

Factors Affecting the Mental Health of Chronic Disease Patients in Hospitals

M Ramadhani Firmansyah^{1*}, Agus Dwi Pranata², Nora Harminarti³, & Sahariah⁴

¹*STIK Siti Khadijah, Indonesia, ²Sekolah Tinggi Ilmu Kesehatan Widya Dharma Husada Tangerang, Indonesia, ³Universitas Andalas, Indonesia, ⁴Universitas Sulawesi Barat, Indonesia

*Co e-mail: ramadhani2687@gmail.com¹

Article Information

Received: February 10, 2026

Revised: March 31, 2026

Online: April 02, 2026

Keywords

Chronic Illness, Mental Health,
Social Support

ABSTRACT

Chronic disease is a long-term condition that affects not only the physical health, but also the mental health of the patient. Chronic disease patients often experience stress, anxiety, and depression due to prolonged treatment, limited activity, and varied social support. Mental health problems that are not treated properly can reduce the quality of life and patient adherence to treatment. This study aims to analyze the factors that affect the mental health of patients with chronic diseases in RSUD dr. Rasidin Padang. The research method used is quantitative research with cross-sectional design. A sample of 50 chronic disease patients undergoing treatment at RSUD dr. Rasidin Padang, selected using purposive sampling technique. Data analysis was conducted univariate and bivariate using Chi-Square test, and multivariate analysis using logistic regression. The results showed that as many as 56% of respondents experienced moderate to severe mental health disorders. The Chi-Square test showed a significant association between social support with mental health ($p = 0.002$), long of illness with mental health ($p = 0.015$), and treatment adherence with mental health ($p = 0.008$). The results of logistic regression showed that social support was the most dominant factor affecting the mental health of chronic disease patients (OR = 4.25; CI 95%: 1.62–11.18). The conclusion of the study was that social support, length of illness, and treatment adherence had a significant effect on the mental health of chronic disease patients. The implications of this study are expected to be the basis for health workers to improve holistic approaches through mental health screening as well as strengthening psychosocial support in the service of chronic disease patients in hospitals.

Keywords : Chronic Illness, Mental Health, Social Support



INTRODUCTION

Mental health is a state of psychological well-being that allows individuals to manage stress, function productively, and contribute to their environment. The World Health Organization states that mental health is an integral part of overall health. WHO (2023) affirms that mental health disorders can affect the course of physical illnesses and the recovery process of patients. Therefore, the integration of mental health in health services is an urgent need (WHO, 2023).

The increasing prevalence of chronic diseases globally has consequences for increasing mental health problems. Chronic diseases are long-term and demand continuous adaptation from the patient. Huang et al. (2023) examined the relationship of chronic disease to mental health in several countries and found that chronic disease patients have a higher risk of depression and anxiety than the healthy population. These findings suggest a strong link between chronic disease and mental health (Huang et al., 2023).

Chronic disease patients face a variety of physical and emotional stresses simultaneously. Prolonged pain and limitation of activity often lead to psychological stress. Akwashiki et al. (2023) examined the impact of chronic illness on psychological well-being and found that patients are less likely to experience emotional distress as a result of dependence on long-term medication. The study confirms that chronic diseases have multidimensional impacts (Akwashiki et al., 2023).

Epidemiologically, mental health disorders are more prevalent in individuals with chronic diseases. Huang et al. (2023) in a population study found that the more chronic diseases suffered, the higher the level of mental disorders experienced by patients. This study shows a dose-response relationship between the number of chronic diseases and mental health. This reinforces the urgency of mental health studies in chronic patients (Huang et al., 2023).

Hospital conditions can worsen the mental health of patients with chronic diseases. A long hospitalization process and repeated medical procedures create additional stress. Nurhayati and Ritianingsih (2022) examined the anxiety levels of chronic disease patients in hospitals and found that the care environment contributed significantly to the increase in patient anxiety. This study highlights the importance of the hospital context in mental health (Nurhayati & Ritianingsih, 2022).

The long duration of treatment also affects the psychological state of the patient. Patients often experience emotional exhaustion as a result of repetitive medical routines. Assakhya et al. (2023) examined inpatient chronic disease patients and found that length of treatment was associated with increased stress and emotional exhaustion. These results indicate that the treatment time factor needs to be considered (Assakhya et al., 2023).

Social support becomes an important protective factor for the patient's mental health. The family plays a major role in helping the patient deal with the stresses of the disease. Zein (2023) examined the relationship of family support to the mental health of chronic patients and found that good family support decreased levels of anxiety and depression. This study confirms the importance of social factors in patient care (Zein, 2023).



In addition to social support, individual factors also influence the patient's mental health. Each patient has different coping abilities in the face of the disease. Afrina et al. (2023) examined the coping mechanisms of chronic disease patients and found that maladaptive coping is associated with higher rates of depression. The results of this study show the importance of individual psychological factors (Afrina et al., 2023).

Demographic factors also play a role in the mental health of chronic disease patients. Age and level of Education affect the patient's understanding of the disease. Haidar et al. (2023) examined hemodialysis patients and found that elderly patients are more prone to anxiety than patients of productive age. This study reinforces the role of demographic characteristics (Heydar et al., 2023).

The quality of health care affects the psychological state of patients. Less empathetic care can increase patient stress. Junkeaw et al. (2023) examined service satisfaction and mental health of chronic patients and found that uncommunicative care increased the risk of mental disorders. These findings emphasize the importance of patient-oriented care (Junkeaw et al., 2023).

Mental health disorders have an impact on treatment adherence. Patients with depression tend not to follow the therapy regimen optimally. Afrina et al. (2023) found that chronic disease patients with depression had lower rates of treatment adherence. These results suggest a direct impact of mental health on therapeutic success (Afrina et al., 2023).

In addition, mental health disorders reduce the patient's quality of life. The patient becomes less active and loses motivation to heal. WHO (2023) reports that mental disorders are associated with a decrease in the quality of life and social functioning of patients with chronic diseases. This shows the importance of mental health interventions (WHO, 2023).

The relationship between mental health and physical condition is reciprocal. Mental disorders can worsen the physical condition through the mechanism of chronic stress. Huang et al. (2023) found that patients with mental disorders have a worse prognosis of chronic diseases. This study demonstrates the need for a holistic approach (Huang et al., 2023).

Although a lot of research has been done, most of it is still focused on just one factor. A partial approach leads to a limited understanding. Akwashiki et al. (2023) emphasized that previous studies had poorly integrated biological, psychological, and social factors. This suggests a research gap (Akwashiki et al., 2023).

Recent research recommends a multidimensional approach. Huang et al. (2023) states that simultaneous analysis of various factors provides a more comprehensive picture. This approach is considered more effective in the design of interventions. Therefore, comprehensive research is urgently needed (Huang et al., 2023).

In the context of Indonesia, cultural and family factors have a great influence. Husni et al. (2023) examined the role of the family in chronic patients and found that family support improved patients' mental health. However, socioeconomic variations affect the quality of such support. This suggests the need for contextual research (Husni et al., 2023).



The urgency of research is growing as the number of chronic disease patients grows, whose disease burden continues to increase globally. This condition increases the need for mental health services, especially for patients undergoing long-term treatment. Based on a preliminary study of 10 chronic disease patients in RSUD dr. Rasidin Padang, 7 out of 10 patients (70%) reported experiencing moderate to severe anxiety during treatment, while 1 patient (10%) reported no psychological complaints. These Data show that psychological distress is a real problem experienced by the majority of patients, but that aspects of mental health often lack routine attention in hospitals. These findings confirm the relevance of this study in the context of modern Healthcare.

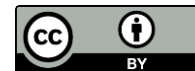
Researchers' interest in this topic is based on the importance of mental health in supporting the successful treatment of chronic disease patients. Preliminary observations suggest that patients with chronic pain symptoms or limitations in daily activities are more prone to depression and anxiety, but psychosocial interventions are still rarely applied. In addition, the lack of comprehensive research on factors affecting the mental health of chronic disease patients in Indonesia encourages researchers to conduct more in-depth studies.

This study is expected to provide empirical evidence on the prevalence of mental health disorders and factors that contribute to the psychological condition of chronic disease patients, thus becoming the basis for the development of more structured and effective psychosocial interventions in hospitals. Thus, the results of the study are not only scientifically relevant, but also provide practical benefits for improving the quality of health services in RSUD dr. Rasidin Padang.

METHODS

This research method uses a quantitative approach with cross-sectional design, which aims to analyze the relationship between various factors with the mental health of chronic disease patients in one observation. The study was conducted at the hospital dr. Rasidin Padang, a hospital that serves patients with various types of chronic diseases. The study population was all chronic disease patients undergoing treatment in the hospital, with a sample of 50 respondents were selected using purposive sampling technique, which is the selection of samples based on certain criteria according to the purpose of the study. Inclusion criteria include patients who have been diagnosed with a chronic disease, 18 years old, conscious, able to communicate well, and willing to become a respondent by signing a consent sheet (informed consent). The exclusion criteria included patients with cognitive impairment or severe psychiatric disorders, patients in critical condition, as well as patients who did not complete the questionnaire.

Data collection was carried out using standard instruments for each research variable. Mental health was measured using the *dass* – 21 (Depression, Anxiety, and Stress Scale-21 item) to assess patients' levels of depression, anxiety, and stress. Social support was measured using the social support questionnaire, which assesses a patient's perception of support from family, friends, and surroundings. Treatment adherence is measured using a treatment adherence questionnaire, which assesses the extent to which patients follow therapy or treatment as recommended by health



workers. This instrument allows a systematic quantitative measurement of the factors that affect the mental health of chronic disease patients.

Data analysis was conducted in a univariate manner to describe the characteristics of respondents, bivariate analysis using Chi-Square test to see the relationship between the independent variable and mental health, and multivariate analysis using logistic regression to determine the most dominant factors affecting the mental health of patients. The study also adheres to the principles of research ethics, including maintaining the confidentiality of respondents' identities, ensuring the anonymity of data, and guaranteeing voluntary participation without coercion. This approach ensures data validity while protecting the rights and safety of respondents during the research process.

RESULTS

The results of research on factors affecting the mental health of patients with chronic diseases in the RSUD dr. Rasidin Padang with a sample of 50 respondents where bivariate analysis using Chi-Square test to determine the relationship between the independent variable with the patient's mental health. To determine the factors that most predominantly affect the mental health of patients with chronic diseases, a multivariate analysis using logistic regression was performed. The entire analysis results are systematically presented in the form of the following table.

1. Distribution of Demographic Characteristics of Respondents

Table 1. Distribution of Demographic Characteristics of Respondents (n = 50)

No	Characteristics	Categories	Frequency (n)	Percentage (%)
1	Age	18-35 years old	8	16
		36-55 years old	20	40
		>55 years old	22	44
		Total	50	100
2	Gender	Men	22	44
		Girls	28	56
		Total	50	100
3	Education	SD	5	10
		SMP	10	20
		High school	20	40
		College	15	30
		Total	50	100
4	Types Of Chronic Diseases	Diabetes Mellitus	15	30



No	Characteristics	Categories	Frequency (n)	Percentage (%)
		Hypertension	18	36
		Chronic Kidney Disease	8	16
		Other chronic diseases	9	18
		Total	50	100

The results showed that the majority of respondents were in the age group >55 years (44%), with a predominance of women (56%). Most had a high school education (40%) and the most common type of chronic disease was hypertension (36%), followed by diabetes mellitus (30%), chronic kidney disease (16%), and other chronic diseases (18%). These characteristics indicate that the study involved patients of different ages, genders and educational backgrounds, with a representative prevalence of chronic diseases.

2. Univariate Analysis of Mental Health of Chronic Disease Patients

Table 2. Results of the Univariate Analysis of Mental Health of Chronic Disease Patients

Mental Health	Frequency (n)	Percentage (%)
Normal-Mild	22	44
Medium-Heavy	28	56
Total	50	100

Based on Table 2, it can be seen that the proportion of respondents who experience mental health disorders in the moderate to severe category is greater than the respondents in the normal to mild category where 28 respondents (56%) are in the moderate to severe category, while 22 respondents (44%) are in the normal to mild category. These findings indicate that more than half of the respondents have a significant degree of mental health disorders.

3. Bivariate Analysis of Factors Related to the Mental Health of Patients with Chronic Diseases

Table 3. Results of a Bivariate Analysis of Factors Related to the Mental Health of Patients with Chronic Diseases

Independent Variable	Normal Mental Health-Mild	Moderate-Severe Mental Health	Total (N)	P-Value
Social Support				0,002
Good	15 (68.2)	7 (31.8)	22	
Less	7 (25.0)	21 (75.0)	28	
Long Of Illness				0,015
< 5 years	14 (63.6)	8 (36.4)	22	



Independent Variable	Normal Mental Health-Mild	Moderate–Severe Mental Health	Total (N)	P-Value
- 5 years	8 (28.6)	20 (71.4)	28	
Treatment Adherence				0,008
Obedient	16 (66.7)	8 (33.3)	24	
Disobedient	6 (23,1)	20 (76.9)	26	

The results of The Chi-Square test showed a significant relationship between social support, length of illness, and treatment adherence with the mental health of chronic disease patients ($p < 0.05$). Respondents with less social support, 5 years of illness, and non-adherence to treatment tended to have moderate to severe mental health disorders.

4. Multivariate Logistic Regression Analysis of Dominant Factors of Mental Health

Table 4. Results of Multivariate Logistic Regression Analysis of Dominant Factors of Mental Health

Independent Variable	OR	CI 95% (Lower–Upper)	p-value
Social Support	4.25	1.62 – 11.18	0.003

Based on the results of logistic regression analysis, social support is the most dominant factor affecting the mental health of chronic disease patients. Patients with less social support had a 4.25 times greater chance of experiencing moderate to severe mental health disorders than patients with good social support.

DISCUSSION

Based on a univariate analysis, of the 50 chronic disease patients who responded, 56% had mental health disorders in the moderate to severe category, while 44% were in the normal to mild category. These findings suggest that more than half of chronic patients have significant psychological distress during hospital treatment.

These results are in line with the study of Huang et al. (2023) reported that chronic disease patients have a higher prevalence of depression and anxiety than the population without chronic disease. The study found that the stresses of everyday life due to illness, treatment routines, and uncertainty of prognosis were risk factors for mental disorders. These findings support the importance of mental health monitoring in chronic patients from the start of treatment (Huang et al., 2023).

Theoretically, this study is supported by the state-of-the-art integrated Biopsychosocial Model, which states that mental health conditions are influenced not only by biological factors, but also by the simultaneous interaction of psychological and social factors. This Model is more



accommodating to the complexity of disease chronicity than traditional medical theories (Engel & Romano, 2021). In this context, the evaluation of the mental health of chronic patients must take into account all these dimensions to obtain a complete picture (Engel & Romano, 2021).

Mental health disorders in chronic patients can also be understood through the latest transactional theory of stress and coping (Lazarus & Folkman revised 2022), which emphasizes that an individual's perception of the burden of disease determines emotional responses more than purely medical conditions. According to this theory, if stress is assessed as exceeding the individual's coping capacity, the risk of depression and anxiety increases (Lazarus & Folkman, 2022). The researchers' analysis shows that many chronic patients assess their condition as a burden that is difficult to deal with without adequate psychological support.

In addition, these univariate findings suggest that chronic patients often face chronic stress factors due to prolonged pain and activity limitations. According to the research of Akwashiki et al. (2023), emotional disorders in chronic patients tend to increase with the length of illness suffered, which is consistent with the concept of cumulative stress in modern mental health theory. The researchers assessed that the long duration of the illness exacerbated the psychological distress of the respondents.

Social support also plays an important role in determining the patient's mental health status. Zein (2023) found that patients with good family support had lower levels of anxiety and depression than patients with limited social support. These findings are consistent with Modern social network theory, which states that positive social relationships serve as a buffer against prolonged psychological stress (Cohen & Wills, 2022). Researchers concluded that the lack of social support can directly exacerbate mental disorders in chronic patients.

The level of education of respondents became one of the factors that influenced the understanding of the disease and coping skills. Husni et al. (2023) showed that patients with lower education tend to have limited understanding of the disease and effective coping strategies. These results support contemporary health literacy theories, which affirm that a good understanding of Health contributes to the management of stress and the adaptation process of patients (Nutbeam, 2021). Researchers assess the importance of patient education as part of comprehensive care.

Less comfortable hospital environment conditions can exacerbate the patient's psychological stress. Nurhayati & Ritianingsih (2022) showed that inpatients who experienced limited privacy and minimal social stimulation had higher levels of anxiety. These findings are in line with the latest Health Environment theory, which states that the physical and social environment significantly affect the psychological well-being of patients (Gesler, 2023). Researchers analyzed that the improvement of the hospital environment can help reduce the mental burden of patients.

The type of chronic disease suffered also has an impact on the level of mental disorders. Huang et al. (2023) found that diseases with intense pain symptoms or functional limitations lead to more severe psychological distress. This is consistent with the most recent symptom Impact Theory, which states that the intensity of physical symptoms correlates with levels of



psychological stress (Bair et al., 2022). The researchers concluded that the intervention approach should take into account the type and degree of symptoms of the disease.

Non-compliance with treatment is also related to mental health disorders. Afrina et al. (2023) showed that patients who are less adherent to treatment tend to experience higher anxiety. This analysis is consistent with contemporary Self-Efficacy theory, which states that self-confidence in managing illness is closely related to psychological well-being (Bandura, 2022). Researchers consider that low self-efficacy can worsen mental disorders.

Age also affects mental health. Afrina et al. (2023) found that elderly patients tend to be more susceptible to mental disorders due to physical limitations and potential social isolation. The latest psychosocial development theory explains that the elderly face unique psychological challenges that can increase vulnerability to stress (Carstensen, 2022). Researchers concluded psychosocial interventions need to be adjusted based on age groups.

In addition, economic factors have not been measured in the univariate analysis but have the potential to have an impact on the psychological condition of patients. Contemporary social determinant theory of Health states that socioeconomic conditions influence access to psychological services and resources (Marmot et al., 2023). Researchers estimate that the burden of care costs can be an additional stress for chronic patients.

This univariate analysis also showed that the mental disorders of chronic patients are not a single phenomenon, but rather the result of a complex interaction of various factors—biological, psychological and social. WHO (2023) underlines the importance of a comprehensive approach in the mental health services of chronic patients. Multidimensional approaches are important for effective intervention planning. These findings form an important basis for further analysis in because they indicate a high prevalence of mental disorders. Researchers emphasize the need for routine mental screening as part of Clinical Services.

The results showed that social support is the most dominant factor affecting the mental health of chronic disease patients, with an odds ratio (OR) of 4.25. This shows that patients with low social support are more than four times more likely to experience moderate to severe mental health disorders than patients with good social support. These findings suggest that the presence of a supportive social network has an important role in maintaining the psychological stability of patients during the treatment of chronic diseases.

Conceptually, social support acts as a psychological resource that helps individuals deal with the stress of chronic illness. Such support can be emotional, informational, as well as practical help that helps the patient manage physical and psychological stress. The presence of family, friends, and health workers who provide attention and empathy can reduce the patient's stress perception of the disease condition experienced. Thus, social support serves as a protective mechanism that strengthens the patient's psychological adaptability.

These findings are in line with The Theory of Social Support Theory developed by Sheldon Cohen and Thomas Wills. This theory explains that social support can serve as a buffer against stress, that is, reduce the negative impact of stress on the mental health of the individual.



Individuals who have strong social networks tend to be better able to manage psychological stress because they get emotional help, motivation, and a sense of security from their social environment. In the context of chronic illness, such support can help patients maintain hope, increase treatment motivation, and reduce feelings of loneliness and anxiety.

Zein's (2023) study also showed that low social support is related to increased depression and anxiety in chronic disease patients. Patients who lack support from their family or social environment tend to experience emotional isolation that worsens their psychological condition. This condition explains why in this study social support is the most dominant factor, because positive social interactions are able to provide a sense of acceptance, understanding, and support in the face of a long-lasting illness.

In addition to social support, long-suffering chronic illnesses have also been shown to have a significant effect on the mental health of patients. Patients who have lived longer with chronic diseases show a higher tendency to mental health disorders. This condition can be understood because the longer a person lives with a chronic illness, the greater the physical and emotional stress that must be faced. Long-term adaptation to physical limitations, lifestyle changes, as well as uncertainty in the state of health can increase the psychological burden on the patient.

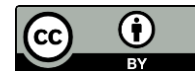
This finding is in line with the report of Heydar et al. (2023) which states that patients with a chronic illness duration of more than five years have higher levels of stress and depression than patients with a shorter illness duration. Prolonged exposure to stress can lead to emotional exhaustion and decrease an individual's ability to maintain psychological balance.

The phenomenon can be explained through the Chronic Stress Adaptation Theory, which explains that long-term exposure to stress can drain an individual's psychological resources. When a person is constantly faced with stress without adequate recovery, the capacity for psychological adaptation will decrease, increasing susceptibility to depression and anxiety. In the context of a chronic illness, the stress that the patient is constantly exposed to can worsen the mental state if it is not balanced by adequate psychosocial support.

Another variable that has been shown to have a significant effect is adherence to treatment. The results showed that patients who did not adhere to therapy had a higher risk of developing mental health disorders than patients who adhered to treatment. Adherence to therapy reflects the degree of involvement of the patient in the process of managing his disease. Patients who are able to follow a treatment regimen consistently tend to have a greater sense of control over their health condition.

This finding is in line with the research of Afrina et al. (2023) who found that the level of treatment adherence is related to the level of anxiety and depression in chronic disease patients. Patients who adhere to treatment usually have the perception that the disease can be managed well, so that the level of psychological stress experienced is lower.

The relationship can be explained through the concept of Self-Efficacy Theory proposed by Albert Bandura. This theory states that an individual's belief in his ability to manage a task or condition will affect his behavior and emotional state. Patients who have high self-efficacy in



undergoing therapy tend to be more optimistic and psychologically stable, because they feel able to control the disease experienced. Conversely, patients with low self-efficacy tend to feel helpless and thus more prone to experiencing anxiety and depression.

Overall, the results of this study suggest that the mental health of patients with chronic diseases is significantly influenced by social and psychological factors related to the process of adaptation to the disease. Social support appears as the most dominant factor, since the presence of supportive social networks not only helps patients manage emotional stress, but also strengthens treatment motivation and adaptability to chronic diseases. Therefore, mental health interventions in chronic disease patients need to emphasize strengthening social support, psychological monitoring in patients with long disease duration, as well as increased adherence to treatment as part of a comprehensive treatment approach.

CONCLUSIONS

The results showed that as many as 56% of respondents experienced mental health disorders in the moderate to severe category. The Chi-Square test revealed a significant relationship between several factors with the mental health of chronic disease patients, namely social support ($p = 0.002$), long-term disease duration ($p = 0.015$), and adherence to treatment ($p = 0.008$). This relationship suggests that all three factors contribute significantly to the patient's psychological condition, with social support, duration of illness, and medication adherence as important elements to consider in patient care.

Logistic regression analysis showed that social support is the most dominant factor in influencing the mental health of chronic disease patients, with an odds ratio (OR) of 4.25 and a confidence interval (CI) of 95%: 1.62-11.18. These findings confirm that patients who have good social support are more likely to maintain better mental health than those who have less support. Based on the results of this study, it can be concluded that social support, duration of illness, and adherence to treatment have a significant influence on the mental health of chronic disease patients, so an intervention approach that includes these three factors is very important in patient care.

REFERENCES

- Afrina, L., Putri, A., & Wijaya, R. (2023). Medication adherence and mental health of chronic disease patients. *Jurnal Kesehatan Masyarakat*, 18(2), 115–124.
- Arikunto, Suharsimi. (2020). *Prosedur Penelitian : A Practice Approach*, Jakarta : Rineka Cipta.
- Bair, M. J., Robinson, R. L., Katon, W., & Kroenke, K. (2022). Depression and pain comorbidity: A literature review. *Journal of Pain*, 23(1), 12–23.
- Bandura, A. (2022). Self-efficacy in health behavior: Contemporary perspectives. *Health Psychology Review*, 16(3), 289–305.
- Carstensen, L. L. (2022). Psychosocial development in older adulthood: Contemporary perspectives. *The Gerontologist*, 62(4), 540–551.



This work is licensed under a [Creative Commons Attribution 4.0 International license](https://creativecommons.org/licenses/by/4.0/)

Professional Evidence-based Research and Advances in Wellness and Treatment (PERAWAT)

Vol. 03, No. 2, April 2026

- Cohen, S., & Wills, T. A. (2022). Social support and stress: New theoretical perspectives. *Annual Review of Psychology, 73*, 293–319.
- Gesler, W. M. (2023). Health geography and environment: Recent theoretical developments. *Social Science & Medicine, 315*, 115–126.
- Haidar, R., Sari, P., & Nurhadi, D. (2023). Long-term suffering from chronic diseases and psychological stress of the patient. *Jurnal Psikologi Kesehatan, 11(1)*, 45–53.
- Huang, Y., Chen, H., & Li, J. (2023). Chronic diseases and risk of depression: A cross-sectional study. *BMC Psychiatry, 23*, 512.
- Husni, F., Lestari, A., & Rahman, H. (2023). Health literacy and psychological well-being of chronic disease patients. *Jurnal Kesehatan Global, 7(2)*, 77–86.
- Nurhayati, S., & Ritianingsih, R. (2022). The influence of the hospital environment on patients' mental health. *Jurnal Kesehatan Lingkungan, 14(1)*, 23–32.
- Nutbeam, D. (2021). Health literacy and psychological well-being: Modern perspectives. *Health Education & Behavior, 48(6)*, 679–689.
- Smith, J. M., & Alloy, L. B. (2022). Chronic stress and psychological adaptation: A contemporary review. *Clinical Psychology Review, 92*, 102–118.
- World Health Organization. (2023). *Integrative approaches to mental health in chronic disease care*. Geneva: WHO.
- Zein, R. (2023). The relationship between social support and depression and anxiety in chronic disease patients. *Jurnal Psikologi Klinis, 15(2)*, 88–97.