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# Self reporting questionnaire (SRQ)-20 for identifying psychological distress in patients undergoing hemodialysis

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**Abstract**

**Background:** The increasing number of chronic renal failure patients undergoing hemodialysis requires extra attention in anticipating signs of psychological distress. According to data from the Indonesia Renal Registry, 66,433 new patients underwent this treatment in 2018, with 11.58% of them experiencing psychiatric issues.
**Purpose:** To identify psychological stress in patients undergoing hemodialysis.
**Method:** A quantitative method with a cross-sectional approach was conducted on 84 patients receiving hemodialysis therapy at Muhammadiyah General Hospital of Delanggu. Data collection took place from December 2023 to January 2024, utilizing the Self Reporting Questionnaire (SRQ-20) to evaluate the patients' psychological distress symptoms, with a cutoff score of ≤6. Data analysis was performed using frequency distribution and the Chi-Square test.
**Results:** Among individuals undergoing hemodialysis, 70.2% exhibited symptoms of psychological distress. Anxiety symptoms led 32.1% of these individuals to feel worthless, with a p-value of 0.001. Additionally, headaches were reported by 52.4% of the patients, also with a p-value of 0.001.
**Conclusion:** Most hemodialysis patients experienced psychological distress symptoms. The pattern of psychological distress symptoms, including physical symptoms, cognitive symptoms, depression symptoms, anxiety symptoms, and low energy.

**Keywords: Hemodialysis; Psychological Distress; Self Reporting Questionnaire.**

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## INTRODUCTION

Humans are inherently designed to live sustainably and productively, with their productivity being largely influenced by their health status. Health is defined based on the Republic of Indonesia law number 17 of 2023 as a person's state of physical, psychological, and social well-being, not merely the absence of disease, but to live a productive life. Health is categorized into three aspects: social, physical, and mental (Natalina, Simanungkalit, Istiningsih, & Nurjanah, 2022). To achieve optimal productivity, individuals must strive for balanced health across all these aspects (Straub, 2007).

People with physical health issues often experience psychological problems, especially those with chronic conditions. Studies indicate that 11.58% of patients with chronic diseases suffer from psychiatric disorders, and this risk increases 4.6 times if they have more than one chronic illness (Widakdo & Besral, 2013).

Chronic kidney failure is a prevalent condition in Indonesia, affecting 0.38% of the population, or 4 per 1000 individuals, totaling 713,783 people out of a population of 267 million. This represents an increase from 0.2% in 2013 (Ministry of Health of the Republic of Indonesia, 2018).

Treatment for chronic kidney failure primarily involves kidney transplantation or dialysis therapy (Puspitasari, Dewi, Andanalusia, Saputra, & Widyasari, 2023). Hemodialysis therapy is particularly common in Indonesia (Pratiwi, Sari, & Kurniawan, 2019). This therapy, which uses a machine to slow the glomerular filtration rate, aims to improve the quality of life and extend life expectancy (Rahmasari, 2023). In 2018, 66,433 new patients received hemodialysis, doubling the number from 2017, with 132,142 active patients undergoing this therapy (Indonesian Renal Registry, 2018).

Patients with chronic kidney failure who depend on dialysis or hemodialysis often feel their lives are tied to the machine, leading to high levels of despair, anxiety, and dissatisfaction with life (Risna, 2020). Hemodialysis patients not only use the therapy as a treatment but also become dependent on it, causing discomfort and self-imbalance that negatively impact their quality of life (Amna, Zahara, Sari, & Sulistyani, 2022).

Researchers have identified a link between hemodialysis therapy and psychological difficulties in patients. Bivariate SRQ analysis showed a significant association between hemodialysis therapy and psychological distress. Consequently, extensive research using the SRQ-20 was conducted to determine the prevalence of psychological distress symptoms in hemodialysis patients, considering factors such as age, gender, and education.

## RESEARCH METHOD

A quantitative study with a cross-sectional design was conducted to 84 respondents undergoing hemodialysis therapy. The sample was selected using proportionate stratified random sampling with informed consent. Primary data were collectively gathered at Muhammadiyah General Hospital of Delanggu from December 2023 to January 2024. The primary data in this study include age, gender, education, and psychological distress symptoms, obtained from respondents through the SRQ-20 questionnaire. This questionnaire, used to assess psychological health symptoms, consists of 20 questions with "YES" or "NO" answers, with a score range of 0-20 points. A cut-off is reached when patients answer "yes" to at least six questions, resulting in a sensitivity of 88% and a p-value of 0.001, focusing on the psychological state experienced by patients in the last 30 days. If the "YES" answers are ≤5, it means the psychological distress symptoms are present, and if the "YES" answers are ≥6, it means they are absent. The data analysis techniques used are the Chi-Square test and frequency distribution. The research received ethics approval from the Faculty of Medicine, Muhammadiyah University of Surakarta, under the ethics number 5158/B.1/KEPK-FKUMS/I/2024.

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## RESEARCH RESULTS

**Table 1. Characteristics of the Respondents (n=84)**

| Variables | Results |
|---|---|
| **Age (n/%)** | |
| **(Mean±SD) (Range) (Year)** | (51.2±10.18)(26-70) |
| 26-35 years old | 5/6.0 |
| 36-45 years old | 14/16.7 |
| 46-55 years old | 36/42.8 |
| 56-65 years old | 20/23.8 |
| ≥66 years old | 9/10.7 |
| **Gender (n/%)** | |
| Male | 47/56.0 |
| Female | 37/44.0 |
| **Education (n/%)** | |
| Uneducated | 8/9.5 |
| Elementary School | 15/17.9 |
| Junior High School | 16/19.0 |
| Senior High School) | 35/41.7 |
| University | 10/11.9 |
| **Psychological Distress (n/%)** | |
| Present | 59/70.2 |
| Absent | 25/29.8 |

Table 1 indicates that the average age of the respondents is 51.2 years, with a standard deviation of 10.18, and an age range of 26-70 years. Most respondents are within the 46-55 year age bracket, representing 42.8% of the sample, and the majority are male, comprising 56.0%. In terms of educational background, 41.7% of respondents have completed High School. Regarding psychological distress symptoms, they are present in 70.2% of the respondents.

**Table 2. Psychological Distress in Patients Undergoing Hemodialysis**

| Variables | Psychological Distress | | p-value |
|---|---|---|---|
| | Present (n=59) | Absent (n=25) | |
| **Age (n/%)** | | | |
| 26-35 years old | 2/3.4 | 3/12.0 | |
| 36-45 years old | 11/18.6 | 3/12.0 | |
| 46-55 years old | 23/39.0 | 13/52.0 | 0.281 |
| 56-65 years old | 15/25.4 | 5/20.0 | |
| >66 years old | 8/13.6 | 1/4.0 | |
| **Gender (n/%)** | | | |
| Male | 34/57.6 | 13/52.0 | 0.635 |
| Female | 25/42.4 | 12/48.0 | |
| **Education (n/%)** | | | |
| Uneducated | 6/10.2 | 2/8.0 | |
| Elementary School | 11/18.6 | 4/16.0 | |
| Junior High School | 1118.6 | 5/20.0 | 0.914 |
| Senior High School) | 23/39.0 | 12/48.0 | |
| University | 8/13.6 | 2/8.0 | |

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Table 2 shows the results of the bivariate test of the relationship between psychological distress symptoms and hemodialysis patients. The age factor has a p-value of 0.281, the gender factor has a p-value of 0.635, and the education status factor has a p-value of 0.914.

## DISCUSSION

The majority of hemodialysis patients were in their early 60s (46-55), with 57.4% of individuals over 45 exhibiting specific characteristics (Siwi, 2021). This is due to aging, which coincides with a decline in renal function, leading to the physiological accumulation of calcium phosphate minerals (Arriyani & Wahyono, 2023).

Regarding gender, most patients undergoing hemodialysis were men (56.0%), while women comprised 44.0%. More men (53.1%) than women (46.9%) receive hemodialysis (Aini, Setyowati, Mashfufa, Setyawati, & Marta, 2022). Poor lifestyle choices among men, such as low attention to diet, frequent consumption of instant drinks or energy supplements during strenuous activities, and a high frequency of smoking, are contributing factors (Rohma & Kristinawati, 2022).

In terms of educational level, high school graduates represented the largest group receiving hemodialysis therapy (41.7%), followed by junior high school graduates (19.0%), and those with no formal education (9.5%). A person's education level affects the quality of their health because the amount of information they acquire influences their health awareness. A lack of education limits a person's understanding of information management, leading to reduced access to healthcare facilities and less attention to their health. College graduates had the lowest representation (9.5%) (Komariyah, Aini, & Prasetyorini, 2024). Higher education levels provide greater access to information and knowledge, influencing behavior (Aditya & Armi, 2023).

Table 1 shows the percentage of psychological distress symptoms among hemodialysis patients. The findings indicate that 70.2% of respondents reported psychological difficulties due to the therapy they received. Hemodialysis therapy reduces patients' functional ability, narrows their outlook on life, and increases their dependence on healthcare services, all significantly impacting their mental state (Song, Cai, Xiao, & Chen, 2020). 44.4% of patients undergoing hemodialysis developed psychological disturbances. The study also shows that patients who have received therapy for a longer duration are more likely to develop psychological distress (Giyaningtyas & Nurhasanah, 2023). Hemodialysis patients experience several changes that affect their psychological state, particularly when informed they need to undergo the therapy (Pratiwi et al., 2019). According to the SRQ-20 questionnaire, patients exhibited psychological symptoms such as somatic, cognitive, depressive, anxiety symptoms, and low energy. Somatic complaints included headaches (52.4%), decreased appetite (51.2%), poor digestion (39.3%), and stomach discomfort (42.9%). Hemodialysis patients report general somatic symptoms such as headaches and significant weight loss due to reduced appetite (Widyana, 2022).

Hemodialysis patients often feel helpless in dealing with their issues. Helplessness is defined as a person's doubt in their actions not producing results, leading to a lack of control over their situation (Pardede, 2020). This is characterized by difficulties in thinking clearly (21.4%) and making decisions (16.7%), with a p-value of 0.221. This figure is not significant as it is influenced by various factors such as age, gender, health insurance, available health facilities, and LFG characteristics (Herlina, Ladesvita, & Diane, 2020). Decision-making difficulties are also influenced by family factors. The family's role is crucial in maintaining good physical, spiritual, and mental health (Widodo, Adelia, Karlina, & Rahmawati, 2023). Despite cognitive symptoms experienced by hemodialysis patients, no direct relationship was found between hemodialysis and cognitive decline (Wahyuni, Kartika, Asrul, & Gusti, 2019).

Patients undergoing hemodialysis treatment may also experience depressive symptoms (Mawaddah, Mujiadi, & Utomo, 2023). The SRQ-20 questions highlight signs of psychological disturbances, such as hand tremors (8.3%), feelings of unhappiness (25.0%), frequent crying (16.7%), inability to perform useful activities (44.0%), loss of interest in activities (34.5%), feelings of worthlessness (32.1%), and thoughts of ending life (9.5%). Although these results are not statistically significant, they should not be overlooked as suicidal thoughts indicate severe depression and require immediate psychiatric attention (Sinaga & Jober, 2023). Depressive

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symptoms often emerge when a person feels hopeless, which can occur when they perceive limited options and cannot optimize their energy independently (Rahmi, Fidora, & Ningsih, 2019).

Patients' anxiety manifests as difficulty sleeping (48.8%), feelings of anxiety, tension, and worry (45.2%), and fear (48.8%). This anxiety stems from the body's reaction to prolonged therapy, including concerns about life dependency on the dialysis machine. In Saudi Arabia, 19.7% of hemodialysis patients experience anxiety (Mosleh, Alenezi, Alsani, Fairaq, & Bedaiwi, 2020). Anxiety is a common issue among hemodialysis patients (Sukandar & Mustikasari, 2021). The same study found that severe anxiety increased the likelihood of sleep disturbances by 3.3 times. Difficulty sleeping comfortably is a reaction to the long duration of dialysis treatment (Saraswati & Lestari, 2023).

The SRQ-20's question classification includes items related to decreased energy in individuals with anxiety disorders. Patients often feel easily tired (61.9%), constantly tired (60.7%), have difficulty enjoying daily activities (47.6%), and perform poorly at work (56.0%). The treatment for chronic renal failure leads to fatigue and lethargy due to the monotony of waiting for hemodialysis sessions to conclude (Pratama, Pragholapati, & Nurrohman, 2020).

## CONCLUSION

The majority of hemodialysis patients exhibited psychological distress symptoms. Further analysis identified a pattern of psychological disturbance symptoms, including physical symptoms, cognitive symptoms, depression symptoms, anxiety symptoms, and low energy.

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