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The Effect of Cognitive Behavioral Intervention Based on Self-Management on the Ability to Control Hallucinations in People with Schizophrenia

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ABSTRACT

Hallucinations are a common symptoms found in individuals with schizophrenia. These hallucination cause people with schizophrenia (PWS) to experience difficulty in controlling themselves. This has an impact on suicidal behavior, harming other people, and destroying the surrounding environment. Therefore, a cognitive behavioral intervention based on self-management is needed as a non-pharmacological therapy to help PWS control hallucinations. This study aims to identify the effect of cognitive behavioral interventions based on self-management in people with schizophrenia. This study uses a quasy-experimental two groups pretest-posttest design. The sample consists 78 inpatient respondents with schizophrenia, divided into two groups, 39 in the intervention group and 39 in control group. Technique sample in this study using purposive sampling. Research data collection uses a questionnaire instrument for the ability to control hallucinations. The data explained used statistics, such as descriptive, dependent, and independent t-tests. The research results show that there are changes in the ability to control hallucinations in the intervention group and control group before and after self-management-based cognitive behavioral intervention (p-value=0.001). There was a difference in the ability to control hallucinations between the intervention group with the control group after cognitive behavioral intervention based on self-management (p-value= 0.013). The cognitive behavioral intervention based on self-management can be used as an effective cessation intervention to improve the ability of PWS to control hallucinations so that they can optimize their function in carrying out daily activities.

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INTRODUCTION

Schizophrenia is a neurobiological disorder characterized by disturbances in thought patterns, thought processes, affect or emotions, volition, and psychomotor skills accompanied by distortions of reality (Hendarsyah, 2016). The characteristics of people with schizophrenia are characterized by the presence of positive symptoms (such as hallucinations, delusions, delusions, agitated and aggressive behavior, as well as disturbances in thinking and speech patterns). In contrast, negative symptoms include flat affect, alogia (little speech), apathy, decreased attention, and decreased social activities (Townsend, 2013).

In 2021, the World Health Organization (WHO) estimates that around 23 million people suffer from mental disorders, namely schizophrenia and psychosis. However, only 31.3% received specialist mental health services (Dattani et al., 2022). Southeast Asia is in third position, with the prevalence of schizophrenia reaching 2 million sufferers (Charlsonet al., 2018). Based on data collection carried out every five years, the prevalence of households with schizophrenia mental disorders in Indonesia has increased by 5%; namely, in 2018, it became 6.7%. The prevalence of schizophrenia in North Sumatra is 0.9 per 1000 population, with 6.77 per mil in Medan City. The number of people with schizophrenia is predicted to continue to increase along with the rate of population growth and the process of globalization (Ministry of Health RI, 2018).

People with schizophrenia (PWS) who show symptoms of hallucinations cannot perceive reality accurately, so they must be treated immediately. Actions that can be given to treat hallucinations require psychosocial intervention, including pharmacological and non-pharmacological. One non-pharmacological therapy that can help sufferers control hallucinations is cognitive behavioral intervention.

Cognitive behavioral intervention is a form of psychosocial therapy that changes negative thoughts and behaviors into positive ones, impacting the sufferer's ability to adapt easily to difficult situations (Niken, 2021). Cognitive behavioral interventions can optimize the ability to control these hallucinatory symptoms when combined with using a self-management approach. Self-management is an individual's ability to manage symptoms, treatment, and consequences of their condition with family, community, and health service professionals (Sari et al., 2014). Self-management, as part of behavior modification techniques, focuses on developing the skills of people with schizophrenia to be able to monitor symptoms of the disease and can be used as a strategy to increase compliance with treatment and social support (Lean et al., 2021).

Based on data from the psychiatric hospital medical record the Psychiatric hospital Prof. Dr. M. Ildrem Medan, 1,290 people with schizophrenia were hospitalized in 2020, 1,345 people in 2021, and 1,497 people in 2022. From this data, it can be seen that there is an increase every year. Several nursing diagnoses were distributed with a composition of 40% hallucinations, 28% risk of violent behavior, 15.7% social isolation, 12.3% low self-esteem, and 4% delusions. Based on these data, it can be concluded that hallucinations are the most common diagnosis of the total number of patients treated at the at the Psychiatric hospital Prof. Dr. M. Ildrem Medan throughout 2022 (Psychiatric hospital Prof. Dr. M. Ildrem Medan, 2022).

People with schizophrenia who have hallucinatory problems generally often have difficulty controlling their hallucinations. Ten people were treated at the Psychiatric hospital Prof. Dr. M. Ildrem Medan obtained data that seven people already understood that they were experiencing hallucinations and already knew how to rebuke and several other hallucinatory generalist abilities. The moment the patient is asked questions about the implementation process when the patient goes home, this ability is not continued. When validated, people with schizophrenia said that whispering sounds occurred more frequently when there were problems in the family, or there were unmet needs of people with schizophrenia. Based on this data, it is clear that positive symptoms reappear when sufferers do not apply their abilities to control their hallucinations, and ultimately, people with schizophrenia experience a relapse and will be treated again at the psychiatric hospital.

The nursing interventions currently given to people with schizophrenia to control the symptoms of hallucinations have not had an optimal impact. Interventions carried out by nurses include assessment, identifying the content of hallucinations, time, frequency, occurrence of hallucinations, situations that cause hallucinations to appear, and the feelings of people with schizophrenia when hallucinations appear, rebuking hallucinations, conversing with other people, carrying out scheduled activities, and drinking medication regularly. However, providing cognitive behavioral interventions based on self-management has never been carried out. Cognitive behavioral interventions based on self-management can improve the cognitive abilities of people with schizophrenia so that sufferers can control hallucinations, control hallucinatory symptoms, increase compliance with taking medication, improve social functioning in society, and people with schizophrenia can change themselves/overcome their hallucinations without the help of a therapist. Therefore, researchers are interested in researching the effect of cognitive behavioral interventions based on self-management on the ability to control hallucinations in people with schizophrenia at the Psychiatric hospital Prof. Dr. M. Ildrem Medan.

METHOD

This research uses a quantitative research design with a quasi-experimental research design approach, a group pre-test and post-test design compare the intervention group and the control group before and after being given the intervention. Respondents in this study consisted of two groups, namely the intervention group and the control group. In this case, both groups will be given a pretest, then continued specifically with the intervention group; treatment will be given, while the control group will not. After everything is finished, both groups will be given a post-test again. The population in this study were people with schizophrenia with a nursing diagnosis of hallucinations in the inpatient room at the Psychiatric hospital Prof. Dr. M. Ildrem Medan, as many as 1,497 people (Psychiatric hospital Prof. Dr. M. Ildrem Medan, 2022).

The sample size calculation in this research was determined using a power analysis table by looking at evidence-based previous research based on mean values and standard deviations to find the effect size. The results of research conducted by Wahyuni et al. (2011) regarding the effect of cognitive behavioral interventions on hallucination sufferers, the mean value and standard deviation before intervention were

22.75±11.024 and after the intervention, it was 14.50±9.946, determined first using Cohen's (1998) formula, with final sample required in this research is 78 respondents, 39 for each group. The sampling technique used according to the design is purposive sampling, which is used to select samples based on specific criteria (Donsu, 2020). First, the researcher choose a homogeneous room to be used as a place for taking research samples.

The sample in this study were people with schizophrenia in the inpatient room at the Psychiatric hospital Prof. Dr. M. Ildrem Medan with the following inclusion criteria:

a. Age 18-55 years
b. Patients who have a medical diagnosis of schizophrenia
c. Patients who have a nursing diagnosis of hallucinations
d. maintenance ward at Psychiatric hospital Prof. Dr. M. Ildrem Medan.
e. Sufferers can write and read.
f. Sufferers can communicate verbally and non-verbally and can hear.
g. Willing to be a respondent and sign informed consent
h. ODS who receive drugs such as Risperidone, Trihexyphenidyl, and Clozapine.

The exclusion criteria in this study are:

a. Patients who return home from hospitalization at the request of the family
b. Sufferers, for unilateral reasons, stopped participating in the research.
c. Dropping out of the study, sufferers were unable to complete two sessions
d. Did not attend all cognitive behavioral intervention based on self-management sessions

This research uses a questionnaire as an instrument, which contains the respondent's identity or characteristics. Demographic and clinical data include age, gender, education level, occupation, marital status, length of illness, and frequency of treatment (Fan et al., 2022).

The instrument used to measure the sufferer's ability to control hallucinations aims to measure the sufferer's ability to control hallucinations. The questionnaire used in this research was developed by Rahayu and modified by Elsina (2022). The instruments used in this research have received permission from previous researchers. This questionnaire consists of 12 statements, of which 7 statements are about the ability to recognize hallucinations and 5 statements are about the ability to control hallucinations. This questionnaire is filled out by giving checklist marks to the selected answers. This questionnaire uses a Likert scale with a score scale of 3 for independent answers, a score scale of 2 for help answers, and a scale of 1 for dependent answers. The results of this questionnaire obtained a minimum score of 12 and a maximum score of 36. The higher the score, the more abilities the sufferer has to determine the validity of the instruments used in research, look at the CVI value based on the numbers given by the expert. The CVI value ≥0.80 is recommended as a good standard (Hidayat, 2021).

This research began by carrying out ethical clearance at the Ethics Committee of the Universitas Sumatera Utara No. 151/KEPK/USU/2024. Aspects considered for ethics in this research include autonomy, confidentiality, justice, beneficence, and non-maleficence.

This research was conducted at the Psychiatric hospital Prof. Dr. M. Ildrem Medan. The homogeneous rooms used as research sites were Sipiso-Piso, Cempaka, Mawar for the control group and Sibual-buali, Bukit Barisan and Sorik Marapi rooms for the intervention group. This research was carried out in February – May 2024. The researcher entered into a time contract with respondents in the intervention group to be given individual cognitive behavioral intervention based on self-management in 5 sessions, conducted twice a week for five weeks with ten meetings. The duration of one meeting will be 30-45 minutes. The researcher served as a therapist and provided cognitive behavioral intervention based on self-management from the first session to the fifth session.

Session 1: Assessment: The researcher builds a relationship of mutual trust by getting to know each other and conducting an assessment. ODS reveals experiences/events of hallucinations as well as negative automatic thoughts about oneself, negative feelings and behavior experienced that are related to stressors, namely experiences/events of hallucinations experienced, and practice one automatic thought that arises, documenting unpleasant events, negative automatic thoughts that arise, and negative behavior experienced by ODS.

Session 2: Cognitive Therapy, the researcher explains how to change negative automatic thoughts into positive thoughts, asks if you have chosen one negative automatic thought that will be changed into a positive thought, discusses choosing one negative automatic thought that you want to resolve in the second meeting, discusses how to fight it negative automatic thoughts by giving positive responses

(positive aspects of ODS) and asking to record them in a worksheet changing negative automatic thoughts, training independently to overcome the second negative automatic thought in fighting negative automatic thoughts, motivating to train for negative automatic thoughts another.

Session 3: Behavioral Therapy, the researcher asks whether the first negative thought still occurs frequently and what are the results of the sufferer's independent training to overcome negative automatic thoughts, giving praise for success in trying to solve the problem, explaining the purpose of session 3, namely choosing one negative behavior that you want to change, identify new positive behavior, develop a behavioral plan to change the negative behavior that arises and discuss positive consequences or negative consequences if the behavior is carried out or not carried out, discuss negative behavior that you want to change, identify positive behavior that you have, explain how to change one negative behavior and replacing it with a new behavior (the correct way of communicating and social interaction), explaining the positive and negative consequences of the new behavior learned, practicing the agreed new behavior and making a commitment about how to implement the positive and negative consequences.

Session 4: Evaluation of Cognitive and Behavioral Therapy. The researcher carried out an evaluation and validation of sessions 1-3, asking which negative automatic thoughts and negative behaviors to practice as examples, providing support and encouragement on the progress achieved by people with schizophrenia, evaluating progress and development therapy, reminding them to apply therapy consistently in overcoming negative thoughts and practicing new positive behavior, evaluating learned behavior based on agreed consequences.

Session 5: Preventing Recurrence with Self-Management, therapist evaluation and validation from sessions 1-4, the researcher explained the importance of cognitive behavioral intervention based on self-management to prevent relapse by maintaining and cultivating positive thoughts and negative behavior independently and continuously in overcoming problems, doing self-motivation by motivating to keep fighting negative thoughts, changing them into positive thoughts, practicing changing negative behavior into positive behavior and recording daily activities, so that people with schizophrenia can understand their behavior and can identify thoughts and behavior that they want to change, providing education regarding cognitive behavioral interventions based on self-management in the form of the benefits of carrying out cognitive behavioral interventions based on self-management, namely identifying and changing negative thoughts into positive thoughts and negative behavior into positive behavior, the aim of carrying out cognitive behavioral interventions based on self-management is being able to change negative thought patterns into positive ones so that they become Negative behavior that arises from wrong thought patterns will also turn into positive behavior. In the end, it is hoped that the impact on people with schizophrenia will have self-development, namely increasing self-awareness of ODS to develop their abilities/potential and being able to master and manage their behavior in order to encourage a reduction in things that are not good and an increase in good things. good and right, Self contracting: formulating with people with schizophrenia and making commitments about negative behavior into positive behavior., Self-reward: giving rewards to positive activities carried out by people with schizophrenia. Management-based cognitive behavioral intervention lasts 30-45 minutes per session.

The normality test was carried out on the variable ability to control hallucinations. This study used the Kolmogorov-Smimov test for the number of respondents >50 and the Shapiro test Wilk for the number of respondents <50 with a significance value $p>0.05$. Data on respondents' ability to control hallucinations in this study was normally distributed ($p>0.05$).

The bivariate analysis test in this study used the dependent t-test to see differences in the ability to control hallucinations in the intervention group before and after cognitive behavioral intervention based on self-management. The independent t-test was used to measure the comparison of the ability to control hallucinations in the intervention group with the control group before and after cognitive behavioral intervention based on self-management.

RESULTS

Based on Table 1, the characteristics of respondents in the intervention and control groups were in the early adulthood age range (18-40 years), and half of the respondents were male, 22 people in the intervention group (56.4%), and 30 people in the control group. (76.9%). Most respondents' education was high school, with 15 people in the intervention group (38.5) and 18 in the control group (46.2%). Most respondents worked: 20 people in the intervention group (51.3%) and 23 in the control group (59.0%). The

status of most respondents was married, 27 people in the intervention group (69.2%) and 21 people in the control group (53.8%). The most extended duration of illness for respondents was >3 years; in the intervention and control groups, each was 17 people (43.6%), while the frequency of hospitalization was >3 times, in the intervention group was 17 people (43.6%) and the control group was 19 people (48.7%).

Table 1. Distribution frequency respondent characteristics

Respondent characteristics	Intervention group		Control group	
	f	%	f	%
Age				
Early adulthood (18-40 years)	28	71.8	24	61.5
Middle adults (41-60 years)	11	28.2	15	38.5
Gender				
Man	22	56.4	30	76.9
Woman	17	43.6	9	23.1
Education				
No school	4	10.2	2	5.1
elementary school	8	20.5	11	28.2
Junior high school	12	30.8	5	12.8
Senior high school	15	38.5	18	46.2
Bachelor	0	0	3	7.7
Work				
Does not work	19	48.7	16	41.0
Work	20	51.3	23	59.0
Marital status				
Marry	27	69.2	21	53.8
Not married yet	8	20.5	16	41.0
Widower widow	4	10.3	2	5.2
Long time of illness				
1-2 years	15	38.5	13	33.3
>2-3 years	7	17.9	9	23.1
> 3 years	17	43.6	17	43.6
Treatment frequency				
1-2 times	13	33.3	15	38.5
2-3 times	9	23.1	5	12.8
>3 times	17	43.6	19	48.7

Based on Table 2, the mean value of the ability to control hallucinations before cognitive behavioral intervention based on self-management in the intervention group was 24.72, with a standard deviation of 4.371. After cognitive behavioral intervention based on self-management, it was 31.64 with a standard deviation of 3.082 and a 95% confidence interval (CI) with a minimum value of -7.708 and a maximum value of -6.138.

The mean value of the ability to control hallucinations of respondents in the control group before receiving routine hospital treatment was 25.95, with a standard deviation of 4.430. After receiving routine hospital treatment, it was 29.62 with a standard deviation of 3.891 and 95% CI with a minimum value of -3.985 and a maximum of - 3,348.

Table 2. Ability to control hallucinations before and after cognitive behavioral intervention based on self-management in the intervention group and control group

Ability to control hallucinations	Mean	SD	95% Confidence interval	
			Lower	Upper
Intervention group				
Before	24.72	4,371	-7,708	-6.138
After	31.64	3,082		
Control group				
Before	25.95	4,430	-3,985	-3,348
After	29.62	3,891		

Based on Table 3, using the Kolmogorov-Smirnov test, the normality test results in the ability to control hallucinations before and after cognitive behavioral intervention based on self-management of group interventions and group control. The statistical results of each data show p-value=0.200, can conclusion of ability data control hallucinations before and after intervention behavior cognitive based management yourself in the group intervention and control normally distributed (p-value>0.05).

Table 3. Ability to control hallucinations in the previous intervention group and control group and after cognitive behavioral intervention based on self-management

Ability control hallucinations	Mean	p-value
Intervention group		
Before	24.72	0.200
After	31.64	
Control group		
Before	25.95	0.200
After	29.62	

Table 4 shows that the mean value of the ability to control hallucinations before and after cognitive behavioral intervention based on self-management in the intervention group increased from 24.72, standard deviation 4.371, SE 0.700 to 31.64, standard deviation 3.082, SE 0.494, mean difference 6.923. The control group also experienced an increase from 25.95, the standard deviation of 4.430, SE 0.709, to 29.62, the standard deviation of 3.891, SE 0.623, with a mean difference of 3.667.

Statistical results obtained p-value=0.001 (<0.05), it can be concluded that there was a

change in the ability to control hallucinations before and after self-management-based cognitive behavioral intervention in the intervention and control groups.

Table 4. Differences in the ability to control hallucinations before and after cognitive behavioral intervention based on self-management in the intervention group and control group

Ability control hallucinations	Mean	SD	SE	Mean differences	p-value
Intervention group					
Before	24.72	4,371	0.700	6.923	0.001
After	31.64	3,082	0.494		
Control group					
Before	25.95	4,430	0.709	3.667	0.001
After	29.62	3,891	0.623		

Table 5 shows that the mean score for the ability to control hallucinations after cognitive behavioral intervention bsed on self-management in the intervention group was 31.64, with a standard deviation of 3.082, SE 0.494, while in the control group, it was 29.62, with a standard deviation of 3.891, SE 0.623 with another mean of 2.026.

The statistical test results obtained a p-value=0.013 (<0.05), so it can be concluded that there is a significant difference in the ability to control hallucinations after self-management-based cognitive behavioral intervention between the intervention group and the control group.

Table 5. Comparison of the ability to control hallucinations cognitive behavioral intervention based on self-management between the intervention group and the control group

Ability control hallucinations	Mean	SD	SE	Mean differences	p-value
Intervention group	31.64	3,082	0.494	2.026	0.013
Control group	29.62	3,891	0.623		

DISCUSSION

The ages of people with schizophrenia in the intervention group and control group were mainly in the early adulthood range (18-40 years). The young adult stage is a developmental stage of forming intimate relationships rather than isolation. Intimacy is *an* individual's ability to build relationships with other people, have a sense of affection, respect each other, and understand each other without any sense of loss of oneself (Keliat et al., 2022).

Young adults who are unable to achieve developmental tasks will be isolated and experience self-absorption (fixation on their own activities and thoughts), although sometimes they need solitude (isolation) to reflect on their lives and prioritize themselves (Keliat et al., 2022).

The results of this research are supported by Nam et al. (2021), that young adult age is the highest age factor that causes mental disorders this is considering that the primary developmental tasks of young adults are required to be able to make decisions regarding education, career success for economic independence and independence from parental care through marriage. Researchers concluded that people with schizophrenia are more common in young adults because young adults who are unable to fulfill their developmental tasks will experience mental disorders.

The gender of people with schizophrenia in the intervention and control groups was mostly male. There were 56.4% male respondents in the intervention group and 76.9% in the control group. This is because the proportion of respondents in the study was more men than women. Male respondents were hospitalized more often than female respondents.

Men experience more mental health problems due to the demands of the roles that men must fulfill compared to women. Men are more likely to display negative symptoms than women because men have a demanding role in fulfilling needs in the household, so they experience more significant life stress (Lee et al., 2020).

Researchers concluded that people with schizophrenia are more likely to be men because men have a demanding role in meeting their life needs, so if men have problems, they feel embarrassed and are reluctant to seek help and prefer to close themselves off from their environment.

The education level of people with schizophrenia in the intervention and control groups was primarily high school. 38% of respondents in the intervention group had a high school education, and 46.2% of respondents in the

control group. The level of education is a person's activity in developing abilities, attitudes, and forms of behavior for future life (Djabba & Ilmi, 2022).

The patient's education level is related to the patient's learning process and understanding during therapy. The results of this research are the same as the results of research conducted (Suyatno, 2018), people with schizophrenia have the highest level of education, namely low levels of education, where education influences a person's ability to identify problems and then look for problem-solving options and supporting sources to solve the problem. Research by Jumaini and Sutanto (2009) states that education and level of knowledge make it easier for someone to make decisions regarding the services needed.

Researchers concluded that the patient's level of education can determine the patient's ability to accept and understand the learning process during therapy. Sufferers with a low level of education may need much time to participate in the therapy process.

Most people with schizophrenia in the intervention and control groups were employed. Respondents in the intervention group who worked were 51.3%, and respondents in the control group were 59%. In general, respondents said that their work activities were disrupted because they were often sleepy and slept more since taking medication, so respondents reduced the dose of medication or the frequency of medication consumed so that the side effects of the medication were felt to be reduced. If you do not comply with medication, the symptoms of schizophrenia will reappear, requiring rehospitalization if the symptoms become worse.

People with schizophrenia are known as the down ward drift hypothesis (people who have schizophrenia will shift to a lower economic group), which means that people with schizophrenia will lose their jobs, depend on the environment, and have reduced income (Sefrina, 2019). Researchers concluded that work can cause excessive stress, which can cause symptoms of schizophrenia.

Most people with schizophrenia in the intervention and control groups were married. Marriage is an important social institution that allows both partners to fulfill their physical, psychological, social, cultural, and economic needs. It also allows couples to build a stable relationship and form a family (Kumar et al., 2019).

Marriage can affect mental health in many ways. Marriage can reduce mental health problems through its influence on social support and intimate relationships. On the other hand, marriage can theoretically have a negative impact on a person's mental health. Many studies confirm the finding that there is a higher percentage of marital discord, separation, and divorce among psychiatric patients (Behere et al., 2021). Researchers concluded that marital status can cause schizophrenia due to marital discord, separation, or divorce.

According to Rahayu et al. (2022), the duration of illness is related to compliance with taking medication and the frequency of patient treatment and is directly proportional to recurrence. The length of illness and the frequency with which sufferers experience relapses will impact the severity of the disorder experienced by the sufferer. The more frequently a sufferer relapses, the more extensive the brain damage suffered, meaning that each time a relapse occurs, it will cause a decrease in the sufferer's abilities.

This is supported by research by Dewi & Pasaribu (2023), who suffers from schizophrenia; the duration of illness is in the range of 1-5 years. Schizophrenia occurs due to disturbances in the brain. The longer you have schizophrenia, the greater the possibility of social function deficits.

Researchers concluded that the duration of illness is related to recurrence; the more frequently sufferers relapse, the more extensive the brain damage will be and the greater the possibility of deterioration in social function.

The highest frequency of hospitalization in ODS was >3 times. Research by Hastuti and Setianingsih (2016) also showed almost the same results where the frequency of treatment for schizophrenia patients was more than 2 times. Other research also states that up to 75% of people with schizophrenia with symptoms of hallucinations are treated between 3-4 times (Sudiatmika, 2011). The results of this research show that people with schizophrenia are vulnerable to experiencing relapses, so appropriate action is needed to prevent relapses in people with schizophrenia.

Researchers think that providing nursing care to people with schizophrenia is the right step in preventing relapses of people with schizophrenia with hallucinations. Nurses in hospitals play an essential role in providing nursing care to sufferers and families to prepare sufferers and families so that when they return home, people with schizophrenia and their families have good abilities in preventing relapse.

The results of this study describe the ability to control hallucinations in people with schizophrenia as measured using a questionnaire adopted from Elsina (2022) consisting of 12

questions related to the ability to recognize hallucinations (such as types of hallucinations, content of hallucinations, time to mention hallucinations, frequency of occurrence of hallucinations, situations that cause hallucinations appear and behavior when hallucinations appear) and the ability to control hallucinations (such as fighting hallucinations by scolding, ignoring hallucinations indifferently, providing distraction by chatting, carrying out activities to control hallucinations and asking to take medication regularly with the eight correct principles).

The statistical results showed that the average ability to control hallucinations in the intervention group and the control group is not much different. Looking at the conditions and impacts resulting from hallucinations, researchers concluded that nurses as professionals are obliged to help sufferers to be able to control their hallucinations. Efforts can be made to provide comprehensive nursing care to individuals, families, and the environment around the sufferer.

The increase in the ability of people with schizophrenia to control hallucinations after cognitive behavioral intervention based on self-management occurs because during the therapy process, people with schizophrenia are trained in skills to overcome negative thoughts about their hallucinatory experiences. The experience of people with schizophrenia experiencing prolonged hallucinations often leads to labeling the sufferer that he or she is unable to overcome the hallucinations they experience. This is a negative automatic thought that often occurs in hallucinations sufferers.

Cognitive behavioral interventions based on self-management are very appropriate to use to overcome the negative thoughts of people with schizophrenia about their hallucinatory experiences so that sufferers are motivated and have confidence that they can control their hallucinations. Through cognitive behavioral intervention based on self-management and cognitive behavioral intervention, sufferers are also trained in the skills to control hallucinations by scolding, train people with schizophrenia to ignore hallucinations indifferently, train distraction sufferers by talking and doing activities regularly, and train people with schizophrenia to drink medicine with principle eight is correct.

Researchers provide positive reinforcement and economic tokens for the success of people with schizophrenia in exercising their ability to control hallucinations by giving gifts such as inviting them to watch television or providing personal hygiene tools and providing food if within one week the exercise to control hallucinations is carried out by the sufferer collect a minimum of 50% star points. The positive reinforcement and economic tokens that researchers carried out in the process of implementing cognitive interventions based on self-management aim to motivate sufferers to carry out the desired positive behavior so that, ultimately, they can increase the ability of people with schizophrenia to control hallucinations through behavior modification methods.

The results of this study are supported by research by Sunarsih et al. (2021), which stated that after undergoing economic token behavioral therapy, the ability to control violent behavior and hallucinations, as well as compliance with taking medication, changed and increased.

The increase in the ability of people with schizophrenia to control hallucinations is also due to the fact that during therapy, sufferers are always given motivation to practice independently and are evaluated regularly using daily activity schedules, workbooks, and evaluation books. The process of regular and continuous exercise is an essential method in a therapy program. It is hoped that this training process will later become a habit and culture for people with schizophrenia.

Researchers think that it is necessary to increase the length of interaction and number of sessions/meetings in order to provide better results, especially for people with schizophrenia who experience cognitive decline due to frequent relapses, of course requiring a greater length of interaction and number of sessions/meetings. Increasing the duration of cognitive intervention based on self-management interactions can increase the opportunity for people with schizophrenia to practice changing negative behavior into positive behavior in controlling hallucinations while increasing the number of meetings/sessions allows nurses to overcome more negative thoughts of sufferers about their hallucinatory experiences and have more opportunities to train and evaluate positive behaviors to control hallucinations.

The mean value of the ability to control hallucinations in the intervention group was higher after cognitive behavioral intervention based on self-management compared to the control group. This is because in this study, the intervention group received the management-based cognitive behavioral intervention, which consisted of 5 sessions, namely in session 1: Assessment, the researcher built a relationship of mutual trust by getting to know each other and conducting an assessment, ODS revealed experiences/events of hallucinations and negative automatic thoughts about oneself, negative

feelings and behavior experienced related to stressors, namely hallucinatory experiences/events experienced, as well as practicing one automatic thought that arises, documenting unpleasant events, negative automatic thoughts that arise, and negative behavior experienced by ODS.

Session 2 is cognitive therapy. The researcher explains how to change negative automatic thoughts into positive thoughts, asks whether you have chosen one negative automatic thought that will be changed into a positive thought, discusses choosing one negative automatic thought that you want to resolve in the second meeting, and discusses how to fight it. Negative automatic thoughts by giving positive responses (positive aspects that ODS has) and asking ODS to record them in a worksheet changing negative automatic thoughts, training independently to overcome the second negative automatic thought ODS in fighting negative automatic thoughts, motivating ODS to train to other negative automatic thoughts.

Session 3 is behavioral therapy. The researcher asks whether the first negative thought still occurs frequently and what the results of the patient's independent training to overcome negative automatic thoughts, giving praise for success in trying to solve the problem, explaining the purpose of session 3, namely choosing one negative behavior that you want to change, identify new positive behavior, develop a behavioral plan to change the negative behavior that arises and discuss positive consequences or negative consequences if the behavior is carried out or not carried out, discuss negative behavior that you want to change, identify positive behavior that you have, explain how to change one negative behavior and replacing it with a new behavior (the correct way of communicating and social interaction), explaining the positive and negative consequences of the new behavior learned, practicing the agreed new behavior and making a commitment about implementing the positive and negative consequences

Session 4 is an evaluation of cognitive and behavioral therapy. The researcher carries out an evaluation and validation of sessions 1-3, asking which negative automatic thoughts and negative behaviors will be practiced as an example, providing support and encouragement on the progress achieved, evaluating the progress and development of therapy, reminding to consistently apply therapy to overcome negative thoughts and practice new positive behaviors, evaluating learned behaviors based on agreed consequences.

In the final session, namely session 5: Preventing relapse with self-management, researchers evaluated and validated sessions 1-4, explaining the importance of cognitive behavioral intervention based on self-management to prevent relapse by maintaining and cultivating positive thoughts and negative behavior independently and continuously in overcoming problems, carrying out self-motivation by motivating to keep fighting negative thoughts, changing them into positive thoughts, training to change negative behavior into positive behavior and recording daily activities, providing education about cognitive behavioral interventions based on self-management in the form of the benefits of carrying out cognitive behavioral interventions based on self-management. In the end, it is hoped that the impact for people with schizophrenia will have self-development, namely growing self-awareness to develop their abilities/potential and being able to master and manage their behavior in order to encourage a reduction in bad things and an increase in good things. That is right: self-contracting is formulating and making commitments about negative behavior into positive behavior. Self-reward: giving rewards to positive activities carried out by people with schizophrenia. Management-based cognitive behavioral intervention lasts 30-45 minutes per session. This intervention has a positive impact on the ability of ODS to change their negative thoughts and beliefs about experiencing hallucinations into positive thoughts, changing negative behavior carried out by sufferers when experiencing hallucinations into positive behavior that can reduce hallucinations, such as training to control hallucinations.

This is supported by research by Ricky et al. (2014), who compared the ability of sufferers to control hallucinations between groups given cognitive behavioral intervention. The study results showed that the group that received cognitive behavioral intervention had the highest increase in the ability to control hallucinations, followed by the group that received nurse intervention. Other research also states that cognitive behavioral intervention can improve hallucination sufferers' cognitive, affective, and behavioral abilities (Hastuti & Setianingsih, 2016).

Researchers think that sufferers' ability to control hallucinations can continue to increase if cognitive behavioral interventions based on self-management that have been trained for sufferers are carried out continuously independently by sufferers, including after the sufferer returns home.

Researchers concluded that cognitive behavioral interventions based on self-management were quite effective and increased sufferers' ability to control hallucinations. Generalist nurses and psychiatric specialist nurses can continue to implement nursing actions and cognitive behavioral interventions based on self-management in the community. The application of relapse prevention nursing measures in a community setting can be applied in the form of community-based mental health nursing care or Community Mental Health Nursing (CMHN) so that mental nursing services can be provided continuously (continuity of care) from the time the patient is hospitalized until the patient go home and return to the midst of family and society. This aims to ensure that the sufferer's ability to control hallucinations can continue to be maintained and improved after the sufferer returns home so that it becomes habituation and culture for the sufferer as an effort to prevent relapse in people with schizophrenia with hallucinatory symptoms.

This research has limitations, and the researcher is aware that these limitations are caused by several factors, which include the data collection process and the intervention implementation process, including: 1) The respondents taken were people with schizophrenia, so the large amount of information desired caused the respondents to feel bored quickly so the answers were written in the questionnaire sometimes does not match the results of the respondent's observations. 2) When filling out the questionnaire, assistance is needed because much of the data is not filled in by respondents, which will impact the accuracy of the research data. 3) During the intervention, several respondents needed to be stimulated to go through the sessions to implement therapy. 4) The staff for implementing cognitive-behavioral intervention based on self-management is only the researcher himself, so the researcher has some difficulty allocating time for interaction, while the client's effective time in implementing therapy is approximately 3 hours (09.00-11.00 WIB). The client's habit is that after eating lunch and taking medicine, he goes straight to sleep. Client boredom was also found during interactions, this was because many students managed the clients so they took turns because the Psychiatric hospital Prof. Dr. M. Ildrem Medan is a teaching hospital.

CONCLUSION

The characteristics of respondents in the intervention and control groups were that they were in the early adulthood age range (18-40 years) and male. Most respondents' education was in high school and working, and the respondents' status was married. The most extended duration of illness for respondents was >3 years, with the highest frequency of hospitalization being >3 times.

The mean value of the ability to control hallucinations in the intervention group and the control group was not much different or equivalent. There was a difference between the mean value of the ability to control hallucinations in the intervention group before and after cognitive behavioral intervention based on self-management. There was a comparison between the mean value of the ability to control hallucinations in the intervention group and the control group after cognitive behavioral intervention based on self-management.

It is hoped that nursing practice can implement cognitive behavioral interventions based on self-management for people with schizophrenia as a follow-up therapy to generalist nursing care. The results of this research can be used as reference material for the development of psychiatric nursing science as a guide in preparing cognitive behavioral intervention modules based on self-management in efforts to recover people with schizophrenia so they can control hallucinations.

For further research needs to be carried out on ODS with hallucinations using a cohort method in order to see the achievement of increasing the ability to control hallucinations after cognitive behavioral intervention based on self-management. Future research also needs to determine the effect of cognitive behavioral interventions based on self-management on reducing hallucinatory symptoms in cognitive, affective, behavioral, and social aspects.

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