



Illness acceptance and quality of life among end state renal disease patients undergoing hemodialysis[☆]



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Abstract

Objective: End-stage renal disease (ESRD) has changed in patients' physical, mental, and social activities. ESRD patients undergoing hemodialysis may adapt their chronic condition by building illness acceptance, and it may influence their quality of life. The aim of the study is to explore illness acceptance, quality of life, and the correlation between illness acceptance and quality of life among ESRD patients undergoing hemodialysis.

Method: The study was cross-sectional design with the consecutive sampling of 114 ESRD patients undergoing hemodialysis. Data were collected by the completion questionnaire of sociodemographic, Acceptance of Illness Scale and WHO Quality of Life-BREF.

Results: The mean score of illness acceptance of participants was $M (SD) = 24.71 (6.19)$ and more than half participants (50.9%) had moderate illness acceptance. The mean score of total quality of life was $82.54 (SD = 11.63)$. The psychological domain was the highest mean score, and physical health was the lowest mean score among participants. There was a weak positive correlation between illness acceptance and quality of life among ESRD patients undergoing hemodialysis ($r = .256, p < .05$).

Conclusion: This study shows that higher illness acceptance contributes to higher quality of life. Physical health domain of quality of life ESRD patients is needed for improvement.

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Introduction

More than 70% of end-stage renal disease (ESRD) patients globally choose hemodialysis as survival therapy.¹ Throughout 20 years, the average life expectancy of ESRD patients on hemodialysis tends to be short (commonly 2–5 years following diagnosis), and this often causes psychological symptoms

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and limitation of social and other activities,^{2,3} diminishing the individual's willingness to accept their illness and quality of life.³

Illness acceptance is an essential aspect of the ability to adapt to these conditions and so relieve negativity.³ Illness acceptance is a measure of the extent to which someone is capable of adapting to a chronic condition while still functioning optimally.⁴ Successful adaptation to chronic illness and its consequences (including symptoms, therapy, and physical and social changes) tends to result in a positive response to therapies and an appropriate self-concept despite physical limitations.⁵ Successful adaptation to their disease increased the patient's psychological well-being and perceived "healthy" feelings.⁶

ESRD patients on dialysis tend to have a low quality of life.⁷ As well as being psychologically burdened; their daily routine is constrained by symptoms that typically include fatigue, nausea, frequent muscle cramps, pruritus, and ease of exhaustion. These symptoms reduce their tolerance for social and professional activities and their capacity to meet basic needs independently.⁸ Finally, ESRD patients must adapt to various clinical and socio-economic changes.^{9,10} To improve their quality of life, ESRD patients must adapt to all such changes.

Success in adapting to a chronic condition is mediated by illness acceptance. This involves self-understanding of the need to tolerate the nature of the illness.¹¹ A few studies have shown that more than half of the ESRD population did not accept their illness as a new identity.^{3,12} Nevertheless, a few ESRD patients on hemodialysis who accepted their illness showed better quality of life than same-group patients who had not yet accepted their illness.³

ESRD patients undergoing hemodialysis exhibit varying degrees of illness acceptance when confronted with life changes and the need to adapt. They may view their diminished physical condition as a major contributing factor in their reduced quality of life. To assess whether psychological factors such as illness acceptance may be associated with increased quality of life, the present study investigated illness acceptance, quality of life, and the correlation between these among ESRD patients undergoing hemodialysis.

Methods

Employing a cross-sectional design, the study was conducted at two hospital hemodialysis centers in West Java, Bogor, Indonesia between April and June 2018. Consecutive sampling was used to recruit 114 participants who met the following inclusion criteria: (1) ESRD patient undergoing routine hemodialysis twice per week as recommended; (2) aged 18 years or older; (3) full consciousness/compos mentis; (4) adequate reading and writing in Bahasa Indonesia; and (5) able to give written informed consent.

All participants' demographic characteristics were collected and measured using the Acceptance of Illness (AIS) and the World Health Organization Quality of Life-BREF (WHOQoL-BREF) instruments.

AIS responses were scored on a five-point scale (from 1 = *strongly agree* to 5 = *strongly disagree*), with a total score ranging from 8 to 40. Scores below 20 were rated as low

illness acceptance; scores between 20 and 30 indicated moderate illness acceptance, and scores above 30 indicated high illness acceptance.¹³ For the purposes of this study, AIS (Indonesian version) was found to have high internal consistency, with a Cronbach's alpha of 0.89.

WHOQoL-BREF is a shorter version of WHOQoL-100, which measures the quality of life in four domains: physical health, psychological health, social relationships, and environment. These are rated on a five-point Likert scale with scores ranging from 0 to 100; a higher score indicates a higher quality of life. The range for each domain is 0–100 (transformed scores).¹⁴ The WHOQoL-BREF (Indonesian version) used for the purposes of this study was found to have high internal consistency, with a Cronbach's alpha of 0.83.¹⁴

This study was approved by the Ethics Committee of the Faculty of Nursing at Universitas Indonesia and the Hospitals Ethics Committee. After explaining the purpose of the study in the hemodialysis ward and to potential participants, the researcher went on to explain informed consent, procedures, benefits, and confidentiality. After signing the informed consent, participants were asked to complete the questionnaires, either independently or guided by the researcher. After collecting all the data, statistical software was used to produce descriptive statistics and bivariate analyses.

Results

Participant characteristics

The participants' characteristics are summarized in [Table 1](#). The average age of participants was 44.63 years ($SD = 11.26$), and more than half were female. Almost 50% of participants had a senior high school level of education and had been undergoing hemodialysis for 13–24 months. A majority were married and retired.

Illness acceptance

As shown in [Table 2](#), the mean score for illness acceptance was 24.71 ($SD = 6.19$), indicating a moderate level of illness acceptance. A majority of participants exhibited moderate illness acceptance while only 19.3% exhibited high illness acceptance.

Quality of life

The mean score for total quality of life was 82.54 ($SD = 11.63$), indicating the high quality of life. Average scores for quality of life domains ([Table 3](#)) reveal that the highest mean score is for psychological quality life ($M = 62.83$, $SD = 14.80$) while the lowest mean score was for physical health. Surprisingly, social relationships and environment scores reached almost the maximum (100 and 94, respectively).

Table 1 Participant characteristics (N = 114).

Characteristic	<i>n</i>	%
Age		
<i>M</i> = 44.63, <i>SD</i> = 11.26, <i>Min</i> – <i>Max</i> = 22–75 years		
Gender		
Female	61	53.5
Male	53	46.5
Marital status		
Married	94	82.5
Single	12	10.5
Widow/widower	8	7.0
Educational level		
Elementary school	18	15.8
Junior high school	27	23.7
Senior high school	56	49.1
University	13	11.4
Months on hemodialysis		
1–12	29	25.4
13–24	55	48.2
>24	30	26.3
Work status		
Employee	37	32.5
Unemployed	77	67.5

Note: *M* = mean, *SD* = standard deviation, *n* = frequency.

Table 2 Illness acceptance level among ESRD patients undergoing hemodialysis (N = 114).

Variable	<i>n</i>	%
Illness acceptance		
<i>M</i> = 24.71, <i>SD</i> = 6.19, <i>Min</i> – <i>Max</i> = 12–39		
Level of illness acceptance		
Low	34	29.8
Moderate	58	50.9
High	22	19.3

Note: *M* = mean, *SD* = standard deviation, *n* = frequency.

Table 3 Quality of life by domain among ESRD patients undergoing hemodialysis (N = 114).

Variable	<i>M</i>	<i>SD</i>	<i>Min</i>	<i>Max</i>
Total of quality of life	82.54	11.63	60	100
The domain of quality of life				
Physical health	56.39	12.64	32	68
Psychological	62.83	14.80	29	62
Social relationships	57.77	18.00	25	100
Environment	59.62	13.42	34	94

Note: *M* = mean, *SD* = standard deviation, *n* = frequency.

Table 4 Correlation between illness acceptance and quality of life among ESRD patients undergoing hemodialysis ($N = 114$).

Variable	Quality of life Correlation coefficient (r)	p -value
Illness acceptance	.256	.006

Note: $p < .05$.

The relationship between illness acceptance and quality of life

Pearson analysis was used to examine the correlation between illness acceptance and quality of life. As shown in Table 4, the findings indicate a weak positive correlation between illness acceptance and quality of life among ESRD patients undergoing hemodialysis ($r = .0256$, $p < .05$).

Discussion

The mean age of participants was 44.63, corresponding roughly to the average age of ESRD patients (45 years).¹⁵ There were more female participants than male in this study, in contrast to the prevalence of male ESRD patients in Indonesia (males were 1.5 times higher than the number of female patients).¹⁶ A majority had senior high school education (middle level); an earlier study reported lower incidence of chronic illness (including chronic renal disease) among people with a higher education level.¹⁷ More than half of the participants in this study were unemployed as a result of ESRD symptoms such as nausea and vomiting or diminished physical fitness.¹⁸ Almost half had had between 13 and 24 months of hemodialysis, which is similar to the duration reported in other studies (about 17–25 months).^{19,20} Individual characteristics may influence prognosis and psychosocial aspects of illness acceptance and quality of life in ESRD patients.

Participants in this study exhibited moderate levels of illness acceptance. This supports the findings of two previous studies, which reported moderate levels of illness acceptance for 44% and 61% of participants, respectively.^{3,12} All three studies reported that relatively few ESRD patients exhibit high illness acceptance.

Health deterioration occurs continuously following an initial diagnosis of chronic disease, and the physical and psychological impacts require patient adjustment.^{21,22} Patients with chronic diseases need time to grasp the need to adapt to the symptoms of their disease. Common symptoms of renal failure such as fatigue are negatively correlated with illness acceptance as a result of the increasing need for help from others.³

In accepting their illness and treatment with all its consequences, ESRD patients undergoing hemodialysis must adhere to strict rules and lifestyle changes for years. With intense intervention, lifestyle changes can take 3–6 years,²² and the life expectancy of ESRD patients undergoing hemodialysis are in the range 2–5 years.² For patients with chronic diseases, illness acceptance involves psychological adaptation and is impacted by factors that include results of treatment (e.g., therapy modalities), the time

needed to complete treatment, and stress caused by the treatment itself.²³

The present findings indicate that most ESRD patients undergoing hemodialysis exhibit low or moderate illness acceptance within 1–2 years of diagnosis. Hence, this study reflects that most of the participants were accepting the process of illness since being diagnosed and achieving to gain the highest of illness acceptance.

Participants in this study were found to have a high quality of life while average scores for each domain of quality of life were in the middle range. It can be argued that this supports previous findings that the quality of life of patients with terminal kidney failure is significantly worse than that of the general population of healthy individuals,²⁴ whose quality of life is reported as very good. Some individual characteristics that may impact on the quality of life of participants in this study include age, sex, education, marital status, psychosocial factors (family and healthcare support, anxiety, depression), and comorbidities.²⁵

Four domains contribute to a patient's quality of life. The domain of physical health and psychology was found in the lowest average as similar as a finding of the current study.²⁶ The low mean score for the physical health domain may reflect symptoms commonly associated with ESRD; these symptoms can be reduced by having hemodialysis three times per week,^{27,28} but participants in this study underwent hemodialysis only twice per week. The lower score for the physical health domain in ESRD patients may also reflect limitations related to activities and independence.

In contrast, the mean score was higher for the psychological health domain. Patients with chronic diseases may resort to cognitive coping, seeking information about solutions for the symptoms of their disease, and building trust can also be useful.²⁹ The social relationship and environment domains returned high scores, perhaps reflecting how family and partners or spouses fulfill respondents' needs for social interaction. Most of the participants in this study were married, and ESRD patients who conveyed their feelings to people close to them perceived their quality of life as good,³⁰ indicating that social support significantly affects the quality of life.

Although ESRD patients' quality of life may tend to be low, it can be increased with support from medical staff in combination with the acceptance of their illness and treatment. This may include multidisciplinary interventions involving nutrition and psychosocial therapies, but mental aspects remain the main factor in improving the quality of life.

In this study, illness acceptance was found to be positively correlated with quality of life. This supports the findings of an earlier study, especially in respect of the influence of physical health on perceived quality of life.³ This correlation suggests the importance of adaptation

to address symptoms following diagnosis of a chronic illness.^{28,29} To relieve physical symptoms, ESRD patients undergoing hemodialysis may need to manage more than one task at a time, including adherence to medication, fluid restriction, routine hemodialysis, and nutritional diet. This process of adaptation is likely to be enhanced when patients accept chronic illness as a new identity.³

The present findings show that illness acceptance improves satisfaction with medical treatment.³ Given a permanent, life-threatening condition, ESRD patients may feel that their basic needs are supported by medical devices and personnel. However, facilities such as hemodialysis rooms are an unfamiliar environment for ESRD patients, and they need to be prepared for this.

In conclusion, this study suggests that illness acceptance may be linked to the quality of life among ESRD patient undergoing hemodialysis. However, it seems likely that other factors may influence the psychological aspects of chronic illness, and further studies should consider physical health improvements and management across a broader range of participants.

Conflict of interests

The authors declare no conflict of interest.

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