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Development Of Quality-Of-Life Models Of Chronic Renal Failure Patients Based On Self-Regulatory Intervention

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Abstract

Introduction: Chronic kidney disease has a severe impact on the psychological, social, physical, economic, and cultural aspects of individuals, a person with chronic kidney failure tries to adapt as best they can, but not infrequently they do not have the knowledge and skills to make decisions and act accordingly so that it is necessary an ongoing process according to the patient's condition, by implementing self-regulatory interventions will produce an integrated relationship between the care received while the patient is hospitalized and the care provided after the patient is discharged**.**

Objective: Evolve the development of quality-of-life models of chronic renal failure patients based on self-regulatory intervention.

Material & Methods: The research approach uses a cross sectional method, sampling from July-September 2021, the number of samples is 210 respondents at the Bangil Regional General Hospital. The sampling technique used is non-probability purposive sampling.

Result: This study used 210 respondents with 56% male and 46% famele, 19% length of illness for more than one year and less than one year as much as 81%, Self-regulation Model to improve the quality of life of patients with chronic kidney failure, is a good predictive model and relevant. Structurally, the model is based on the structure of the relationship starting from the interpretation of the patient's emotions and social support factors, each of which significantly affects the representation of the attitude of patients with kidney failure. Furthermore, this representation factor has an impact on the patient's coping factors. Then sequentially affect the self-regulation intervention of patients with chronic kidney failure and ultimately to the patient's quality of life.

Conclusion : Model up patients with chronic renal failure will improve the quality of life of patients, it will directly reduce pain due to complications and mortality. The increased self-regulation ability of the intervention, respectively, was caused by the patient's Coping factor, then the representation of attitudes and the presence of social support and the interpretation of the patient's emotional response. This new finding lies in the impact on improving the quality of life of patients, due to self-regulation intervention in patients with chronic kidney failure.

Keywords: Development of models, Quality-of-life, Chronic renal failure, Self-regulatory

INTRODUCTION

Self-regulatory intervention is designed based on the process of self-regulation theory(Newman & Newman, 2020)and incorporates basic principles of behavior modification to assist individuals in making lifestyle changes. The aims to improve the ability to adapt and change behavior that will have an impact on shortening the length of patient care in the hospital and will be able to reduce the patient's recurrence rate. This has become one of the program activities in the system of providing nursing care to patients, but in its implementation it is not appropriate and not optimal (Rofi,i, 2013).

Chronic kidney failure has a severe impact on the psychological aspect (Um-e-Kalsoom et al., 2020), social(Morton et al., 2018), physical(Morton et al., 2018), cultural aspects of individuals(Morton et al., 2018).A person with chronic kidney failure tends to try to adapt as best they can(Agustiyowati et al., 2018), but not infrequently they do not have the knowledge and skills to make decisions and act as they should so that a continuous process is needed according to the patient's condition, because self-regulation interventions will produce an integrated relationship between the care received when the patient is hospitalized with care given after the patient is discharged. Hospital care will be meaningful if it is continued with home care, but until now the planning for patients being treated has not been optimal because the role of nurses is still limited to carrying out routine activities, which is only information about the schedule for re-control. (Nursalam, 2014)

Kegagalan untuk memberikan dan mendokumentasikan perencanaan pulang akan beresiko terhadap beratnya penyakit, ancaman hidup, dan disfungsi fisik. Dalam perencanaan pulang perlu dikomunikasikan yang baik dan terarah sehingga apa yang disampaikan dapat dimengerti dan berguna untuk keperawatan dirumah (Nursalam, 2014). Pelaksanaan self regulationintervention bertujuan untuk mempersiapkan pasien dan keluarga dalam mengantisipasi permasalahan pasca rawat, serta upaya penanggulangannya (Hayati, 2011).

The high prevalence of chronic kidney disease is caused by a number of factors related to self-regulation and people's behavior that tends to shift, such as smoking, drinking alcohol, eating fatty foods, stress and lack of physical activity (Fraser & Blakeman, 2016). These factors can put you at risk for chronic kidney failure (Hermansyah, 2012). Self-regulation applied in self-regulatory intervention, requires patients to focus on the process of self-regulation in order to obtain healing, this has a very large role in patients and their families while patients are still being treated in hospitals or at home, it can increase knowledge, have the care to manage care, know about medications, and know the danger signs that indicate potential complications (Rofi'i, 2013).

One of the chronic disease treatment models is chronic kidney failure which focuses on active patient interactions with a proactive team. It means a connection between being motivated and having the knowledge, skills and confidence to make important decisions about their health and to manage them and a team capable of providing good quality information, support and care resources. Patients with chronic kidney disease need support to get the best health status and maintain their function as long as possible.

MATERIAL & METHODS

This study uses an explanatory design with a cross sectional approach. This design aims to develop a self-regulatory intervention model for adaptability in patients with chronic kidney failure based on conservation theory. This study examines the effect of self-regulatory intervention on the quality of life of patients with chronic kidney failure which includes physical status, psychology, environment, and social relationships. The population in this study were all patients with chronic kidney failure who underwent hemodialysis at Bangil Hospital with consecutive sampling technique, with a total sample of 210 respondents. The statistical test technique uses the t-test.

RESULTS

This research was conducted at the Bangil Regional General Hospital with the status of a government-owned Type B hospital. The respondent's character includes the respondent's education which is known to spread at all school levels. The highest level is 38.1% for elementary school and 31% for high school. The duration of chronic kidney failure is known to be less than 1 year, which is 81%. Then the average respondent's age is 50.7 years with the youngest 26 years old and the oldest 74 years with deviation values around an average of 10.3 years.

Table 1. Characteristics of respondents with chronic renal failure.

		Frequency	Percentage (%)
Education	Not in school	0	0.0%
	Elementary school	80	38.1%
	Junior high school	25	11.9%
	Senio high school	65	31.0%
	College	40	19.0%
	Total	210	100.0%
Duration of illness	> 1 year	40	19.0%
	< 1 year	170	81.0%
	Total	210	100.0%
Respondent’s age			
Minimum	Maximum	Mean	Std. Deviation
26.0	74.0	50.73	10.32

Based on the table below, the influence value above is known to be direct, indirect and total influence. In path number 1, there is a relationship between interpretation factors (X1) and endogenous factors (X3.Representation, X4.Coping, Y1.Self regulation and Y2.Quality-of-life). It is known from these 4

relationships that the total value of the greatest influence is on the representation factor (X3) which is 0.556, where the nature of the influence is positive. This means that if the interpretation factor (X1) is given a value of 1 unit, it will increase the representation factor (X3) by 0.556 times. The same is true for the other 3 relationships, where the same has a positive influence relationship.

Line link number 2, namely the relationship between social support factors (X2) and endogenous factors (X3.Representation, X4.Coping, Y1.Self regulation and Y2. Quality-of-life). It is known from these 4 relationships that the total value of the greatest influence is on the representation factor (X3) which is 0.317, where the nature of the influence is positive. This means that if the social support factor (X2) is given a value of 1 unit, it will increase the representation factor (X3) by 0.317 times. Likewise the same thing in the other 3 relationships, where the same has a positive influence relationship.

Line link number 3, namely the relationship between Representation (X3) factors and endogenous factors (X4. Coping, Y1. Self regulation and Y2. Quality-of-life). It is known from these 3 relationships that the total value of the greatest influence is the Coping factor (X4) which is 0.554, where the nature of the influence is positive. This means that if the Representation factor (X3) is given a value of 1 unit, it will increase the Individual Coping factor (X3) by 0.554 times. The same is true for the other 2 relationships, where the same has a positive influence relationship.

The relationship path number 4 is the relationship between individual Coping factors (X4) and endogenous factors Y1. Self regulation and Y2. Quality-of-life). It is known from the two relationships that the total value of the greatest influence is to the Selfregulation factor (Y1), which is 0.881, where the nature of the influence is positive. This means that if the Coping factor (X4) is given a value of 1 unit, it will increase the Self regulation factor (Y1) by 0.881 times. Likewise, the relationship between Coping and Quality life is the same, where the same has a positive influence relationship with an influence of 0.244.

The relationship of path number 5 is the self-regulation factor (Y1) to the quality-of-life factor (Y2). It is known that the total influence value is 0.289, where the nature of the influence is positive. This means that if the selfregulation factor is given a value of 1 unit, it will increase the quality of life factor by 0.289 times.

Table2. Value of direct, indirect and total influence of exogenous factors to endogenous factors.

No	conection faktor eksogen to endogen	Direct		Indirect	
		Score	Jalur	score	Jalur
1	X1.Interpretation -> X3.Representation	0.556	X1 -> X3	-	-
	X1.Interpretation -> X4.Coping	-	-	0.308	X1 -> X3 -> X4
	X1.Interpretation	-	-	0.252	X1 ->

No	conection faktor eksogen to endogen	Direct		Indirect	
		Score	Jalur	score	Jalur
	-> Y1.Self Regulation				X3 -> X4 -> Y1
	X1.Interpretation -> Y2.Quality Life	-	-	0.075	X1 -> X3 -> X4 -> Y1 -> Y2
2	X2.Social Support -> X3.Representation	0.317	X2 -> X3	-	-
	X2.Social Support -> X4.Coping	-	-	0.176	X2 -> X3 -> X4
	X2.Social Support -> Y1.Self Regulation	-	-	0.144	X2 -> X3 -> X4 -> Y1
	X2.Social Support -> Y2.Quality Life	-	-	0.043	X2 -> X3 -> X4 -> Y1 -> Y2
3	X3.Representation -> X4.Coping	0.554	X3 -> X4	-	-
	X3.Representation -> Y1.Self Regulation	-	-	0.453	X3 -> X4 -> Y1
	X3.Representation -> Y2.Quality Life	-	-	0.135	X3 -> X4 -> Y1 -> Y2
4	X4.Coping -> Y1.Self Regulation	0.818	X4 -> Y1	-	-
	X4.Coping -> Y2.Quality Life	-	-	0.244	X4 -> Y1 -> Y2

No	conection faktor eksogen to endogen	Direct		Indirect	
		Score	Jalur	score	Jalur
5	Y1.Self Regulation -> Y2.Quality Life	0.298	Y1 -> Y2	-	-

DISCUSSION

Self-regulation intervention model for the quality of life of patients with chronic renal failure is a good and relevant predictive model. It is concluded from the coefficient of determination that meets the criteria for goodness of fit and predicted relevance of a model. Structurally, the model is composed of factors that have a significant relationship. The structure of the relationship starts from the patient's emotional interpretation factor and social support factor, each of which significantly affects the representation factor of the attitude of patients with kidney failure. Furthermore, this representation factor has an impact on the patient's coping factors. Then sequentially affect the self-regulation intervention of chronic kidney failure patients and ultimately to their quality of life.

If we look at the influence value (path coefficient) of the model, it is known that the relationship between factors is positive linear, that is, there is a direct, indirect or combined (total) relationship. This means that the higher the influence of exogenous factors, the higher the impact on endogenous factors. Based on the results of testing the total relationship, all the influence values between the factors were concluded to be significantly related, except for the influence value of the emotional response interpretation factor on the quality of life factor. This means that the interpretation of the emotional response of patients with chronic kidney failure is not closely related to their quality of life. Furthermore, which are closely related to the quality of life of patients with chronic kidney failure are social support factors, attitude representation, coping and self-regulation intervention. So if these factors are 1 unit, it will improve the quality of life of patients with kidney failure by the value of their influence.

Then the self-regulation intervention of patients with chronic kidney failure is significantly influenced by factors of interpretation of emotional responses, social support, representation of attitudes and coping of patients. The magnitude of the positive linear effect, if these factors are given a value of 1 unit, it will increase the patient's self-regulation intervention, by the value of the effect.

Coping factors of patients with chronic kidney failure are significantly influenced by factors of interpretation of emotional responses, social support and representation of patient attitudes. The influence value is positive linear, which means that if it is increased by 1 unit from the interpretation factor of emotional response, social support and representation, it will increase the patient's coping factor by the value of the effect). Likewise, for the representation of the attitude factor of patients with chronic kidney failure, which is significantly influenced by the interpretation of emotional responses and social support factors.

In the measurement model, the intervention self-regulation model for the quality of life of patients with chronic renal failure was concluded to be composed of valid and reliable factors. This is concluded from the results of the convergent validity test, the results of the discriminant validity test

and factor reliability. When examined in more detail on the constituent indicators of the factor. The patient's interpretation factor is measured by the patient's emotional response related to chronic kidney failure. Then the social support factor is measured by family support and nursing services, where both indicators are valid to measure because the loading factor is greater than 0.5). The patient's attitude representation factor is measured by 4 indicators, namely preventive, increase, detection and self care by the patient, where all four of them are valid to measure the patient's attitude representation factor. The patient's coping factor is measured by the coping itself. Then the self-regulation factor is measured validly by 3 indicators namely fluid balance, hemodynamics and electrolytes). Finally, the quality of life factor is measured validly by 4 indicators, namely the quality of physical, psychological, environmental and social relations.

The new findings of the model in this study are the findings of predictive models, the impact on improving the quality of life of patients, due to self-regulation intervention in chronic kidney failure patients has answered the research objectives. The results of the model that self-regulation of the intervention does affect the quality of life of patients with chronic kidney failure. By improving the patient's quality of life, it will directly reduce pain due to complications and mortality. The increased self-regulation ability of the intervention, respectively, was caused by the patient's Coping factor, then the representation of attitudes and the presence of social support and the interpretation of the patient's emotional response.

CONCLUSION

This new finding in this study is that there is a significant effect on improving the quality of life of patients, patients with chronic kidney failure caused by self-regulation intervention. Where in previous research or concepts, research has not been carried out.

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