, the measurement model is considered suitable if it has good

discriminant validity values with Heterotrait- Monotrait (HTMT) assessment indicators being lower than 0.95. The structural measurement model, or inner model, was used in several steps to predict the correlations between latent variables. Firstly, the percentage of variance explained by R2 for dependent variables was examined. Secondly, the prediction relevance test (Q-square), also known as Stone-Geisser, was used to evaluate the model's ability to predict observed values and parameter estimates in various contexts. A Q-square value greater than 0 indicated greater relevance when applied in different areas. Thirdly, the magnitude of the structural path coefficient or the effect of the latent variables was assessed using bootstrapping procedures. The hypothesis was tested using t-statistic. A t-statistic value higher than the t-table or $t > 1.96$, with a p-value being less than or equal to 0.05 (α=5%), indicated a significant test result. Conversely, the test was considered insignificant if the t-statistic value was lower than the t-table or $t < 1.96$.

The data in this research were cleaned without deleting them since the researcher needed to re-check them after the tabulation and data entry process. The researcher checked the data thoroughly starting from the number, coding, and accuracy of coding writing, and found no error. None of the data obtained were deleted because all the data were written down correctly.

This study had been ethically reviewed and given ethical approval by the ethics committee of Sultan Agung Islamic Hospital with reference number 240/KEPK-RSISA/XII/2022. The study had made attempts to protect the respondents by adhering to the research ethics principles in line with the National Commission of Research and Development Ethics in Health. The ethical principles included respect for persons, justice, anonymity, and confidentiality.

3. RESULTS AND DISCUSSION

As presented in Table 1, the majority of participants were 56-65 years old (33.7%), at least graduated middle schools (52.7%). Most of them were married (84.5%), had good knowledge (70%), and stayed at the hospital for 3-4 days (81.8%), with such symptoms as chest pain and dyspnea (32.7%).

Table 1. Demographic and clinical characteristics of participants

Characteristics	Category	Frequency (f)	Percentage (%)
Age (years)	< 25	1	0.9
	25-35	7	6.4
	36-45	13	11.8
	46-55	25	22.7
	56-65	37	33.7
	>65	27	24.5
	Total	110	100
Education level	Elementary	33	30
	Secondary	58	52.7
	Higher education	19	17.3
	Total	110	100
Knowledge level of illness perception	Less	0	0
	Adequate	33	30
	Good	77	70
	Total	110	100
Marital status	Single	10	9.1

Characteristics	Category	Frequency (f)	Percentage (%)
	Married	93	84.5
	Widowed	7	6.4
	Total	110	100
Length of ICU stays	3-4 days	90	81.8
	5-6 days	12	10.9
	>6 days	8	7.3
	Total	110	100
Symptoms	Chest pain	30	27.3
	Chest pain and dyspnea	36	32.7
	Chest pain and fatigue	19	17.3
	Chest pain, dyspnea and fatigue	17	15.4
	Chest pain, dyspnea, fatigue and abdominal pain	8	7.3
	Total	110	100

Table 1 shows that the endogenous variables in this study included support, healthcare service, emotional response, Islamic spirituality, and spiritual meaning. The analysis showed that 39 (35.5%) respondents had moderate family support, and 31 (28.2%) had moderate healthcare support. Regarding healthcare service, 34 (30.9%) respondents indicated the unavailability of facilities for worship, and 45(40.9%) respondents perceived that the nurses' expertise was moderate. In terms of knowledge level of illness interpretation, this study showed that 46 (41.8%) respondents had moderate fear of their illness, and 48 (43.6%) had moderate anxiety. Furthermore, concerning Islamic spirituality, 66 (60%) respondents had moderate caring presence, 27 (24.5%) had low transcendence, and 45 (40.9%) had low harmonious connectedness. In terms of spiritual meaning, 28 (25.4%) respondents had low meaning of life, 69(62.7%) had low emotional levels, and 72 (65.5%) had low spiritual experiences (Table 2).

Table 2. Distribution analysis of endogenous variables.

Variable	Indicator	Category	Frequency (f)	Percentage (%)
Support	Family support	Low	10	9.1
		Moderate	39	35.5
		High	61	55.4
	Healthcare support	Low	10	9.1
		Moderate	31	28.2
		High	69	62.7
	Total		110	100
Healthcare services	Availability of facilities	Not available	34	30.9
		Available	76	69.1
	Nurse expertise	Low	0	0
		Moderate	45	40.9
		High	65	59.1
	Total		110	100
Emotional Response	Fear	Mild	39	35.5
		Normal	25	22.7
		Moderate	46	41.8
	Anxiety	Mild	53	48.2
		Moderate	48	43.6
		Severe	9	8.2
	Total		110	100

Variable	Indicator	Category	Frequency (f)	Percentage (%)
Islamic Spirituality	Caring presence	Low	9	8.2
		Moderate	66	60
		High	35	31.8
	Transcendence	Low	27	24.5
		Moderate	83	75.5
		High	0	0
	Harmonious connectedness	Low	45	40.9
		Moderate	65	59.1
		High	0	0
	Total		110	100
Spiritual meaning	Meaning of life	Low	28	25.4
		Moderate	74	67.3
		High	8	7.3
	Emotional level	Low	69	62.7
		High	41	37.3
	Spiritual experience	Low	72	65.5
		High	38	34.5
	Total		110	100

Regarding the endogenous variable, i.e., respondents reported moderate physical comfort (69.1%). Furthermore, respondents also reported sufficient psychospiritual comfort (27.3%), insufficient sociocultural comfort (49.1%), and low environmental comfort (36.4%) (Table 3).

Table 3. Distribution analysis of exogenous variables

Variable	Category	Frequency (f)	Percentage (%)
Physical Comfort	Low	34	30.9
	Moderate	76	69.1
	High	0	0.0
	Total	110	100
Psychospiritual Comfort	Insufficient	0	0.0
	Sufficient	30	27.3
	Good	80	72.7
	Total	110	100
Sociocultural Comfort	Insufficient	54	49.1
	Good	56	51.9
	Total	110	100
Environmental Comfort	Poor	40	36.4
	Good	22	20
	Excellent	48	43.6
	Total	110	100

The discriminant validity was assessed using cross-loading to provide correlation compatibility. The correlation was strong or the discriminant validity was established between two measured constructs if the Heterotrait-Monotrait (HTMT) value was lower than 0.95 (Ringle et al., 2023). This study showed that the discriminant validity value of all variables was lower than 0.95 (see Table 4). Table 4 showed that all indicators produced both loading factor and AVE values greater than 0.5, indicating that all indicators were valid for measuring their respective variables. Furthermore, the Cronbach's alpha values were greater than 0.6, or the composite reliability values were greater than 0.7, suggesting that all indicators were reliable in measuring their variables based on these calculations. This study also demonstrated that the Q2 value was greater than 0, indicating that Islamic

spirituality model for comfort in patients with CHD had a predictive relevance (Q^2) of 0.127. The F square or effect size value in this study was greater than 0.02 (see Table 6). This meant that the variables in the structural model were influenced by several different variables (Hair et al., 2011). Since a model is considered to have good value when it has a predictive relevance value > 0 (Hair et al., 2021), this model could be considered to have good relevance and applied in different areas (see Figure 1).

Table 5 shows significant correlations among variables. Patient characteristics were significantly correlated with emotional response (t=2.175, *p*=0.030) and spiritual meaning (t=3.382, *p*=0.001). Support was significantly correlated with emotional response (t=4.042, p<0.001) and spiritual meaning (t=2.307, *p*=0.021). Furthermore, healthcare service exhibited a significant correlation with emotional response (t=9.084, *p*<0.001) and spiritual meaning (t=5.632, *p*<0.001). Meanwhile, emotional response correlated with Islamic spirituality (t= 6.258, *p*<0.001) and spiritual meaning (t=2.522, *p*= 0.012). Additionally, Islamic spirituality significantly correlated with spiritual meaning (t=3.153, *p*=0.002), while spiritual meaning demonstrated a significant correlation with comfort (t=6.566, *p*<0.001). The formative model was measured by looking at the collinearity variance inflation factor (VIF) value. This study produced a VIF value of less than 5 (see Table 5). This was consistent with J. Hair et al. (2011) who found that the VIF value was used to see the relationship between dependent and independent variables. In the presence of VIF values of less than 5, the variance and bias values are smaller.

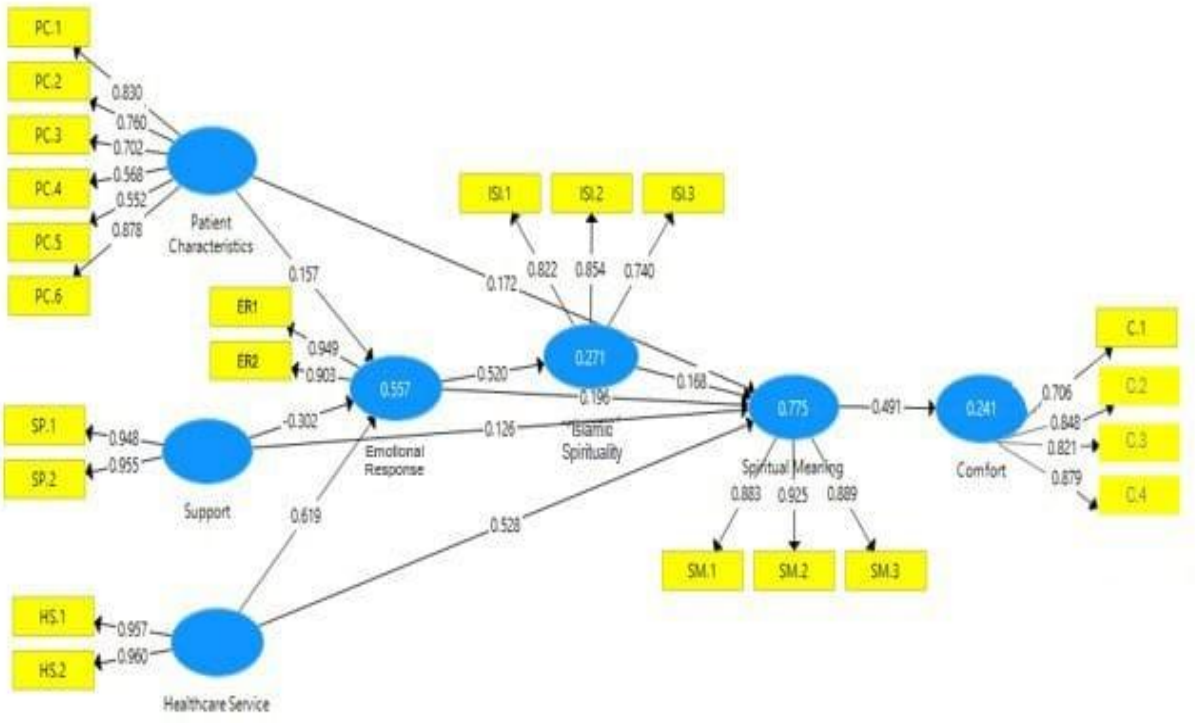

Figure 1. Outer Model of correlation among Variables patient characteristic (PC), Support (SP), Emotional response (ER), Islamic Spirituality (ISI), Spiritual Meaning (SM), Comfort (C)

Table 4. Measurement Model Evaluation.

Measurement model evaluation					
Convergent Validity and Reliability					
Latent variable	**Item**	**Convergent validity**	**Internal Consistency Reliability**		
		Loading	**AVE**	**Cronbach Alpha**	**Composite Reliability (CR)**
Patient characteristics	PC 1	0.830	0.527	0.825	0.866
	PC 2	0.760			
	PC 3	0.720			
	PC 4	0.568			
	PC 5	0.552			
	PC6	0.878			
Support	SP1	0.948	0.906	0.896	0.951
	SP2	0.955			
Healthcare service	HS1	0.957	0.919	0.912	0.958
	HS 2	0.960			
Emotional Response	ER 1	0.949	0.858	0.838	0.923
	ER 2	0.903			
Islamic spirituality	ISI 1	0.822	0.651	0.735	0.848
	ISI 2	0.854			
	ISI 3	0.740			
Spiritual meaning	SM 1	0.883	0.808	0.881	0.927
	SM2	0.925			
	SM3	0.889			
Comfort	C1	0.706	0.590	0.861	0.895
	C2	0.848			
	C3	0.821			
	C4	0.879			

Discriminant validity- Heterotrait- Monotrait Ratio (HTMT)						
Variable	**Comfort**	**Healthcare service**	**Illness interpretation**	**Patient characteristic**	**Spiritual meaning**	**Islamic spirituality**
Healthcare service	0.343					
Emotional response	0.350	0.750				
Patient characteristic	0.278	0.413	0.383			
Spiritual meaning	0.534	0.916	0.760	0.527		

Islamic spirituality	0.258	0.605	0.630	0.302	0.742	
Support	0.117	0.064	0.313	0.107	0.151	0.162
Variable			**R-squared**		**R-squared adjusted**	
Emotional response			0.557			0.544
Islamic spirituality			0.271			0.264
Spiritual meaning			0.775			0.763
Comfort			0.241			0.234
Q-Square Predictive Relevance (Q^2)						
Variable			**Q-Square**			
Emotional response			0.437			
Islamic spirituality			0.160			
Spiritual meaning			0.609			
Comfort			0.127			

Notes:

PC= Patient characteristic consist of PC1: Age, PC2: Education, PC3: Knowledge level of illness perception, PC4: Marital Status, PC5: Length of ICU stays, PC6: Symptoms

SP= Support consist of SP1: Family support, SP2: Healthcare support

HS= Healthcare services consist of HS1: Availability of facilities, HS2: Nurse expertise

ER=Emotional response consist of ER1: Fear, ER2: anxiety

ISI= Islamic spirituality consist of ISI1: Caring presence, ISI2: Transendence, ISI3: Harmonious connectedness

SM= Spiritual meaning consist of SM1: Meaning of life, SM2: Emotion level, SM3: Spiritual experience

C= Comfort consist of C1:Physical Comfort, C2: Psychospiritual comfort, C3: Sociocultural comfort, C4: Environmental comfort

Table 5. Path Coefficients Between Variables, Effect size and Variance Inflation Factor (VIF).

Hypotesis	**Path Coefficient**	**t**	**p**	**Result**
Patient Characteristics -> Emotional response	0.157	2.175	0.030	Significant
Patient Characteristics -> Spiritual Meaning	0.172	3.382	0.001	Significant
Support -> Emotional response	0.302	4.042	0.000	Significant
Support -> Spiritual Meaning	0.126	2.307	0.021	Significant
Healthcare Service -> Emotional response	0.619	9.084	0.000	Significant
Healthcare Service -> Spiritual Meaning	0.528	5.632	0.000	Significant
Emotional response -> Islamic Spirituality	0.520	6.258	0.000	Significant

Emotional response -> Spiritual meaning	0.196	2.522	0.012	Significant
Islamic Spirituality -> Spiritual meaning	0.168	3.153	0.002	Significant
Spiritual meaning -> Comfort	0.491	6.566	0.000	Significant

Effect size (f-squared)

Variable	**f Square**
Patient Characteristics -> Emotional response	0.046
Patient Characteristics -> Spiritual Meaning	0.102
Support -> Emotional response	0.204
Support -> Spiritual Meaning	0.054
Healthcare Service -> Emotional response	0.713
Healthcare Service -> Spiritual Meaning	0.571
Emotional response -> Islamic Spirituality	0.371
Emotional response -> Spiritual meaning	0.102
Islamic Spirituality -> Spiritual meaning	0.079
Spiritual meaning -> Comfort	0.318

Variance inflation factor (VIF)

Variable	**VIF value**
Patient Characteristics -> Emotional response	1.219
Patient Characteristics -> Spiritual Meaning	1.276
Support -> Emotional response	1.000
Support -> Spiritual Meaning	1.381
Healthcare Service -> Emotional response	1.212
Healthcare Service -> Spiritual Meaning	2.137
Emotional response -> Islamic Spirituality	1.000
Emotional response -> Spiritual meaning	2.563
Islamic Spirituality -> Spiritual meaning	1.583
Spiritual meaning -> Comfort	1.000

This study provided evidence of factors contributing to improving patients' comfort in ICUs. These factors significantly influenced each other, resulting in a well-fitting model. Age, knowledge level, and education level positively influenced patients' interpretation of

their illness, with improved patient characteristics correlating with enhanced emotional response Factors such as fear and anxiety in patients' interpretation were found to be influenced by age. The research conducted by (Rodgers et al., 2019) also showed that age significantly affected how patients perceived their illness.

As age significantly affected patients' anxiety and fear, it might cause a recurrence of CHD. For this reason, older patients tended to be more fearful and anxious about this recurrence, leading to increased pain and post-traumatic stress disorder, thus decreasing their quality of life (Zhen et al., 2022). Additionally, knowledge level and education significantly influenced the patient's interpretation of CHD. Therefore, patients with higher knowledge and education levels tended to have better perceptions, resulting in a positive impact on reducing the risk of CHD recurrence (Soe et al., 2019).

This study also revealed that the duration of patient care in ICUs significantly correlated with patients' spiritual meaning. Patients admitted to the ICU often experience anxiety due to the length of their stay, which could further affect their spiritual health (Moeini et al., 2012). Additionally, supports from family and nurses played a crucial role in changing patients' perceptions of the illness they were experiencing. Family support during a patient's ICU stay could enhance their understanding of the care provided, positively impacting their transfer to regular care units sooner (Debay et al., 2023). Family could give a major emotional support for the patient. When family support was combined with an attempt to meet the spiritual needs, it would be a relationship that went hand-in-hand with the spiritual nursing care provided by the nurses (Bangcola, 2021). Moreover, family support fosters good cooperation with ICU nurses. The support that ICU nurses provide through spirituality can help improve the patient's quality of life, foster coping mechanisms, and reduce anxiety and stress during their stay. Nurse plays an important role in determining the quality of services in hospitals. The Islamic spirituality is a key to satisfy patients during their treatment period and it helps nurses to recognize the patient's culture, allowing them to understand better the disease-related knowledge (Ardian et al., 2023). This was consistent with the result of this study which showed that supports from family and nurses were significant correlated with emotional response. Hence, it is important for nurses to have expertise in spiritual care, such as facilitating patients in finding the meaning of life, possessing good communication skills, and providing spirituality related to awareness of God (Vincensi, 2019; Willemse et al., 2020). This is consistent with this research's findings that better service factors decreased patients' interpretation of illness and increased their spiritual meaning.

Anxiety and fear served as indicators of patients' emotional response. This study revealed that emotional response was significantly correlated with Islamic spirituality and spiritual meaning. The higher the patient's emotional response, the more likely the coping strategies and the formation of patient's spiritual meaning to improve. This result is consistent with Vincensi's (2019) findings, who found that patients experiencing anxiety and fear during their stay in ICUs tended to have increased spiritual awareness, which could facilitate their healing and spiritual coping. The Islamic spirituality was correlated with the formation of spiritual meaning to achieve comfort. Spirituality interventions could improve patients' spiritual health while also serving as non-pharmacological treatment for patients. Implementing Islamic spirituality was associated with increased patient immunity and hemodynamic stability, thereby promoting physical, psychospiritual, sociocultural, and environmental comfort (Abuatiq, 2015; Hosseini et al., 2016).

Islamic spirituality serves as an alternative for the care and healing of patients, as spirituality is related to the formation of meaning, life goals, and personal identity. Islamic spirituality is also associated with belief in Allah (God), which can be demonstrated through

prayers and Quranic healing approaches that positively impact health (Bensaid & Islamic, 2021). Furthermore, Islamic spirituality is significantly correlated with comfort, thus reducing anxiety, increasing oxygen saturation, preventing depression, and enhancing the well-being of cardiovascular patients (Amjadian et al., 2020; Carneiro et al., 2017; Sadat Hoseini, 2019).

The results of this study indicated that the Islamic spirituality model could be applied in different settings other than ICUs, with a predictive relevance value of 12.7%. All variables showed values greater than zero, indicating their applicability in different areas (Hair et al., 2021). Increasing patient comfort in ICUs is a focus of patient care. The interrelation among variables suggested that all variables contributed to enhancing patient comfort, thus forming good self-regulation as part of holistic care.

This study demonstrated that the development of an Islamic spirituality model positively affected nursing services in Islamic hospitals in Indonesia. This model could identify the variables related to comfort, thereby promoting self-regulation for patients during their stay in ICUs. Using this research's findings, nurses can provide input to hospital policymakers to enhance patient comfort, thereby addressing issues related to physical, psychospiritual, sociocultural, and environmental comforts. The model can also be implemented using a patient- and family-centered care approaches during treatment in ICUs.

Furthermore, this study has positive implications for nursing education. It can serve as a reference for developing Islamic spirituality models that enhance comfort based on patient self-regulation during their ICU stays. Additionally, this intervention can be incorporated into the curriculum of critical care or palliative care programs in Islamic nursing institutions in Indonesia.

This study has a limitation. The finding cannot be applied to general hospital settings. Therefore, future studies are recommended to have a larger sample size, preferably multicenter studies. Additionally, some recommendations can be made for future research. First, the sample needs to be expanded to several Islamic-based hospitals in Indonesia. Second, qualitative research is needed to explore comfort-related variables, such as interpretation, support, and service. Finally, further investigation using longitudinal methods with larger samples and in different areas is needed to examine the relationships between variables.

4. CONCLUSION

This study demonstrated that exploring the correlations among variables to enhance comfort for patients with CHD in ICUs has a positive and significant impact. The interrelated variables included patient characteristics, support, healthcare service, Islamic spirituality, spiritual meaning, and comfort. The implementation of this model underscores the importance of integrating spiritual aspects into nursing care as part of efforts to enhance the quality of care and patient comfort. Therefore, the Islamic spirituality model can serve as a comprehensive framework for nursing interventions, as well as a foundation for policy-making aimed at improving the quality of healthcare services based on patients' spiritual needs, particularly within the Muslim population.

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