

Development of Non-Medical Rehabilitation Program to Overcome Weaknesses in Hemodialized Patients in Medan City Hospital

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Abstract

Introduction: The problems that occur show that 71.0% to 92.2% of patients experience weakness and that weakness is the most important condition to be observed in patients with chronic kidney failure and it is necessary to have a program to prevent weakness before and after hemodialysis. **Objective:** The aim of research in research is to develop a non-medical rehabilitation program to overcome weaknesses in hemodialysis patients at Medan City Hospital and facilitate health facilities in the establishment of New Service Programs. **Method:** The data analysis method used is Action Research. Quantitative data analysis by testing the validity of the instrument was carried out using the Content Validity Index (CVI) with a value of 0.88, while qualitative data analysis used content analysis, namely Colaizzi. **Result and Discussion:** The results of this study were obtained, namely standard operating procedures for the Non-Medical Rehabilitation Program to Overcome Weaknesses in Hemodialysis Patients at Medan City Hospital. After the non-medical rehabilitation program was carried out according to the stages of this study, the 16 hemodialysis patient participants said that the weakness had decreased. **Conclusion:** Knowledge of human resources (nurses and therapists/physiotherapy) increases 100% with recommendations for standard operating procedures to be carried out in hospitals. This research is intended to be carried out in several hospitals that have hemodialysis and medical rehabilitation services at the level of applied research. **Keywords:** Non-Medical Rehabilitation Program; Weakness; Hemodialysis;

Introduction

Hemodialysis is an action that aims to take toxic nitrogenous substances from the blood and remove excess water. The main goal of hemodialysis is to relieve symptoms, namely controlling uremia, excess fluid and electrolyte imbalance that occurs in patients with chronic kidney failure (Kamasita, 2018). The incidence of chronic kidney failure in Indonesia is based on data from Riskesdas in 2018, which is 0.38% of Indonesia's population of 252,124,458 people, so there are 713,783 people suffering from chronic kidney failure and undergoing hemodialysis in Indonesia (Rahman et al., 2016)

Chronic renal failure is irreversible resulting in physiological changes that cannot be treated conservatively and requires renal replacement therapy. Renal replacement therapy consists of hemodialysis (HD), peritoneal dialysis and kidney transplantation. Hemodialysis is a therapy for dependency on dialysis machines for a lifetime, malnutrition and anemia conditions that occur in dialysis patients result in weakness that affects the function of daily life. Therefore, proper management of weakness can prevent a decrease in the patient's quality of life. Weakness is one of the problems with a relatively high prevalence among the effects of hemodialysis measures received by patients with end-stage renal failure. Several studies have shown that 71.0% to 92.2% of patients experience weakness and that weakness is the most important condition to observe in patients with chronic renal failure and requires a rehabilitation or prevention program for weakness (Srianti, 2021)

The rehabilitation program is comprehensive, starting from promotive, preventive, curative and rehabilitative. Non-medical rehabilitation program is a strategy to prevent disability that causes weakness in certain diseases (Safruddin & Asnaniar, 2019) Many medical rehabilitation programs have been carried out for patients with disorders such as stroke patients, swallowing disorders and scoliosis to overcome these disorders (Syafni, 2020)

The purpose of this study was to develop a non-medical rehabilitation program for hemodialysis patients before and after hemodialysis. The urgency in this study is the high incidence of chronic kidney failure which causes hemodialysis and reduces the quality of life which can increase morbidity and mortality. There fore we need a program that must be carried out by hemodialysis patients before and after hemodialysis. The feasibility study of this research is based on the existence of a medical rehabilitation program in every hospital, but it is usually carried out for patients who experience muscle disorders such as swallowing disorders, stroke and bones as well as administering invasive therapy.

This non-medical rehabilitation program will also be used not only in certain cases. This research is very relevant to the focus area of Health in RIRN 2017-2045 with the Research Theme namely Development and strengthening of institutional systems, health policies and community empowerment. This study also supports the roadmap and consistency of researchers in research related to hemodialysis.

Methods

The type of research used in this study is Action Research which aims to develop a Non-Medical Rehabilitation Program to Overcome Weaknesses in Hemodialysis Patients at Medan City Hospital. In this action research study, participants were actively involved in planning activities, implementing activities, observing and monitoring the progress of the research and reflecting on the activities that had been carried out during the development of non-medical rehabilitation programs. This research will be conducted at

one of the hospitals in Medan City with the criteria for a Hospital Type that is accredited at least Type B. This research was conducted from 28 June to 28 September 2022. There

Were 16 participants in this study, divided into 2, namely quantitative participants and qualitative participants. Determining the number of participants uses a purposive sampling technique by determining participant criteria according to research needs with indicators of participants who can cooperate and have knowledge of the rehabilitation program and several parties involved in determining policy. The Content Validity (CVI) value for 3 experts with a value of 0.88 means Valid and can be used to carry out a Reliability test. In this Action Research study using qualitative and quantitative analysis methods (Polit & Beck, 2008)

Prior to conducting the research, the researcher carried out Ethical Clearance with No. 341/KEPK/FK/VI/2022 on June 21 2022 and had Research Permit No. 641/SP/MTMH/VI/2022. Qualitative analysis was carried out by interviewing at the reconnaissance stage and the FGD results were used during reflection. The results of this stage were analyzed using content analysis, namely the Colaizzi method by compiling transcripts, compiling categories and coding. Quantitative analysis was carried out by reconnaissance, observation and reflection stages. The reconnaissance stage and the reflection stage were collected using a questionnaire sheet, while the observation stage used an observation sheet. Quantitative data analysis uses descriptive data to see the knowledge of nurses, therapists, related parties before and after the implementation of non-medical rehabilitation programs.

Result and Discussion

1. Result

Characteristics of Participants

In this study there were 16 participants divided into 2, namely quantitative and qualitative participants, the data below is as follows:

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Table 1
Quantitative Participant Data

No	Characteristics	Frequency (f)	Percentage (%)
1	Position		
	a. Head of Nursing	1	12.5
	b. Chord of Medical Rehabilitation Program Services	1	12.5
	c. Hemodialysis Room Cord	1	12.5
	d. Acting Nurse in the Hemodialysis Room	2	25
	e. Acting Therapist in the Medical Rehabilitation Room	2	25
	f. Acting Hemodialysis Doctor	1	12.5
Total		8	100
2	Experience		
	a. 1-5 years	0	0
	b. 6-10 Years	2	25
	c. 10-15 Years	4	50
	d. >16 Years	2	25
Total		8	100
3	Education		
	a. D-3	0	0
	b. S-1	2	25
	c. Profession	6	75
Total		8	100

Table 2
Qualitative Participant Data

No	Characteristics	Frequency (f)	Percentage (%)
1	Position		
	a. Head of Nursing	4	50
	b. Chord Medical Rehabilitation Program Service	4	50
Total		8	100
2	Experience		
	a. 1-5 years	6	75
	b. 6-10 Years	2	25
	c. 10-15 Years	0	0
	d. >16 Years	0	0
Total		8	100
3	Education		
	a. D-3	0	0
	b. S-1	4	50
	c. Profession	4	50
Total		8	100

The above data obtained, namely the participants in this study as many as 16 participants, divided into 2, namely quantitative participants and qualitative participants. Quantitative participants were 8 people including the head of the nursing field 1 person, the coordinator of the medical rehabilitation program service 1 person, the coordinator of the hemodialysis room 1 person, the nurse in charge of 2 people, the person in charge of the therapist 2 people, the doctor in charge of hemodialysis 1 person. Qualitative participants were 8 people consisting of 4 nurses and 4 therapists.

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The first stage describes the reconnaissance stage, starting from approaching the research location to getting the problem to be studied. In the second stage, we will describe the action research cycle starting from planning, action, observation and reflection.

1) Reconnaissance

Stage This stage is carried out in May for 1 month

a. Setting of the research location and participants

The research area provides a specific room for this research, namely the hemodialysis room and resources from the hemodialysis room and medical rehabilitation room.

b. Perceptions of Nurses and Therapists on Non-Medical Rehabilitation Actions

In measuring the perceptions of nurses and therapists, a Focus Group Discussion (FGD) was conducted on non-medical rehabilitation programs in overcoming weaknesses in hemodialysis patients at Medan City Hospital. The FGD results obtained data from 8 participants, 4 nurse participants and 4 therapist participants (physiotherapy), 7 people (87.5%) had good knowledge and 1 person (12.5%) had sufficient knowledge.

2) Action Research Stage

At each stage of *action research*, researchers carry out several stages. Researchers carried out one cycle of *action research* in approximately 12 weeks starting on June 26 2022 to September 26 2022 (Planning, Action, Observation and Reflection Stages).

3) Planning

At this stage, planning is carried out to support this research activity in the form of obtaining permits to research land, conducting field observations/surveys, dividing a team of nurses, a team of physiotherapy, a team in charge of cross-disciplines involved in this activity.

4) Action

At the action stage, 7 (seven) activities were carried out that could support the collection of this data, namely the formation of the responsible team, the implementing team (nurses and therapists/physiotherapists), determining the implementation location, determining the implementation time, determining the

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implementation of the FGD, determining the implementation of Seminars and finalizing the results study.

5) Observation

At the observation stage, observations were made of the implementation of non-medical rehabilitation programs to overcome weaknesses in hemodialysis patients which were carried out on 16 hemodialysis patients with observation sheets. The observation stage was carried out in two stages, namely carried out before the non-medical rehabilitation program was carried out and after the non-medical rehabilitation program was carried out. Based on the results of observations before hemodialysis, weight measurements before hemodialysis were carried out from 16 people, it was found that 16 people experienced a weight gain of 5-10 kg as many as 16 people and after the non-medical rehabilitation program the patients said that before this activity was carried out, as many as 16 people said they experienced weakness and after carrying out range of motion (ROM) activities carried out by nurses before hemodialysis and light physical exercise carried out by therapists/physiotherapists as many as 16 hemodialysis patients said that they did not experience weakness after this activity was carried out.

6) Reflection

At this stage the researchers conducted an FGD (*Focus Group*) with a total of 8 participants. The FGD aims to obtain data on the weaknesses, strengths, constraints and benefits felt by participants after carrying out a non-medical rehabilitation program to overcome weaknesses in hemodialysis patients at the hospital. At this stage, the perceptions of nurses and therapists/physiotherapists, the results of measuring body weight before hemodialysis, carrying out ROM activities, carrying out light physical exercise activities, and determining the level of weakness.

Outcome Action Research

The results of the research on the Development of a Non-Medical Rehabilitation Program to Overcome Weaknesses in Hemodialysis Patients at Medan City Hospital have been carried out step by step from one cycle of *action research* in the end 1) the stage of measuring weight before hemodialysis, 2) the existence of human resources for each profession (nurses, therapists/physiotherapists) for carrying out interventions before and after hemodialysis, and 3) measuring the level of weakness of hemodialysis patients.

Table 3

No	Information	Pre	Post
1	Knowledge of HR	87.5%	100%
3	Level of Weakness	100%	0
4	with Non-Medical Rehabilitation Program Intervention	.	Hemodialysis

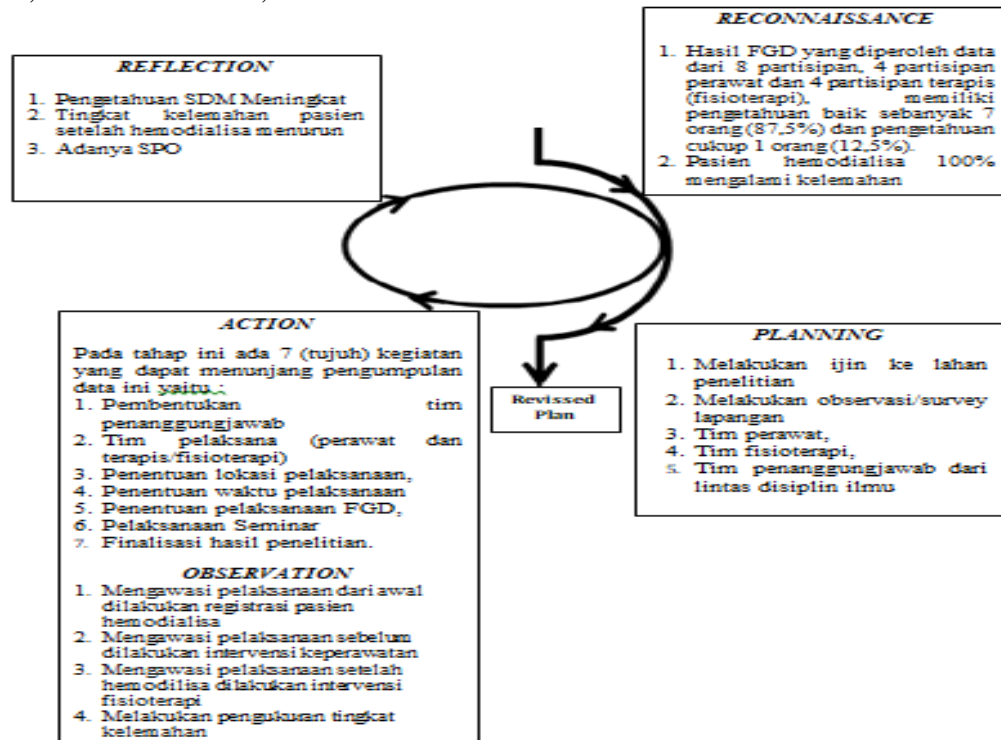
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Nonein hemodialysis patients at Medan City Hospital, as follows:

- Patient registers at registration
- Measurement of vital signs and weight measurement
- ROM exercises are carried out by the nurse for 1-5 minutes
- Hemodialysis for 4-5 hours
- Do light physical exercise for 1-5 minutes.
- Measuring the level of weakness
- Measurement of vital signs and measurement of body weight.

Impact

The process of conducting research using an *actionresearch* related to the Development of a Non-Medical Rehabilitation Program to Overcome Weaknesses in Hemodialysis Patients at Medan City Hospital, shows several positive impacts on overcoming the level of weakness in hemodialysis patients after hemodialysis, both for patients, human resources, and health facilities.



Skema 1.
Action Research

2. Discussion

Implementation of Action Research

The aim of this research is the Non-Medical Rehabilitation Program to Overcome Weaknesses in Hemodialysis Patients at Medan City Hospital. From a series of action research activities carried out for one cycle to produce outcomes in this study. Before the action research cycle was carried out, the researcher carried out the *reconnaissance stage*.

At the *reconnaissance stage*, researcher approaches the research area to determine the right research problem. The trust of the participants was maintained *prolonged engagement technique*, that is, the researchers carried out the approach in about two months. *Action research* highly recommended to be carried out because of the cyclical

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research method in exploring and applying new ways to solve problems, namely the collaboration of participants, research fields and researchers (Yaumi & Damopolii, 2016)

Stage *planning*, researchers carried out several strategies and activities including mapping and scheduling. The results of the study show that the most important role of the resource in carrying out *discharge planning* is the role *educator*, then the role of executor of *discharge planning* and the role of the coordinator and the field responsible (Winarni et al., 2019)

At the observation stage, the observation stage was carried out before hemodialysis and after hemodialysis was carried out. The results of Silaen & Ramadhani's 2018 research obtained data that it was necessary to carry out nursing interventions in the form of counseling before and after hemodialysis (Silaen, 2018)

HR Knowledge

The results of this research were carried out in one cycle of *action research research*. This has resulted in a structure for the development of a Non-Medical Rehabilitation Program to Overcome Weaknesses in Hemodialysis Patients at Medan City Hospital. The FGD results obtained data from 8 participants, 4 nurse participants and 4 therapist participants (physiotherapy), 7 people (87.5%) had good knowledge and 1 person (12.5%) had sufficient knowledge.

Treatment adherence mediates the effect of family support on quality of life. In general, there is an influence of family support and HR competence on the quality of life of kidney failure patients through medication adherence (No, 2022)

Level of Weakness in Hemodialysis Patients

Problems that occur show that 71.0% to 92.2% experience patients with weakness and that weakness is the most important condition to be observed in patients with chronic kidney failure and it is necessary to have a program to prevent weakness before and after hemodialysis. (Srianti, 2021)

The results of various interventions carried out to reduce the stress level of hemodialysis patients show effective results. Mindfulness interventions can be applied to reduce stress problems in patients, can improve medication adherence, patient spiritual activities, help patients recognize problems and causes of problems (rokhyati et al., 2019)

Conclusions

On the Research Development of Non-Medical Rehabilitation Programs to Overcome Weaknesses in Hemodialysis Patients at Medan City Hospital shows that HR knowledge increases 100%, the level of weakness of hemodialysis patients decreases 100% and there are standard operating procedures.

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