

HEALTH BELIEF MODEL APPROACH STRUCTURED HEALTH EDUCATION ON SELF-EFFICACY IN COMPLIANCE WITH HEMODIALISA

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ABSTRACT

Morbidity and mortality rates for chronic kidney failure increase every year due to age and style factors living, smoking, intake fluid, obedience diet and hemodialysis. CKD patients become dependent on dialysis machines, the threat of job loss, complications and death, so that the patient's life expectancy is low. This affects self - efficacy in healthy behavior and compliance with hemodialysis. This research determines the effect of structured health education with a *health belief model approach* on self-efficacy in compliance with hemodialysis. The research design used a quasi-experimental *pretest and posttest with control group*. The respondent, 31 patients in the intervention and control groups, were selected using *purposive sampling*. The instrument used is the *chronic kidneys disease self-efficacy (CKD-SE)* contains 37 statements. The intervention was given in 4 sessions lasting 60-90 minutes. Data analysis used the t-test with levels significance 95%. There are differences in self-efficacy in compliance with hemodialysis before and after the intervention. Structured health education has an effect on increasing self-efficacy in CKD patients undergoing hemodialysis with (p value = 0.000 < 0.05). There is an influence of structured health education with a *health belief model approach* on self-efficacy in compliance with hemodialysis.

Keywords: *Health Belief Model; Hemodialysis; Self-Efficacy; Structured Health Education*

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BACKGROUND

Chronic Kidney Failure (CKD) is a global public health threat because of its high morbidity and mortality rates. CKD is found in all age groups which causes life expectancy to be low. (Indonesian Ministry of Health 2018) CKD patients will facing financial problems, difficulty maintaining employment due to the long treatment process, complications and even death. This affects self - efficacy in healthy behavior and compliance with hemodialysis. (Bare BG. & Smeltzer SC, 2010).

Globally there are 384,600,000 CKD patients and the 10th highest death rate in the world. (World Health Organization, 2019) In 2025 it is estimated that the number of CKD patients will continue to increase. According to RISKESDAS the prevalence of people who suffering from CKD in Indonesia increased by 0.18%. (Kemenkes RI,

2018) Central Java Province is in 6th place, with the number of routine hemodialysis procedures per month amounting to 65,755. (PERNEFRI, 2019) The prevalence of CKD patients undergoing hemodialysis at Aisyiyah Hospital and Kumalasiwi Kudus Hospital in May and June 2022 is 137 and 140 patients.

One of the problems with hemodialysis failure is the problem of compliance. Behavioral compliance in the treatment process begins with a person's belief in the seriousness of his illness. Health beliefs and behavioral compliance behaviors are interrelated. (Gokoel et al., 2020) Ideally hemodialysis is done 2-3 times per week. Hemodialysis causes changes in life where patients experience dependence on dialysis machines. (Tzanakaki E et al., 2014).

This impact is not only felt by individuals and families, but has an impact on a country's health system. The country will incur a lot of costs because hemodialysis is generally a lifelong treatment. Prevention and control efforts cannot be carried out by the government alone but must be assisted by all parties, both the community and related professions, especially health workers.

Currently, the intervention that has been carried out at Aisiyiah Hospital and Kumalasiwi Kudus Hospital is providing education using leaflet media and is not effective because patients will experience difficulties in understanding the contents of the leaflet. (Atyanta et al., 2015) Based on this phenomenon, researchers developed innovative interventions in the form of structured health education using *the health belief model theoretical approach*. This theory has superiority because able to identify motivation which owned by individual for behave healthy to improve health status.

Patients receive direct, structured and credible information to form an understanding. Structured own meaning done in a way arranged, there are 4 sessions that must be sequenced done. Study previously find that giving education which appropriate will help realization status health which optimal in a way holistic for patient. (Rahman et al., 2016). Nurses as *educators* it is hoped that providing educational interventions based on *the health belief model* will show good results for chronic disease sufferers in accordance with the research objectives, namely to determine the effect of structured health education with a *health belief model approach* on self-efficacy in compliance with hemodialysis.

METHOD

This research is a quantitative research with a *quasi-experimental design* involving an intervention group and a control group. Giving education health structured, given in 4 meetings with 6 materials.

For groups intervention respondents be measured efficacy yourself by filling questionnaire *pre-test* after that, education is given health structured with 60-90 minutes every session. Then fill in questionnaire *post-test*. Control group given intervention education with leaflets.

The population in the study were 68 outpatient CKD patients undergoing hemodialysis at Aisiyiah Kudus Hospital and Kumalasiwi Hospital. Amount _ sample for each group there were 31 patients. Technique taking samples with techniques *purposive sampling* with criteria Inclusion: Outpatients undergoing hemodialysis, calm and cooperative, able to read and write, able to communicate in Indonesian, aged 19-65 years, with at least elementary school education and duration of hemodialysis for at least 1 month.

This research was conducted in February-March 2023 at the Hemodialysis unit of Aisiyiah and Kumalasiwi Hospitals Holy. Instruments used in study this is *the chronic kidneys disease self-efficacy (CKD) instrument: development and psychometric evaluation* which contains 37 statement items with *Cronbach's alpha* values 0.833-0.835 on validity and reliability tests. (Lin et al., 2012).

Univariate analysis of self-efficacy variables is presented in mean and SD. The data was tested for normality with *the Shapiro-Wilk tes*. Bivariate analysis using *dependent samples t-test* and an *independent sample t test* was carried out for see the influence of Structured Education on self-efficacy in groups control and intervention groups with a significance level of $p \leq 0.05$. Research ethics concerns principles respect human rights, respecting the privacy and confidentiality of research subjects, fairness and openness, paying attention benefit and what a loss occurred and has passed the ethical test from committee Ethics of Karya Husada University Semarang with letter number 163/KEP/UNKAHA/SLE/III/2023.

RESULTS

Table 1 Distribution of Patient Characteristics in the Intervention and Control Groups (n=62)

Characteristics Respondent	Intervention Group		Control Group	
	f	%	F	%
Age				
Mature early (18-40 year)	9	29.0	1	3,2
Mature intermediate (41-60 years old)	19	61.3	19	61.3
Mature Carry on (< 60 years old)	3	9.7	11	35.5
Type Sex				
Man	14	45.2	13	42
Woman	17	54.8	18	58
Education				
No school	1	3,2	7	22.6
Elementary School Equivalent	3	9.7	18	58.1
School Equivalent high school	14	45.2	4	12.9
equivalent PT	8	25.8	1	3,2
PT	5	16.1	1	3,2
Work				
No Work	21	67.7	28	90.3
Work	10	32.3	3	9.7
Total	31	100	31	100

Table 1 shows Most of the CKD patients undergoing hemodialysis in the intervention group were aged 41-60 years, female, educational. The majority were at secondary school level equivalent to junior high school, 14 respondents (45.2%), and the majority did not work, 21 respondents (67.7%).

Tabel 2 Self-Efficacy Before and After Intervention

Efficacy Self	Intervention Group			
	Mean	SD	Min-Max	95% CI
Before	112.45	7,650	99-124	109.65-115.26
After	115.68	6,575	101-125	113.27-118.89

in the Intervention Group (n=62)

Tabel 3 Self-Efficacy Before and After Intervention in the Control Group (n=62)

Efficacy Self	Control Group			
	Mean	SD	Min-Max	95% CI
Before	91.45	6,722	80-110	88.99-93.92
After	92.45	6,428	83-108	90.09-94.81

Tables 2 and 3 show average efficacy self before given intervention in groups intervention as big as 112.45 with SD 7.650 Mean efficacy self after given intervention in groups intervention as big as 115.68 with SD 6.575 Results interval estimation can be concluded that is 95% believed that the average efficacy yourself in the group intervention before given intervention is between 109.65 to with 115.26. The interval estimation results can be concluded that is 95% believed that the average efficacy yourself in the group intervention after given intervention is 113.27 to with 118.89. This matter show that there is difference efficacy yourself in the group intervention and control before given education health structured and value efficacy self.

Table 4 Differences in Self-Efficacy Before and After Providing Education in the Intervention and Control Groups (n=62)

Group	Mean	SD	P value	N
Intervention				
Before	112.45	7,650	0,000	31
After	115.68	6,575		
Control				
Before	91.45	6,722	0.046	31
After	92.45	6,428		

Table 4 showing results _ analysis use *paired t-test* was obtained that p value = 0.00 (p < 0.05).

That matter can concluded that there is differences in efficacy themselves to the respondent group intervention before and after given education health structured.

Table 5 Influence Education health Structured to efficacy-self group Intervention and control (n=62)

Group	Mean	SD	p value
Intervention	115.68	6,575	0,000
Control	92.45	6,428	

Table 5 shows that the results of the analysis using the independent t-test showed that there was a significant influence of structured health education on self-efficacy in the intervention group compared to the control group with a value of $p = 0.000$ ($p < 0.005$).

DISCUSSION

The majority of CKD patients undergoing hemodialysis are women in the middle adulthood stage, most of whom are elementary-middle school graduates and do not work because they suffer from chronic kidney failure. The CKD disease that people suffer from arises due to age and poor lifestyle factors over a long period of time which then causes physical changes so that most of them lose their jobs. The increase in the mean self-efficacy of respondents before and after the intervention in the intervention group was due to the structured health education intervention process. The health information provided by researchers in 4 meetings was a stimulus that influences the respondents thought process which is perceived in the form of knowledge. Efficacy self-interpreted as trust self-individual to ability in carry out behavior Healthy. (Bandura A., 1997).

Efficacy inner self theory *Health Belief Model* (HBM) means perception individual to self-confidence in carrying out healthy behavior to

achieve health status the optimal one. Having good self - *efficacy* makes CKD patients able to undergo hemodialysis therapy obediently. This is supported by the results of research conducted by Wulandari et al., (2019) showing that the increase in *self-efficacy* is directly proportional to the level of patient compliance in undergoing hemodialysis. (Alisa & Wulandari, 2019).

Interventions carried out able to increase patient self-confidence so that they have a mechanism coping adaptive in face problem during undergo hemodialysis. Difference intervention which are given on second group which has characteristics The same will influence the formation of self-efficacy in CKD patients undergoing hemodialysis. This research is in line with Wahyunah (2016), which found that the results of self-efficacy in the intervention group before the intervention was 70.14, and self-efficacy after the intervention was 80.14. (Wayunah et al., 2016).

The intervention group received structured health education using the *Health Belief Model theoretical approach* in 4 sessions with 6 materials which could trigger the emergence of healthy behavior and compliance with therapy and managing their disease. 6 materials the includes 6 components in the HBM theory, namely *Perceived susceptibility*, *Perceived severity*, *Perceived benefits*, *Perceived barriers*, *Cues to action* and *self-efficacy* which provides a clearer and more applicable picture of CKD and hemodialysis as well as several exercises that can be applied at home independently. The delivery of this intervention was carried out in a structured manner, namely sequentially.

A control group was given intervention in the form of education with leaflets available at the hospital once without done *pre* and *post-test*. structured health education that is carried out systematically, sequentially and in detail and instills confidence in patients which will ultimately form an

individual perception. Structured health education requires an appropriate approach to touch the patient's realm of awareness so that they will be obedient to undergoing hemodialysis therapy.

Research conducted by Ying Wang (2017) showed an increase in HBM scores and self-efficacy in the intervention group carried out for 3 months. (Ying W, 2017) This research is in line with Fatemeh's research conducted HBM-based education on 60 respondents with *peritoneal dialysis*, providing this education for 2 months (Bastami Fatemeh et al., 2015).

Nurses have the most extensive interaction with patients, because of their involvement in almost all service activities in the hospital. Nurses as *educators* have the role of providing HBM-based health education which has strategies on how to touch a person's cognition to change their behavior.

CONCLUSION

Education health structured influential in a way significant to enhancement efficacy self in CKD patients undergoing hemodialysis. Nurse can increase understanding n about education health structured with multiply method and the media used so that patient will more interested and expected capable increase quality service giving care quality nursing.

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