International Journal of Public Health Science (IJPHS)
Vol. 14, No. 1, March 2025, pp. 343~350
ISSN: 2252-8806, DOI: 10.11591/ijphs.v14i1.24671

Spirituality and self-management in coronary heart diseases patient

Riza Fikriana[1], Al Afik[2], Ronal Surya Aditya[3]
[1]Department of Nursing, Sekolah Tinggi Ilmu Kesehatan Kepanjen, Malang, Indonesia
[2]Department of Nursing, Faculty of Medicine and Health Science, Universitas Muhammadiyah Yogyakarta, Yogyakarta, Indonesia
[3]Department of Nursing, Faculty of Medicine, Universitas Negeri Malang, Malang, Indonesia

Article Info

Article history:

Received Feb 23, 2024
Revised May 10, 2024
Accepted May 19, 2024

Keywords:

Belief in God
Coronary heart diseases
Health planning
Self-management
Spirituality

ABSTRACT

Coronary heart disease is still the leading cause of death globally. The purpose of this study was to analyze the effect of spirituality on the self-management of coronary heart disease patients. The research design used a cross-sectional study. Samples were 145 patients who had been diagnosed with coronary heart. The research variables are spirituality and self-management. The instrument uses a questionnaire. Data analysis was performed by linear regression test. The results of the study show that the spirituality of coronary heart disease (CHD) patients on the belief in God dimension is 51% high, search for meaning is 74.5% high, mindfulness is 66.2% high and feeling of security is 59.3% high. Meanwhile, the self-management of problem recognition 52.4% good, outcome of expectancy 62.8% good, planning 50.3% good and decision making 94.5% good. The results of the linear regression analysis test showed that belief in God had an effect on problem recognition (p-value 0.004), outcome expectancy (p-value<0.001) and planning (p-value<0.001). While search for meaning, mindfulness and feeling of security do not affect all indicators of self-management.

Corresponding Author:

Riza Fikriana
Department of Nursing, Sekolah Tinggi Ilmu Kesehatan Kepanjen
Malang, East Java, Indonesia
Email: riza_fikriana@stikeskepanjen-pemkabmalang.ac.id

1. INTRODUCTION

Coronary heart disease (CHD) is a disease that is the main cause of death globally. Studies show that the prevalence of CHD in the world is 1.72% and it is also found that as many as nine million people in the world have died from CHD [1]. Whereas in Indonesia the prevalence of CHD according to the results of the 2018 Basic Health Research was found to be 1.5% [2]. The results of this study indicate that efforts to prevent death in patients who have been diagnosed with CHD must receive attention. This is because the recurrence rate in CHD patients is still very high. The study found that 30% of CHD patients experienced a relapse and had to be hospitalized again after being treated at home for >29 days [3]. In addition, studies were also found which showed that adherence to treatment behavior was still low [4]. Treatment adherence behavior in CHD patients who are still low can have an impact on the occurrence of major adverse cardiovascular events (MACE) [5]. The results of other studies show that the emergence of a heart attack in someone who has been diagnosed with CHD is associated with an increased risk of sudden cardiac arrest (SCA) [6]. Another study also illustrates that CHD patients in Indonesia have a high risk of recurrence [7]. The recurrence rate in the first year after hospitalization, found to be more prevalent in men [8]. Based on this, preventive efforts are needed so that there is no increase in cases of death due to heart attacks [1].

Early recognition of heart attacks is very important so that patients immediately get help from health workers so they can survive. Early recognition of symptoms and immediate examination to the hospital have a positive impact on reducing mortality [9]. Apart from that, there are several steps that CHD patients must take if a heart attack occurs [10]. In addition, the reduction in deaths from CHD does not only depend on medical treatment, but also due to factors such as increased healthy lifestyles and public health interventions. Several public health intervention programs that can be carried out such as programs to reduce smoking consumption in adolescents and adults, support the consumption of healthy foods in certain populations, encourage physical activity in all age groups and risk factor screening programs including hypertension, high cholesterol and diabetes mellitus [11]. As an effort to improve this healthy lifestyle, good self-management skills are needed. According to Individual and Family Self-Management Theory, outcome expectancy, planning and decision making are part of the self-management process. These three components are very important components that can affect the improvement of health status, quality of life and the use of health costs needed for health care [12].

In addition to self-management skills, meeting spiritual needs is an important component that can affect the patient's quality of life. Spiritual experiences experienced by patients with chronic illnesses can be a part of finding hope and well-being even though they are burdened by their illness. However, if the patient feels a lack of inner peace, an inability to accept what has happened to him or her, then this can cause spiritual distress which will also impact the patient's quality of life [13]. The dimension of one's spirituality can be measured from belief in God, search for meaning, mindfulness and feeling of security [14]. Several studies have been conducted on coronary heart disease patients in relation to adherence to treatment and medication. However, research that examines spirituality with self-management of coronary heart disease patients has not been widely carried out. This study aims to analyze the effect of spirituality on self-management of coronary heart disease patients' care.

2. METHOD

The research design used a cross-sectional study. The research sample was 145 patients with coronary heart disease who were visiting to have a medical check-up at the hospital's heart polyclinic in Yogyakarta, Indonesia. The sampling technique was carried out by consecutive sampling technique. The research variable being measured is spirituality which includes four dimensions, namely belief in God, search for meaning, mindfulness and feeling of security. In addition, it also measures self-management variables which consist of four indicators, namely problem recognition, outcome expectancy, planning and decision making.

The research instrument used a questionnaire. The spirituality questionnaire was adopted from the spirituality questionnaire [14]. The questionnaire on belief in God, search for meaning, mindfulness and feeling of security each presents five questions with five answer choices consisting of strongly disagree (score 1), disagree (score 2), do not hesitate (score 3), agree (score 4) and strongly agree (score 5). Meanwhile, the problem recognition questionnaire presents five modified statements from the problem recognizing questionnaire. The problem recognition indicator consists of an introduction to the factors that precipitate recurrence and an introduction to treatment assistance. The answer choices consisted of strongly disagree, disagree, undecided, agree and strongly agree. The outcome expectancy questionnaire was modified from the outcome expectancies by behavior change questionnaire [15]. The six statements reflect the respondents' expectations in terms of physical activity, diet, stress management, drug consumption, health check-ups, health care. The answer choices used a Likert scale with the choices strongly disagree, disagree, undecided, agree and strongly agree. The planning questionnaire presents five modified statements from the Planning-HAPA Inventory [16]. Planning indicators include commitment, planning health checks, planning diet patterns, planning physical activity, planning psychological health. The answer choices provide the choices never, sometimes, often and always. The decision-making questionnaire modifies the Flinders Decision Making Questionnaire [17] by presenting ten statements. Decision making indicators consist of vigilance, hypervigilance, defensive avoidance, buck-passing, procrastination, and rationalization. The answer choices use four choices, namely never (score 1), sometimes (score 2), often (score 3) and always (score 4).

Presentation of research data on each variable is done by presenting the frequency distribution. The categorization of spirituality variables consists of high (total score>80%), medium (total score of 41%-80%) and low (total score of 1-40%). The self-management variable categorization consists of good (score>80%), sufficient (score 56%-80%) and less (1%-55%). Meanwhile, analyzing the effect of spirituality on self-management was carried out using a linear regression analysis test with a significance level of 95%. Data were analyzed using the SPSS for Windows 23 program. Research was carried out guided by ethical principles. All respondents have provided informed consent. The research implementation has been adjusted

to the research protocol approved by the Ethics Commission of PKU Muhammadiyah Yogyakarta Hospital Number 007/KEP-PKU/I/2023.

3. RESULTS AND DISCUSSION

The presentation of the research data describes several components. Table 1 describes the characteristics of the respondents such as age, sex and education. From this Table 1 describes more than half of the respondents, namely 61.4%, are aged 46-65 years and the majority, namely 71%, are male. The level of education of respondents was obtained as much as 70.3% had senior high school and university college. Frequency distribution of spirituality and self-management in coronary heart diseases patient available at Table 2. From this Table 2 shows that more than half of the respondents in all dimensions of spirituality are in the high category which includes belief in good (51.0%), search for meaning (74.5%), mindfulness (66.2%) and feeling of security 59.3%). While the results on the self-management indicator found 52.4% had good problem recognition skills, 62.8% had outcome expectancy in the good category, 50.3% had good planning and almost all respondents, namely 94.5%, had decision-making abilities in the good category. Table 3 illustrates the effect of spirituality on the self-management of coronary heart disease patients. It was found that the dimension of spirituality, namely belief in God, has an effect on problem recognition (p-value: 0.004), outcome expectancy (p-value: <0.001) and planning (p-value: <0.001). Meanwhile, other dimensions of spirituality such as search for meaning, mindfulness, and feeling of security have no effect on self-management.

Table 1. Characteristic of respondents

Variable	Total (n)	Percentage (%)
Age (year)		
35-45	16	11.0
46-65	89	61.4
>65	40	27.6
Sex		
Male	103	71.0
Female	42	29.0
Education		
Did not attend	16	11.3
Elementary school	7	4.8
Junior high school	20	13.8
Senior high school	54	37.2
University college	48	33.1

Table 2. Frequency distribution of spirituality and self-management in coronary heart diseases patient

Spirituality	Total (n)	Percentage (%)	Self-management	Total (n)	Percentage (%)
Belief in God			Recognizing of problem		
High	74	51.0	Good	76	52.4
Moderate	71	49.0	Enough	69	47.6
Low	0	0	Less	0	0
Search for meaning			Outcome expectancy		
High	108	74.5	Good	91	62.8
Moderate	37	25.5	Enough	54	37.2
Low	0	0	Less	0	0
Mindfulness			Planning		
High	96	66.2	Good	73	50.3
Moderate	49	33.8	Enough	72	49.7
Low	0	0	Less		
Feeling of security			Decision making		
High	86	59.3	Good	137	94.5
Moderate	59	40.7	Enough	8	5.5
Low	0	0	Less	0	0

The results of the study explain all the spiritual dimensions of CHD patients, including the dimensions of belief in God, search for meaning, mindfulness and feeling of security, describes more than half of the patients are in the high spirituality category. This illustrates that spirituality is an important component that CHD patients have as a guide in living their daily lives. The faith that is owned in God helps the patient to overcome heart health problems that are happening to him. The meaning of high spirituality has an impact on high acceptance of the health problems that are being experienced. In addition, high spirituality

makes patients aware to continue to help each other among human beings so that patients feel a life full of peace, love and compassion. Spirituality is an aspect possessed by an individual to live life in relation to God. In patients who have been diagnosed with coronary heart disease, spirituality becomes an important component that can influence their health behavior.

The results of this research are in line with previous studies which show that the spiritual needs of someone who is in a sick condition by considering their values and beliefs are very important things to be fulfilled. This is because the fulfillment of spiritual needs has an impact on the emergence of spiritual well-being and increases patient empowerment, autonomy and dignity. In addition, spiritual well-being results in physical, emotional and functional health as well as a better quality of life for patients. Good spiritual well-being is associated with low conflict in decision-making, reduced uncertainty, increased support and satisfaction in decision-making so that spiritual well-being and quality of life are higher. Spirituality is a key component of overall well-being and has a multidimensional and unique function [18]. Spiritual well-being plays an important role in life satisfaction and psychological needs as well as disease prevention [19], [20].

Table 3. Linear regression test of the effect of spirituality to self-management in coronary heart diseases patient

Model	B	SE	β	T	p-value
Recognizing of problem					
(Constant)	21.182	2.790		7.591	0.000
Belief in God	0.293	0.100	0.279	2.939	0.004
Search for meaning	-0.113	0.100	-0.104	-1.130	0.260
Mindfulness	0.034	0.140	0.034	0.234	0.808
Full of security	-0.208	0.139	-0.203	-1.498	0.136
Outcome expectancy					
(Constant)	12.494	3.502		3.567	0.000
Belief in God	0.563	0.125	0.408	4.509	0.000
Search for meaning	0.059	0.125	0.041	0.470	0.639
Mindfulness	-0.032	0.176	-0.025	-0.183	0.855
Full of security	0.043	0.174	0.032	0.246	0.806
Planning					
(Constant)	4.764	1.947		2.447	0.016
Belief in God	0.434	0.069	0.499	6.251	0.000
Search for meaning	0.107	0.070	0.120	1.541	0.125
Mindfulness	0.099	0.098	0.120	1.008	0.315
Full of security	-0.102	0.097	-0.120	-1.054	0.294
Decision making					
(Constant)	30.432	3.103		9.806	0.000
Belief in God	0.001	0.111	0.001	0.006	0.995
Search for meaning	0.205	0.111	0.175	1.844	0.067
Mindfulness	0.121	0.156	0.113	0.776	0.439
Full of security	-0.098	0.154	-0.089	-0.637	0.525

The existence of disorders a person's mental health can be lowered by meeting the needs of spirituality [21]. Spirituality is able to overcome suffering experienced such as fear and death [22]. In someone who experiences excessive fatigue, the selection of coping mechanisms with a spirituality approach can reduce the burden of fatigue experienced [23]. In patients undergoing palliative care, spirituality becomes an important domain that can improve quality of life [24]. Spiritual health is not only a necessity for adult health, but also plays an important role in child health [25]. The existence of psychological disorders that occur in a person will not automatically be able to decrease with one's spirituality, but there still needs to be support availability [26]. Planning for the availability of spiritual support is essential for patients with chronic illnesses [27].

The results of the study also showed that self-management in CHD patients obtained all indicators both problem recognition, outcome expectancy, planning and decision making, more than half of the patients were in the good category. Even on the decision-making indicators, it was found that almost all patients had good decision-making abilities. This study shows that patients have realized that care and treatment that is carried out properly and correctly will benefit their health and have an impact on improving the patient's quality of life. Planning for the schedule for the medical examination that has been carried out indicates that the patient has a high commitment to monitoring his health status and to get good care and treatment so that a relapse does not occur in him. However, the results of this study are different from previous studies which showed that self-management abilities in CHD patients after receiving percutaneous coronary intervention (PCI) intervention were in the moderate and low categories [28]. Good self-management is needed for

someone who has been diagnosed with CHD. This is because self-management is positively correlated with the quality of life of CHD patients [29]. Good self-management reduces the risk of complications [30].

Self-management of patients is influenced by several factors. Studies found that a person's self-management can be associated with negative attitudes, non-compliance and the presence of mental illness [31]. In addition, self-management is related to illness perception and this is mediated by coping styles [32] As an effort to improve patient self-management, good health literacy and knowledge are needed [33], [34]. So education is very important, because self-management education can increase self-efficacy [35]. While high self-efficacy is also able to increase self-management ability [36], [37]. However, self-management knowledge is influenced by emotional quality of life as well as social support [38]. The increase in existing stigma can reduce self-management ability [39]. So for health workers, it is very important to conduct motivational interviewing as part of efforts to improve patient self-management [40].

The study also shows spirituality in the belief in God dimension has a significant effect on self-management of CHD patients on the indicators of problem recognition, outcome expectancy and planning. The results of this study are in line with previous studies which explain there is a strong correlation between spirituality and self-management, resilience as a mediator [41]. Belief in God is closely related to one's psychological distress and reduces the incidence of depression through the process of meaning in life, feeling comfortable with God, the emergence of religious coping, positive reappraisal and welfare. Besides that, that is related to one's anxiety. Someone who has greater that dimension, shows lower anxiety than someone who doesn't believe in the existence of God, a happier life, more satisfied with his life, better physical health and considers family and friends to be an important part of their social life [42], [43].

Spirituality also influences health outcomes and general well-being of patients with terminal illness. Spirituality encourages patients to be able to accept their illness and can provide a sense of protection, instill hope in them and help patients to be able to maintain a positive attitude so they can continue their lives so that it will have a positive impact on their health and well-being [44]. Individuals who experience health problems generally seek medical assistance to overcome these problems. Outcome expectancy is considered as something that can motivate someone to make changes in health behavior for the better. Outcome expectancy is a consequence that can be anticipated both positive and negative as a result of a person's behavior, such as behavior in maintaining a healthy lifestyle, including consumption of alcohol, smoking and weight management. Patients will be more obedient to their treatment plan if the patient feels that this will have a positive impact and provide benefits to their health. Patients who are able to recognize outcome expectancy well will try to make changes to these problematic behaviors so that better health goals are expected to be achieved [45]. High outcome expectancy coupled with the availability of good social support can improve health behavior and affect the quality of life of patients [46]–[48].

Spirituality and religion play a role in one's decision making. Medical decision making is often needed for patients who are in the hospitalization phase, both making decisions to undergo treatment and making decisions in stopping treatment or action. Religion is often a guide for someone in making that decision, controlling and believing in death and death [49]. Patients with low health literacy have limited knowledge about the disease. So intervention is needed so that there is an increase in health literacy and in the end patients are able to make good decisions [50]. In decision making, it is very important to pay attention to patient values and expected goals [51].

The limitation of this study is the study was carried out only in an intrahospital setting, namely on patients who carried out health checks at the hospital. The study did not sample patients in a community setting. Taking the respondent's setting only in this hospital shows that the respondent has good behavior to conduct a medical examination to the hospital. This can also be the cause of the results of this study where most respondents have good self-management skills.

4. CONCLUSION

Spirituality in the belief in God dimension influences the self-management of CHD patients on the indicators of problem recognition, outcome expectancy and planning. High Belief in God will increase the ability of CHD patients to recognize the problems they are facing, increase expectations for the desired results from the interventions to be carried out and improve the determination of action plans for carrying out care and treatment. The practical implication of the results of this study is that health workers, both doctors and nurses, must try to be involved in meeting the spiritual needs of CHD patients while in the treatment phase. This aims to improve the ability of self-management of patients so that it is expected to improve their health behavior and prevent recurrence of CHD patients. Prevention of recurrence of CHD patients is expected to improve the patient's quality of life. The future recommendation of this study is the need for a more in-depth study of the factors that affect the spirituality of coronary heart disease patients so that this can be used as a basis in efforts to improve and meet the spiritual needs of patients in the hope that there will be improved better self-management in coronary heart disease patients.

REFERENCES

[1] M. A. Khan *et al.*, "Global epidemiology of ischemic heart disease: results from the global burden of disease study," *Cureus*, vol. 12, no. 7, p. e9349, Jul. 2020, doi: 10.7759/cureus.9349.

[2] Ministry of Health Indonesia, "Basic health research 2018," (in Indonesian), *Lembaga Penerbit Balitbangkes*. Indonesian Ministry of Health, Jakarta, pp. 1–156, 2018. [Online]. Available: https://repository.badankebijakan.kemkes.go.id/id/eprint/3514/1/Laporan Riskesdas 2018 Nasional.pdf (accessed: Nov 15, 2023).

[3] K. Svendsen *et al.*, "2.5-fold increased risk of recurrent acute myocardial infarction with familial hypercholesterolemia," *Atherosclerosis*, vol. 319, pp. 28–34, 2021, doi: 10.1016/j.atherosclerosis.2020.12.019.

[4] O. Zorina, N. Fatkulina, F. Saduyeva, B. Omarkulov, and S. Serikova, "Patient adherence to therapy after myocardial infarction: a scoping review," *Patient Preference and Adherence*, vol. 16, pp. 1613–1622, 2022, doi: 10.2147/PPA.S356653.

[5] S. Chinwong, K. Doungsong, P. Channaina, A. Phrommintikul, and D. Chinwong, "Association between medication adherence and cardiovascular outcomes among acute coronary syndrome patients," *Research in Social and Administrative Pharmacy*, vol. 17, no. 9, pp. 1631–1635, 2021, doi: 10.1016/j.sapharm.2021.01.003.

[6] A. L. Aro *et al.*, "Syncope and risk of sudden cardiac arrest in coronary artery disease," *International Journal of Cardiology*, vol. 231, pp. 26–30, Mar. 2017, doi: 10.1016/j.ijcard.2016.12.021.

[7] D. S. Arsyad *et al.*, "Very high risk of recurrent cardiovascular events in Indonesian patients with established coronary heart disease," *Journal of Asian Pacific Society of Cardiology*, vol. 2, 2023, doi: 10.15420/japsc.2023.04.

[8] S. A. E. Peters *et al.*, "Trends in recurrent coronary heart disease after myocardial infarction among US women and men between 2008 and 2017," *Circulation*, vol. 143, no. 7, pp. 650–660, Feb. 2021, doi: 10.1161/CIRCULATIONAHA.120.047065.

[9] E. Shahmohamadi, M. Sedaghat, A. Rahmani, F. Larti, and B. Geraiely, "'Recognition of heart attack symptoms and treatment-seeking behaviors: a multi-center survey in Tehran, Iran,'" *BMC Public Health*, vol. 23, no. 1, p. 875, 2023, doi: 10.1186/s12889-023-15826-1.

[10] A. Afik and R. Fikriana, "Self-care experience in hypertensive patients," *Bali Medical Journal*, vol. 10, no. 3Special issue, pp. 1398–1402, 2021, doi: 10.15562/bmj.v10i3.2982.

[11] E. E. Tuppo, M. P. Trivedi, J. B. Kostis, J. Daevmer, J. Cabrera, and W. J. Kostis, "The role of public health versus invasive coronary interventions in the decline of coronary heart disease mortality," *Annals of Epidemiology*, vol. 55, pp. 91–97, 2021, doi: 10.1016/j.annepidem.2020.10.005.

[12] K. J. Sawin *et al.*, "Development of a self-management theory-guided discharge intervention for parents of hospitalized children," *Journal of Nursing Scholarship*, vol. 49, no. 2, pp. 202–213, 2017, doi: 10.1111/jnu.12284.

[13] M. Klimasiński *et al.*, "Spiritual distress and spiritual needs of chronically lll patients in Poland: a cross-sectional study," *International Journal of Environmental Research and Public Health*, vol. 19, no. 9, May 2022, doi: 10.3390/ijerph19095512.

[14] J. Hardt, S. Schultz, C. Xander, G. Becker, and M. Dragan, "The spirituality questionnaire: core dimensions of spirituality," *Psychology*, vol. 03, no. 01, pp. 116–122, 2012, doi: 10.4236/psych.2012.31017.

[15] M. H. Abasi, A. A. Eslami, and F. Rakhshani, "Introducing an outcome expectation questionnaire and its psychometric properties regarding leisure time physical activity for Iranian male adolescent," *Iranian Red Crescent Medical Journal*, vol. 17, no. 5, p. e21509, May 2015, doi: 10.5812/ircmj.21509.

[16] H. Rohani, A. A. Eslami, A. Ghaderi, M. Bidkhori, and M. Raei, "Development and psychometric evaluation of a health action process approach inventory for healthful diet among type 2 diabetes patients," *International Journal of Preventive Medicine*, vol. 2016-APRIL, p. 69, 2016, doi: 10.4103/2008-7802.181333.

[17] U. Isaksson, S. Hajdarević, L. Jutterström, and Å. Hörnsten, "Validity and reliability testing of the Swedish version of Melbourne decision making questionnaire," *Scandinavian Journal of Caring Sciences*, vol. 28, no. 2, pp. 405–412, 2014, doi: 10.1111/scs.12052.

[18] F. Rego, F. Gonçalves, S. Moutinho, L. Castro, and R. Nunes, "The influence of spirituality on decision-making in palliative care outpatients: a cross-sectional study," *BMC Palliative Care*, vol. 19, no. 1, p. 22, Feb. 2020, doi: 10.1186/s12904-020-0525-3.

[19] A. A. Özdemir, F. Kavak Buda, G. Dural, and A. Gültekin, "The relationship between spiritual well-being, life satisfaction and hope in elderly individuals in Turkey," *Journal of Religion and Health*, vol. 62, no. 5, pp. 3123–3136, Oct. 2023, doi: 10.1007/s10943-022-01517-5.

[20] K. M. Collier, M. T. Greene, H. M. Gilmartin, K. E. Fowler, and S. Saint, "The role of spirituality, religiosity, and self-care on infection preventionist well-being: results from a national survey in the United States," *American Journal of Infection Control*, vol. 52, no. 6, pp. 726–730, 2024, doi: 10.1016/j.ajic.2023.12.006.

[21] C. J. Mancini, V. Quilliam, C. Camilleri, and S. Sammut, "Spirituality and negative religious coping, but not positive religious coping, differentially mediate the relationship between scrupulosity and mental health: A cross-sectional study," *Journal of Affective Disorders Reports*, vol. 14, no. October, p. 100680, 2023, doi: 10.1016/j.jadr.2023.100680.

[22] A. L. Dalle Ave and D. P. Sulmasy, "Does sedation affect patients' spiritual experience at the end of life? an intersection between medicine and spirituality," *Journal of Pain and Symptom Management*, 2023, doi: 10.1016/j.jpainsymman.2023.10.023.

[23] N. Nawaz, V. Gajenderan, U. M. Gopinath, and V. Tharanya, "Nexus between emotional intelligence and occupational stress: role of workplace spirituality among teaching fraternity," *Asia Pacific Management Review*, vol. 29, no. 1, pp. 141–150, 2024, doi: 10.1016/j.apmrv.2023.11.001.

[24] R. S. Tobin *et al.*, "Spirituality in patients with heart failure," *JACC: Heart Failure*, vol. 10, no. 4, pp. 217–226, 2022, doi: 10.1016/j.jchf.2022.01.014.

[25] V. Michaelson *et al.*, "Establishing spirituality as an intermediary determinant of health among 42,843 children from eight countries," *Preventive Medicine*, vol. 179, 2024, doi: 10.1016/j.ypmed.2024.107846.

[26] J. Kubitza, G. Große, K. Schütte-Nütgen, and E. Frick, "Influence of spirituality on moral distress and resilience in critical care staff: a scoping review," *Intensive and Critical Care Nursing*, vol. 76, no. October 2022, 2023, doi: 10.1016/j.iccn.2022.103377.

[27] K. Toivonen, A. Charalambous, and R. Suhonen, "A caring and living environment that supports the spirituality of older people with dementia: a hermeneutic phenomenological study," *International Journal of Nursing Studies*, vol. 138, p. 104414, 2023, doi: 10.1016/j.ijnurstu.2022.104414.

[28] H. Zhu, G. Chen, X. Xue, and S. Zheng, "Self-management in patients with coronary heart disease after stent implantation at the long-term stage: a cross-sectional study," *Annals of Palliative Medicine*, vol. 11, no. 7, pp. 2265–2274, Jul. 2022, doi: 10.21037/apm-21-2465.

[29] Y. Zhang, F. Yan, and W. Jiang, "Relationship between self-management behaviors and health-related quality of life among Chinese patients with coronary heart disease: a cross-sectional study," *Contemporary Nurse*, vol. 55, no. 6, pp. 554–564, 2019, doi: 10.1080/10376178.2020.1731316.
[30] R. Fikriana, W. D. Nurbadiriyah, and N. Tri, "The correlation between coping strategies and anxiety in hypertension patients in Malang Regency, Indonesia," *Studies on Ethno-Medicine*, vol. 16, no. 1–2, pp. 37–42, 2022, doi: 10.31901/24566772.2022/16.1-2.638.
[31] E. V. Shiel, S. Hemingway, K. Burton, and N. King, "Self-management of type 1 diabetes in young adults: is it impeded by aspects of everyday life? a scoping review," *Diabetes and Metabolic Syndrome: Clinical Research and Reviews*, vol. 17, no. 12, p. 102918, 2023, doi: 10.1016/j.dsx.2023.102918.
[32] Q. Chen *et al.*, "The mediating role of coping styles in illness perception and self-management in patients with obstructive sleep apnea," *Sleep Medicine*, vol. 113, pp. 349–356, 2024, doi: 10.1016/j.sleep.2023.12.003.
[33] H. Lee and I. S. La, "Association between health literacy and self-management among middle-aged women: a systematic review," *Patient Education and Counseling*, vol. 123, p. 108188, 2024, doi: 10.1016/j.pec.2024.108188.
[34] S. Ahmed *et al.*, "Association of dietary intake and nutrition knowledge with diabetes self-management behavior among Bangladeshi type 2 diabetes mellitus adults: a multi-center cross-sectional study," *Endocrine and Metabolic Science*, vol. 14, no. December 2023, p. 100156, 2024, doi: 10.1016/j.endmts.2023.100156.
[35] T. A. F. Alharbi *et al.*, "Diabetes education self-management intervention in improving self-efficacy for people with type 2 diabetes in the Gulf Cooperation Council countries: a systematic review," *Diabetes and Metabolic Syndrome: Clinical Research and Reviews*, vol. 17, no. 12, p. 102906, 2023, doi: 10.1016/j.dsx.2023.102906.
[36] S. Heo *et al.*, "Relationships of multidimensional factors to self-management in patients with diabetes: a cross-sectional, correlational study," *Geriatric Nursing*, vol. 55, pp. 270–276, 2024, doi: 10.1016/j.gerinurse.2023.11.020.
[37] T. Koppenaal *et al.*, "Characteristics and health outcomes associated with activation for self-management in patients with non-specific low back pain: a cross-sectional study," *Musculoskeletal Science and Practice*, vol. 67, no. July, p. 102830, 2023, doi: 10.1016/j.msksp.2023.102830.
[38] J. M. J. Been-Dahmen *et al.*, "What factors contribute to cancer survivors' self-management skills? a cross-sectional observational study," *European Journal of Oncology Nursing*, vol. 69, p. 102539, Apr. 2024, doi: 10.1016/j.ejon.2024.102539.
[39] D. ER and B. AKTAŞ, "An investigation of stigma and self-management in individuals diagnosed with epilepsy," *Epilepsy and Behavior*, vol. 149, p. 109494, 2023, doi: 10.1016/j.yebeh.2023.109494.
[40] C. R. Borge *et al.*, "Impacts of a health literacy-informed intervention in people with chronic obstructive pulmonary disease (COPD) on hospitalization, health literacy, self-management, quality of life, and health costs-a randomized controlled trial," *Patient Education and Counseling*, vol. 123, p. 108220, 2024, doi: 10.1016/j.pec.2024.108220.
[41] Z. Chen, Y. Jiang, M. Chen, N. Baiyila, and J. Nan, "Resilience as a mediator of the association between spirituality and self-management among older people with chronic obstructive pulmonary disease," *Healthcare (Switzerland)*, vol. 9, no. 12, Nov. 2021, doi: 10.3390/healthcare9121631.
[42] Z. E. Magin, A. B. David, L. M. Carney, C. L. Park, I. A. Gutierrez, and L. S. George, "Belief in God and psychological distress: is it the belief or certainty of the belief?," *Religions*, vol. 12, no. 9, pp. 1–13, 2021, doi: 10.3390/rel12090757.
[43] J. B. Nezlek, "Relationships among belief in God, well-being, and social capital in the 2020 European and world values surveys: distinguishing interpersonal and ideological prosociality," *Journal of Religion and Health*, vol. 61, no. 3, pp. 2569–2588, 2022, doi: 10.1007/s10943-021-01411-6.
[44] A. A. Alshraifeen, "Influence of spirituality on health outcomes and general well-being in patients with end-stage renal disease," Thesis, University of Stirling, 2015. [Online]. Available: https://core.ac.uk/download/pdf/42543867.pdf
[45] L. Reesor, E. M. Vaughan, D. C. Hernandez, and C. A. Johnston, "Addressing outcomes expectancies in behavior change," *American Journal of Lifestyle Medicine*, vol. 11, no. 6, pp. 430–432, 2017, doi: 10.1177/1559827617722504.
[46] J. Tommel *et al.*, "Predicting health-related quality of life in dialysis patients: factors related to negative outcome expectancies and social support," *Patient Education and Counseling*, vol. 104, no. 6, pp. 1474–1480, 2021, doi: 10.1016/j.pec.2020.11.019.
[47] A. Kaufmann, E. J. Malloy, and D. A. F. Haaga, "Examining outcome expectancies for smoking vs. abstinence among adult daily smokers," *Addictive Behaviors*, vol. 102, p. 106140, 2020, doi: 10.1016/j.addbeh.2019.106140.
[48] K. L. Knippen, R. Mahas, and E. Van Wasshenova, "Outcome expectancies, health information seeking, and cancer beliefs associated with multivitamin/mineral use in a national sample, HINTS-FDA 2015," *Journal of the Academy of Nutrition and Dietetics*, vol. 120, no. 8, pp. 1368–1376, 2020, doi: 10.1016/j.jand.2019.12.008.
[49] K. N. Geros-Willfond, S. S. Ivy, K. Montz, S. E. Bohan, and A. M. Torke, "Religion and spirituality in surrogate decision making for hospitalized older adults," *Journal of Religion and Health*, vol. 55, no. 3, pp. 765–777, 2016, doi: 10.1007/s10943-015-0111-9.
[50] C. Ong, A. D. Li, J. L. Marino, and M. Peate, "Interventions to improve oncofertility knowledge and decision-making in patients with low health literacy: a systematic review," *Patient Education and Counseling*, vol. 119, no. January 2023, p. 108096, 2024, doi: 10.1016/j.pec.2023.108096.
[51] R. Richter, J. Jansen, I. Bongaerts, O. Damman, J. Rademakers, and T. van der Weijden, "Communication of benefits and harms in shared decision making with patients with limited health literacy: a systematic review of risk communication strategies," *Patient Education and Counseling*, vol. 116, no. July, p. 107944, 2023, doi: 10.1016/j.pec.2023.107944.

BIOGRAPHIES OF AUTHORS

Riza Fikriana is a nursing lecturer from the College of Health Sciences of the Kepanjen Malang, Indonesia who is in the field of emergency nursing. She is very interested in topics related to cardiovascular diseases. A number of scientific works have been widely published by her. She can be contacted at email: riza_fikriana@stikeskepanjen-pemkabmalang.ac.id.

Al Afik is a nursing lecturer from the University of Muhammadiyah Yogyakarta. He is an expert in emergency nursing. He has a lot of experience in handling emergency and disaster cases both at the prehospital and intrahospital levels. He can be contacted at email: afik72@umy.ac.id.

Ronal Surya Aditya is a lecturer and researcher nursing at Universitas Negeri Malang. He has received national and international grants covering health research, psychiatric nursing and sports nursing. Joined by several health consortia with a focus on accelerating publication. He can be contacted at email: suryaronal@gmail.com.