

# The Relationship Between Coping Mechanisms and Anxiety Levels in Patients with Chronic Kidney Disease Undergoing Hemodialysis at Dr. R.M. Djoelham Binjai Regional General Hospital in 2025

Nana Rita Tarigan<sup>1</sup>, Saripah Berutu<sup>2</sup>

<sup>1,2</sup> Fakultas Ilmu Kesehatan, Program Studi Keperawatan

<sup>1,2</sup> Universitas Putra Abadi Langkat

| ARTICLE INFO                                                                                                                                                                                                               | ABSTRACT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
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| <p><b>Article history:</b></p> <p>Received Jun 20, 2026<br/>Revised Jul 05, 2026<br/>Accepted Jul 20, 2026</p> <hr/> <p><b>Keywords:</b></p> <p>Anxiety<br/>Chronic Kidney Disease<br/>Family Support<br/>Hemodialysis</p> | <p>Chronic kidney disease is a progressive condition that requires lifelong hemodialysis treatment. The hemodialysis process not only causes physical changes but also affects patients' psychological well-being, particularly anxiety. One factor believed to play a role in reducing anxiety levels is family support. This study aims to determine the relationship between family support and anxiety levels in hemodialysis patients at Dr. R.M. Djoelham Binjai Regional General Hospital. This study used a cross-sectional design with a sample size of 45 respondents selected using total sampling. Data were collected using validated and reliable questionnaires on family support and anxiety, and then analyzed using the chi-square test at a 95% confidence level (<math>\alpha = 0.05</math>). The results showed that the majority of respondents 24 people (53.3%) received good family support, and the majority 23 people (51.1%) did not experience anxiety. Bivariate analysis revealed a significant association between family support and anxiety levels among hemodialysis patients (<math>p = 0.000</math>). Patients who receive good family support tend to have lower levels of anxiety than patients who receive less support from their families. It is concluded that family support is significantly associated with anxiety levels in patients undergoing hemodialysis at Dr. R.M. Djoelham Binjai Regional General Hospital. Therefore, family involvement needs to be increased as part of nursing care efforts to help reduce patients' anxiety during hemodialysis therapy.</p> <p><i>This is an open access article under the <a href="https://creativecommons.org/licenses/by-nc/4.0/">CC BY-NC</a> license.</i></p>  |

## Corresponding Author:

Nana Rita Tarigan  
Fakultas Ilmu Kesehatan, Program Studi Keperawatan  
Universitas Putra Abadi Langkat  
Jl. Letjen R. Soeprapto No.10, Kwala Bingai, Sumatera Utara 20814. Indonesia.  
Email: nanaritarigan@gmail.com

## 1. INTRODUCTION

Chronic kidney disease (CKD) is a progressive and irreversible condition in which the kidneys are unable to maintain metabolic function and fluid-electrolyte balance, resulting in the accumulation of metabolic waste products in the body (Dewi & Maharianingsih, 2021; Srianti et al., 2021). Because CKD cannot be cured, patients require lifelong treatment, including kidney transplantation, peritoneal dialysis, hemodialysis, and long-term outpatient care (Sulastris, 2020).

According to the 2023 Basic Health Research (Riskesdas), the prevalence of CKD in Indonesia increased from 2.0% to 3.8%, affecting 713,783 people aged 15 years and older. North Sumatra recorded a prevalence of 0.33%, or approximately 45,792 cases. Data from the Indonesia Renal Registry also indicate a continuous increase in patients undergoing hemodialysis, with North

Sumatra ranking fifth nationally with 4,076 active patients (Sembiring et al., 2024). Internationally, approximately 20 million people in the United States have kidney damage, with 2.35% progressing to end-stage kidney failure (American Nephrology Nurses Association, 2022). CKD remains a major public health problem in Indonesia, where the country ranks among those with the highest number of CKD patients worldwide (Nurul Rezaini, 2023; Riskesdas, 2023; Infodatin, 2023).

Hemodialysis is the primary renal replacement therapy for patients with chronic kidney disease and functions to remove metabolic waste products from the blood (Ernati et al., 2022). Despite its benefits, the procedure often causes psychological distress, particularly anxiety, due to unfamiliarity with the treatment process, its lifelong nature, and its potential side effects (Anipah et al., 2024). Anxiety experienced during hemodialysis may impair concentration, increase emotional stress, and negatively affect patients' physical and psychological well-being (Smeltzer & Bare, 2023).

Anxiety among patients undergoing hemodialysis is common and may reduce their ability to meet physiological, psychological, and social needs. Previous reports indicated that 42.69% of dialysis patients experienced anxiety disorders, with varying levels of severity ranging from mild to severe (Tavir, in Ratih 2023). Effective coping mechanisms therefore play an important role in helping patients adapt to the physical and psychological burden of chronic illness.

Previous research found that 68.5% of respondents had high coping mechanisms, while 74.1% experienced moderate anxiety. Kendall's tau analysis demonstrated a significant relationship between coping mechanisms and anxiety among patients with chronic kidney disease undergoing hemodialysis ( $p = 0.000$ ) (Ikbal, 2022).

A preliminary study conducted at Dr. RM Djoelham Binjai Regional General Hospital on January 27, 2026, showed that patients undergoing hemodialysis commonly experienced anxiety. Interviews with six patients revealed frequent feelings of anxiety, irritability, emotional instability, and reluctance to discuss their illness or personal problems, indicating the possible use of maladaptive coping mechanisms.

Based on these findings, this study was conducted to examine the relationship between coping mechanisms and anxiety levels among patients with chronic kidney disease undergoing hemodialysis at Dr. RM Djoelham Binjai Regional General Hospital in 2025. Specifically, the study aimed to identify patients' coping mechanisms, determine their anxiety levels, and analyze the relationship between these two variables. The findings are expected to contribute to nursing practice, provide evidence for future research, improve patient coping strategies, and enhance family support in assisting patients throughout the treatment process.

## 2. METHOD

### Conceptual Framework

The conceptual framework defines the focus of the study; it consists of independent variables. The conceptual framework for this study is as follows:

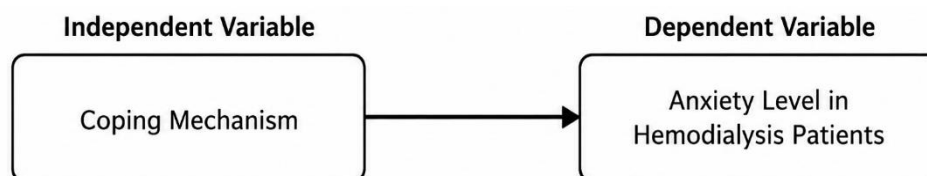


Figure 1. Conceptual Framework

### Research Hypotheses

1. Ha: There is a relationship between coping mechanisms and anxiety levels in patients with chronic kidney disease undergoing hemodialysis at Dr. RM Djoelham Binjai Regional General Hospital in 2025.
2. Ho: There is no relationship between coping mechanisms and anxiety levels in patients with chronic kidney disease undergoing hemodialysis at Dr. RM Djoelham Binjai Regional General Hospital in 2025.

### Type of Research

This study employed a cross-sectional design. The objective of the study was to determine the relationship between coping mechanisms and anxiety levels among patients with chronic kidney disease undergoing hemodialysis at Dr. RM Djoelham Binjai Regional General Hospital in 2025 (Hastono, 2022).

### Research Location and Time

#### Location

The research will be conducted at Dr. RM Djoelham Binjai Regional General Hospital, as this hospital has the sample size desired by the researcher.

#### Research Period

The research was conducted in November 2025

### Population and Sample

#### Population

The population in this study consisted of all 45 hemodialysis patients treated at Dr. RM Djoelham Binjai Regional General Hospital.

#### Sample

All patients admitted to Dr. RM Djoelham Binjai Regional General Hospital were included in the study; sampling was conducted using total sampling, resulting in a sample size of 45 individuals. Inclusion and exclusion criteria were applied during sampling to minimize the risk of bias. The criteria for the study sample were patients admitted to the Kenanga Ward who met the following inclusion criteria:

- A. Patients admitted to the HD ward.
- B. Able to communicate in Indonesian.
- C. Able to read and write.
- D. Alert and oriented.
- E. Willing to participate as respondents by signing an informed consent form.

Meanwhile, the exclusion criteria for this study are:

- A. Unable to communicate in Indonesian.
- B. Unable to read and write.
- C. Unwilling to participate as a respondent.

### Operational Definition

| No | Variable         | Operational Definition                                                                                                         | Measurement Tool                                                                  | Scale   | Score                                                                                       |
|----|------------------|--------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|---------|---------------------------------------------------------------------------------------------|
| 1. | Coping Mechanism | A coping mechanism is a strategy or way carried out by an individual to manage stress when the patient undergoes hemodialysis. | Questionnaire<br>Number of items: 10<br>Scoring:<br>Yes : score 2<br>No : score 1 | Ordinal | <b>Coping Mechanism</b><br><b>Maladaptive</b><br>= 20–60<br><b>Adaptive</b><br>= 61–100     |
| 2. | Anxiety          | An unpleasant feeling or worry about a disease or medical action experienced by the patient.                                   | Questionnaire<br>Number of items: 10<br>Scoring:<br>Yes : score 2<br>No : score 1 | Ordinal | <b>Anxious</b> : What if total score 11–20<br><b>Not anxious</b> : What if total score 1–10 |

**Figure 2.** Operational Definition of Research Variables

### Research Instruments

The research instruments used in this study must be pilot-tested on HD patients hospitalized at the hospital. The pilot test was conducted to determine the validity of the item scores, with the aim of assessing the validity of the questionnaire items included in the instrument. Meanwhile, the reliability test was conducted to assess the level of consistency or reliability of the questionnaire items. An item is considered valid if the calculated T-value is greater than the table T-value ( $r$  = correlation coefficient). The correlation coefficient  $r$  is calculated using the product-moment formula.

An item is considered reliable if  $\alpha > 0.6$ . Calculations in this validity test were performed using computer software (SPSS). The research instrument used was a questionnaire as a data measurement tool; the questionnaire consisted of closed-ended questions, so respondents only needed to provide answers by checking the  $\sqrt{\quad}$  box. In this study, the instrument used focused on coping mechanisms and anxiety in hemodialysis patients. The measurement tool used in this study was a questionnaire on coping mechanisms and anxiety in hemodialysis patients, which was developed by the researcher and consisted of 20 questions using the Gutman scale, each with its own response options.

**Table 1.** Results of the Validity Test for Coping Mechanisms

| No. | Coping mechanisms | Validity Test |         | Questionnaire |
|-----|-------------------|---------------|---------|---------------|
|     |                   | r calculate   | r table |               |
| 1.  | P1                | 0.780         | 0,281   | Valid         |
| 2.  | P2                | 0.708         | 0,281   | Valid         |
| 3.  | P3                | 0.866         | 0,281   | Valid         |
| 4.  | P4                | 0.875         | 0,281   | Valid         |
| 5.  | P5                | 0.866         | 0,281   | Valid         |
| 6.  | P6                | 0.780         | 0,281   | Valid         |
| 7.  | P7                | 0.708         | 0,281   | Valid         |
| 8.  | P8                | 0.866         | 0,281   | Valid         |
| 9.  | P9                | 0.875         | 0,281   | Valid         |
| 10. | P10               | 0.866         | 0,281   | Valid         |

The reliability test for the questionnaire used the K-R 20 formula in SPSS version 15.0. According to Arikunto (2022), the K-R 20 formula can be used to test the reliability of instruments with an ordinal scale for closed-ended questions, where a score of 2 is assigned for "yes" and 1 for "no." In this study, the coping mechanisms questionnaire consisted of 10 items, and the anxiety questionnaire consisted of 10 items. In this study, the coping mechanisms questionnaire, consisting of 10 items, yielded a KR-20 reliability value of  $>0.281$ , indicating that the research variables are consistent or reliable. The coping mechanisms questionnaire was deemed reliable with a Cronbach's Alpha value of 0.936, which is greater than 0.6.

**Table 2.** Results of the Anxiety Validity Test

| No. | Anxiety | Validity Test |         | Questionnaire |
|-----|---------|---------------|---------|---------------|
|     |         | r calculate   | r table |               |
| 1.  | P1      | 0.782         | 0,281   | Valid         |
| 2.  | P2      | 0.708         | 0,281   | Valid         |
| 3.  | P3      | 0.865         | 0,281   | Valid         |
| 4.  | P4      | 0.875         | 0,281   | Valid         |
| 5.  | P5      | 0.865         | 0,281   | Valid         |
| 6.  | P6      | 0.780         | 0,281   | Valid         |
| 7.  | P7      | 0.708         | 0,281   | Valid         |
| 8.  | P8      | 0.865         | 0,281   | Valid         |
| 9.  | P9      | 0.875         | 0,281   | Valid         |
| 10. | P10     | 0.865         | 0,281   | Valid         |

The reliability test for the questionnaire used the K-R 20 formula in SPSS version 15.0. According to Arikunto (2022), the K-R 20 formula can be used to test the reliability of instruments with an ordinal scale for closed-ended questions, where a score of 2 is assigned for "yes" and 1 for "no." In this

study, the coping mechanisms questionnaire consisted of 10 items, and the anxiety questionnaire consisted of 10 items. In this study, the anxiety questionnaire, consisting of 10 items, yielded a KR-20 reliability value of >0.281, indicating that the research variable is consistent or reliable. The anxiety questionnaire was deemed reliable with a Cronbach's Alpha value of 0.934, which is greater than 0.6.

## Data Collection Methods

### Primary Data

This study used primary data obtained from respondents via a questionnaire as a measurement tool. First, an explanation was provided regarding the purpose of the study and the questionnaire, as well as instructions on how to complete it, and respondents were asked if there was anything they did not understand.

### Secondary Data

Data collected at Dr. RM Djoelham Binjai Regional General Hospital in 2025

### Measurement Aspects

To measure coping mechanisms and anxiety in hemodialysis patients, a 10-item coping mechanism questionnaire was used with multiple-choice answers: "correct" was scored as 2 and "incorrect" as 1, resulting in a maximum score of 20 and a minimum score of 10. To determine the coping mechanisms of hemodialysis patients, the author used statistical methods according to Sudjana:

|                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                    |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>Formula:</b></p> $P = \frac{\text{Range}}{\text{Number of Classes}}$ <p><b>Explanation:</b><br/> <i>P</i> : Class Width<br/> Range : Highest Score – Lowest Score<br/> Number of Classes : Number of Categories</p> <p><b>Where:</b></p> <ul style="list-style-type: none"> <li>• <i>P</i> = Class Width</li> <li>• Range = Highest Score – Lowest Score</li> <li>• Number of Classes = Number of Categories</li> </ul> | <p><b>Calculation:</b></p> $P = \frac{\text{Range}}{\text{Number of Classes}}$ $= \frac{20 - 10}{2}$ $= \frac{10}{2}$ <div style="border: 1px solid black; padding: 2px; display: inline-block;"> <b><math>P = 5</math></b> </div> |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

The coping mechanism categories are as follows:

- Maladaptive coping mechanisms = 15–20
- Adaptive coping mechanisms = 10–14

To measure anxiety in hemodialysis patients, a 10-item questionnaire is used with multiple-choice responses: "yes" is scored as 2 and "no" as 1. The highest possible score is 20, and the lowest is 10.

|                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                   |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>FORMULA</b></p> $P = \frac{\text{Range}}{\text{Number of Classes}}$ <p><b>DESCRIPTION</b></p> <p><i>P</i> : Class Width<br/> Range : Highest Score – Lowest Score<br/> Number of Classes : Number of Categories</p> | <p><b>CALCULATION</b></p> $P = \frac{\text{Range}}{\text{Number of Classes}} \leftarrow \text{(Formula)}$ $= \frac{20 - 10}{2} \leftarrow \text{(Substitute the values)}$ $= \frac{10}{2} \leftarrow \text{(Simplify)}$ $= 5 \leftarrow \text{(Class Width (P))}$ |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

#### ANXIETY IS CATEGORIZED AS:

| Category    | Score Range |
|-------------|-------------|
| Anxious     | 15 – 20     |
| Not Anxious | 10 – 14     |

### Data Processing

Once all the data had been collected, the researcher processed the data through several stages, namely:

1. Editing: evaluating the completeness and consistency of all respondents' answers to the questionnaire to ensure there were no blank responses.
2. Coding: Assigning codes to the responses to each question according to the instructions to facilitate data processing by the researcher.
3. Data Entry: Entering all data into a computer for processing using computerized techniques.
4. Tabulation: To facilitate data analysis, processing, and drawing conclusions, the collected data is entered into frequency distribution tables.

### Data Analysis

The collected data will undergo statistical analysis using:

1. Univariate Analysis, which describes independent and dependent variables individually in the form of frequency distributions.
2. Bivariate Analysis, which is a follow-up analysis to examine the relationship between independent and dependent variables using the chi-square test at a 95% confidence level ( $p < 0.05$ ), followed by a discussion comparing the theory with the results of previous studies (Arikunto, 2022).

### Ethical Considerations

The research was conducted after obtaining approval from the educational institution and submitting a research proposal to the Chair of STIKes Putra Abadi Langkat Stabat. After receiving approval from the educational institution, a request for research permission was submitted to the Director of Dr. RM Djoelham Binjai Regional General Hospital.

This study emphasizes ethical considerations by explaining the objectives and benefits of the research process, as well as the potential impacts that may occur during and after data collection. If a respondent agrees to participate in the study, a consent form is signed; however, if a prospective respondent refuses to participate, the researcher will not coerce them and will continue to respect their rights.

## 3. RESULTS AND DISCUSSION

### Research Findings

This section presents the research findings and discussion regarding the relationship between family support and anxiety levels among hemodialysis patients at Dr. R.M. Djoelham Binjai Regional General Hospital in 2023. The data were collected from a sample of 45 respondents.

### Univariate Analysis

Univariate analysis was conducted to examine the distribution of each research variable. Based on the results of a study conducted to determine the relationship between family support and anxiety levels among hemodialysis patients at Dr. R.M. Djoelham Binjai Regional General Hospital in 2023, involving a sample of 45 participants, the frequency distributions based on the characteristics of family support and anxiety among hemodialysis patients are as follows:

**Table 3.** Frequency distribution by age, gender, and duration of HD among respondents

| No. | Characteristics          | n  | Percentage (%) |
|-----|--------------------------|----|----------------|
| 1   | Age (years)              |    |                |
|     | 20–30                    | 25 | 55.6           |
|     | 31–40                    | 20 | 44.4           |
|     | Total                    | 45 | 100            |
| 2   | Gender                   |    |                |
|     | Male                     | 21 | 46.7           |
|     | Female                   | 24 | 53.3           |
|     | Total                    | 45 | 100            |
| 3   | Duration of Hemodialysis |    |                |
|     | < 2 years                | 20 | 44.4           |
|     | ≥ 2 years                | 25 | 55.6           |
|     | Total                    | 45 | 100            |

Based on the table above, it is evident that of the 45 respondents, the majority were in the 20–30 age group, totaling 25 people (55.6%), while the minority were in the 31–40 age group, totaling 20 people (44.4%). Of the 45 respondents, the majority were female, totaling 24 people (53.3%), while the minority are men, totaling 21 people (46.7%). Of the 45 respondents, the majority have been receiving treatment for more than 2 years, totaling 25 people (55.6%), while the minority have been receiving treatment for less than 2 years, totaling 20 people (44.4%).

**Table 4.** Frequency Distribution of Respondents Based on the Variable of Family Support Among Hemodialysis Patients at Dr. RM Djoelham Binjai Regional General Hospital in 2023

| No.   | Family Support | Frequency (n) | Percentage (%) |
|-------|----------------|---------------|----------------|
| 1     | Good           | 24            | 53.3           |
| 2     | Poor           | 21            | 46.7           |
| Total |                | 45            | 100            |

Based on the table above, it can be seen that of the 45 respondents, the majority 24 people (53.3%) received good family support, while the minority 21 people (46.7%) did not receive good family support.

**Table 5.** Frequency Distribution of Respondents Based on the Anxiety Variable Among Hemodialysis Patients at Dr. RM Djoelham Binjai Regional General Hospital in 2023

| No.   | Anxiety Level | Frequency (n) | Percentage (%) |
|-------|---------------|---------------|----------------|
| 1     | Anxious       | 22            | 48.9           |
| 2     | Not Anxious   | 23            | 51.1           |
| Total |               | 45            | 100            |

Of the 45 respondents, the majority 23 patients (51.1%) were not anxious, while the minority 22 patients (48.9%) were anxious.

### Bivariate Analysis

Bivariate analysis was conducted to determine the relationship between the independent and dependent variables. The analysis was performed using the chi-square test at a 95% confidence level; thus, if the p-value from the statistical analysis was less than 0.05, the variables were considered to be significantly related.

The Relationship Between Family Support and Anxiety in Hemodialysis Patients at Dr. R.M. Djoelham Binjai Regional General Hospital in 2023. Based on the research findings, the relationship between family support and anxiety levels in hemodialysis patients at Dr. R.M. Djoelham Binjai Regional General Hospital in 2023 is presented in the following table:

**Table 6.** The Relationship Between Family Support and Anxiety Among Hemodialysis Patients at Dr. RM Djoelham Binjai Regional General Hospital in 2023

| Djoemari Binjar Regional General Hospital in 2023 |          |                                  |      |         |      |       |      |    |                |
|---------------------------------------------------|----------|----------------------------------|------|---------|------|-------|------|----|----------------|
| Family Support                                    |          | Anxiety in hemodialysis patients |      |         |      | Total |      | df | Sig (2-tailed) |
|                                                   |          | Don't Worry                      |      | Anxious |      |       |      |    |                |
|                                                   |          | n                                | %    | n       | %    | n     | %    |    |                |
| 1.                                                | Good     | 19                               | 82,6 | 5       | 22.7 | 24    | 53.3 | 1  | 0.000          |
| 2.                                                | Not good | 4                                | 17,4 | 17      | 77.3 | 21    | 46.7 |    |                |
| 3.                                                | Total    | 23                               | 100  | 22      | 100  | 45    | 100  |    |                |

Based on the table above, it can be seen that among the 45 respondents who reported good family support, the majority of patients 19 people (82.6%) were not anxious, while a minority 4 people (17.4%) were anxious despite having good family support. It was found that, of the 45 respondents, the majority 17 people (77.3%) experienced anxiety when their family's role was inadequate, while a minority 4 people (17.4%) did not experience anxiety when their family's support was inadequate.

Based on the results of the chi-square test examining the relationship between family support and anxiety levels among hemodialysis patients at Dr. R.M. Djoelham Binjai Regional General Hospital in 2023, with a significance level ( $\alpha$ ) = 0.05 and  $df = 1$ , the calculated p-value was Sig (2-tailed) of  $0.000 < (\alpha) = 0.05$ ; therefore,  $H_0$  is rejected and  $H_1$  is accepted. In conclusion, there is a significant relationship between family support and anxiety levels in hemodialysis patients at Dr. R.M. Djoelham Binjai Regional General Hospital in 2023.

#### 4. DISCUSSION

##### Univariate Analysis

Based on the table above, it is evident that of the 45 respondents, the majority 24 people (53.3%) received good family support, while the minority 21 people (46.7%) received poor family support. Family support can serve as a coping mechanism for patients with chronic kidney disease because the support provided by family members strengthens patients while protecting them from stress and depression. This support also boosts patients' self-confidence and optimism regarding their recovery (Auer, 2019).

##### Anxiety Among Hemodialysis Patients

Of the 45 respondents, the majority 23 patients (51.1%) did not experience anxiety, while a minority 22 patients (48.9%) did. The observed affective and psychological reactions suggest that the respondents have not yet fully adapted to the hemodialysis process, as they are not accustomed to seeing blood flow or hearing the dialysis alarms even though most have been undergoing hemodialysis for more than two years. However, Luana, as cited in Ikbal (2019), states that fear and anxiety regarding the hemodialysis process will gradually decrease as the duration and frequency of hemodialysis increase.

##### Bivariate Analysis

The Relationship Between Family Support and Anxiety Levels in Hemodialysis Patients at Dr. R.M. Djoelham Binjai Regional General Hospital in 2023. Based on the results of the chi-square test examining the relationship between family support and anxiety levels in hemodialysis patients at Dr. R.M. Djoelham General Hospital in Binjai in 2023 with a significance level ( $\alpha$ ) = 0.05 and  $df = 1$ —the calculated result was Sig (2-tailed)  $0.000 < (\alpha) = 0.05$ . Therefore,  $H_0$  is rejected and  $H_1$  is accepted. In conclusion, there is a relationship between family support and anxiety levels among hemodialysis patients at Dr. R.M. Djoelham Binjai Regional General Hospital in 2023.

Family support also boosts patients' self-esteem and sense of social worth, as it makes them feel important and loved. This affirmation of their importance and the fact that they are loved empowers patients and makes them feel that they are not struggling alone through the treatment process. The presence of family can thus reduce respondents' anxiety levels (Mateo, in Ikbal, 2019).

According to Tonapa, Kundre & Masi (2019), family support is essential for hemodialysis patients to provide encouragement and hope for recovery, as well as to help them accept their

condition. This is supported by research conducted by Wijayanti (2019), which found that family support is crucial for patients with chronic kidney disease undergoing hemodialysis, as it can further motivate them to continue their hemodialysis treatment. Thus, patients feel that there are still people who provide attention, affection, or care for them even while they are ill.

According to Setiadi (2018), the family is a source of practical and concrete assistance. Instrumental support—such as services, financial assistance, and material aid in the form of tangible assistance (instrumental support and material support)—a situation in which goods or services help solve practical problems, including direct assistance—such as when someone gives or lends money, helps with daily chores, delivers a message, provides transportation, or offers care and support during illness or depression—all of which help resolve problems and aim to make it easier for a person to carry out activities related to the issues they face. This is supported by research conducted by Yuliana (2019), which found that respondents who received a high level of family support indicated that their families recognized the patients' strong need for their presence. As the patients' closest relatives, family members are always ready to provide both moral and material support—which may take the form of information, attention, practical assistance, and praise for the patients—thereby helping respondents feel that their burden during treatment is eased.

The researchers hypothesize that family support is one of the factors influencing anxiety levels in hemodialysis patients. Helplessness, a lack of family support, and a lack of self-acceptance are psychological factors that can lead to high levels of anxiety in patients.

## 5. CONCLUSION

Based on the research findings and discussion outlined above, the following conclusions were drawn: As shown in the table, of the 45 respondents, the majority (24 people, or 53.3%) reported good family support, while the minority (21 people, or 46.7%) reported poor family support. Of the 45 respondents, the majority of patients—23 people (51.1%)—did not experience anxiety, while a minority—22 people (48.9%)—did. Based on the results of the chi-square test examining the relationship between family support and anxiety levels among hemodialysis patients at Dr. R.M. Djoelham General Hospital in Binjai in 2023, with a significance level ( $\alpha$ ) = 0.05 and  $df = 1$ , the calculated result was  $\text{Sig (2-tailed)} 0.000 < (\alpha) = 0.05$ ; therefore,  $H_0$  is rejected and  $H_1$  is accepted. In conclusion, family support influences anxiety levels among hemodialysis patients at Dr. R.M. Djoelham Binjai Regional General Hospital in 2023. Recommendations for Families: Patients' families are advised to continue providing support to hemodialysis patients, particularly by increasing their supportive and appreciative behavior. For the hospital, nurses are advised to provide counseling to patients' families to help them accompany and support patients with chronic kidney disease undergoing hemodialysis. For future researchers, it is recommended to conduct research in multiple hospitals rather than just one, so that the research results can be generalized to the global research community.

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