

EFFECTIVITY OF RESTRAIN MANAGEMENT TRAINING ON NURSES AT RSKD DADI, SOUTH SULAWESI PROVINCE

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ARTICLE INFO

Article history

Submitted : 2023-05-11

Revised : 2023-08-07

Accepted : 2023-11-12

Keywords:

Aggression, Restraint,
Schizophrenia, Training,

Kata Kunci:

Agresi, Pelatihan, Restrain,
Skizofrenia.

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ABSTRACT

Background: Schizophrenia is a mental disorder with a very high prevalence in Indonesia, which is around 7 million per 1000 population. Schizophrenia can cause sufferers to behave aggressively, which can cause injury to the patient himself or other people, including nurses. If the client's aggressive behavior increases, the actions that can be applied are crisis management and restraint strategies. **Objective:** to determine the effect of restraint management on the knowledge, skills, and attitudes of nurses at RSKD DADI, South Sulawesi Province. **Method:** The type of research used is a quasi-experiment. The sample was divided into two groups: intervention and control groups. This research was conducted in November 2022. The population for this study were nurses at RSKD DADI South Sulawesi Province; the sample was determined by consecutive sampling, namely 20 people in the intervention group and 20 people in the control group, so the total sample was 40 people. **Results:** There is a significant difference in the mean knowledge of nurses regarding restraint management between the control group ($M=7.75$, $SD=1.585$) and the intervention group ($M=10.05$, $SD=3.170$) with a t-test value of 3.359, and a p-value of <0.003 . There is a significant difference in the mean skills of nurses between the control group ($M=29.85$, $SD=3.92$) and the intervention group ($M=34.25$, $SD=1.743$) with a t-test value of 5.646 and a p-value of <0.000 . There is a significant difference in the attitudes of nurses between the control group ($M=21.35$, $SD=4.107$) and the intervention group ($M=24.70$, $SD=5.611$) with a t-test value of 2.258, and a p-value of <0.036 . **Conclusion:** The research findings showed a significant increase in the mean scores of knowledges, attitude, and skills after participating in the restraint training.

ABSTRAK

Latar Belakang: Skizofrenia merupakan salah satu gangguan mental dengan prevalensi yang sangat tinggi di Indonesia yaitu sekitar 7 mil per 1000 penduduk. Skizofrenia dapat menyebabkan penderitanya berperilaku agresif yang dapat menyebabkan cedera pada pasien itu sendiri maupun ke orang lain termasuk perawat. Jika perilaku agresif klien meningkat maka tindakan yang dapat diterapkan adalah manajemen krisis dan strategi pengekangan atau restrain. **Tujuan:** untuk mengetahui pengaruh manajemen restrain terhadap pengetahuan, keterampilan dan sikap perawat di Rumah Sakit Khusus Daerah DADI Provinsi Sulawesi-Selatan. **Metode:** Jenis Penelitian yang digunakan adalah quasi experiment, sampel terbagi menjadi dua group: kelompok intervensi dan kelompok kontrol. Penelitian ini dilaksanakan pada bulan November 2022. Populasi penelitian ini adalah perawat di RSKD Dadi Provinsi Sulawesi Selatan, sampel ditentukan dengan cara consecutive sampling yaitu 20 orang kelompok intervensi dan 20 orang kelompok kontrol sehingga total sampel adalah 40 orang. **Hasil:** Terdapat perbedaan signifikan rerata pengetahuan perawat tentang manajemen restrain pada kelompok kontrol ($M= 7,75$, $SD= 1,585$) dengan kelompok intervensi ($M= 10,05$, $SD=3,170$) dengan nilai uji-t 3,359, dan nilai-p $<0,003$. Terdapat perbedaan signifikan rerata keterampilan perawat pada kelompok kontrol ($M=29,85$, $SD=3,92$) dengan kelompok intervensi ($M= 34,25$, $SD= 1,743$) nilai uji-t 5,646, dan nilai-p $<0,000$. Terdapat perbedaan signifikan sikap perawat pada kelompok kontrol ($M=21,35$, $SD=4,107$) dengan kelompok intervensi ($M=24,70$, $SD= 5,611$) nilai uji-t 2,258, dan nilai-p $<0,036$. **Kesimpulan:** berdasarkan hasil penelitian menunjukkan bahwa peningkatan signifikan pada rerata skor pengetahuan, sikap dan keterampilan setelah mengikuti pelatihan restrain.

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INTRODUCTION

According to Law Number 18 articles 1 and 3 of 2014, Mental Health is a condition in which an individual can develop physically, mentally, spiritually, and socially so that the individual is aware of his abilities, can cope with pressure, work productively, and can contribute to his community. If the person/individual experiences physical, mental, and spiritual health but cannot control stress and does not want to socialize with other people, then the individual has a mental disorder ([Undang - Undang Republik Indonesia Tentang Kesehatan Mental No. 18 Tahun 2014, 2014](#)).

The problem of mental disorders occurs not only in Indonesia but worldwide. There are 20 million people with mental disorders worldwide ([World Health Organization \(WHO\), 2019](#)). Mental health problems in Indonesia are substantial and cause a significant health burden. The number of people with severe mental disorders reaches 1.7 per mile or around 1-2 people per 1000 population ([Riskesdas, 2013](#)), as the years go by, the number of people with severe mental disorders is 7 miles per 1000 population ([Riskesdas, 2018](#)). This data shows that out of 1,000 households, around 70 households (ART) experience schizophrenia/severe psychosis. While the province with the highest prevalence of mental disorders in Indonesia is the province of Bali, with a percentage of 11.1% per 1000 households with ART with people with schizophrenia, the province of D.I.Yogyakarta occupies the second rank with a percentage of 10.4% per 1000 households, then followed the provinces of West Nusa Tenggara, West Sumatra, South Sulawesi, Aceh, Central Java, Central Sulawesi, South Sumatra and West Kalimantan ([Riskesdas, 2018](#)).

Schizophrenia can cause distorted thoughts, perceptions, emotions, actions, and behavior ([Videbeck, 2020](#)). Aggression is a significant concern in inpatient psychiatric treatment because it results in hostile physical or verbal actions or can cause injury to people and property damage. The prevalence of aggression in inpatient rooms ranges from 15.3% to 53.2%. Risk factors are reported as positive symptoms of hostility, delusions, and auditory hallucinations, so action is needed to prevent aggression ([Zhou et al., 2016](#)). Physical restraint is carried out as a treatment to reduce the patient's physical movement safely, and restraint is carried out as a last resort after providing other alternative interventions ([Ye et al., 2019](#)).

Nurses are a vital hospital component, the human resources that carry out most activities. The presence of nurses is a significant factor in determining the image, which is formed based on public assessments of the quality of services provided. Good service quality leads to positive evaluations, whereas poor service quality results in negative reviews in the eyes of the community. Compared to patient characteristics, research on the influence of nursing staff characteristics is relatively scarce. Nurses influence the decision to seclude patients ([Doedens et al., 2021](#)). The use of physical restraint is an ethical dilemma that is felt by staff and families, so the use of restraint is recommended as the last intervention after being given other alternative actions while still paying attention to patient autonomy and accountability ([Zeng et al., 2020](#)). An article by [Picot et al., \(2015\)](#) states that restraint can be applied to patients with mental disorders as a last resort in dealing with and treating patients with life-threatening conditions. Phenomenological approach qualitative study research with 8 participants. Based on the results of the participant's experience of the use of restraint, namely aggressive behavior as one of the reasons for physical restraint, support from health workers during restraint, and physical and psychosocial impacts after restraint ([Mariyati. et al., 2018](#)).

Physical restraint is carried out to reduce aggressive behavior, and the risk of falling in elderly patients who experience mental disorders, so other methods are needed to prevent restraint ([Gerace et al., 2013](#)). Aggressive behavior often occurs in inpatient rooms in China, especially in schizophrenic patients ([Zhou et al., 2016](#)). Physical restraint is carried out because of aggression and dementia ([Ambrosi et al., 2021](#)). The same thing was also revealed physical restraint was carried out repeatedly due to schizophrenia, aggressive behavior, mental retardation, substance abuse, and brain injury ([Belete, 2017](#)).

According to [Ye et al., 2019](#) physical restraint is carried out as a last resort of intervention, and the impact of physical restraint is a reduction in conflict, physical injury, psychological trauma, and invisible impacts. Researchers conducted an initial study that was carried out by officers restraining patients because patients were rowdy/anxious and going berserk to injure themselves and others. In carrying out restraint, it is necessary to fill in informed consent and an observation sheet. There is an observation sheet, but it has yet to be used optimally, so it is necessary to conduct restraint management

intervention training. The mean scores of nurses' knowledge and attitudes about physical restraint among patients treated in the intensive care unit were respectively 7.81 ± 1.89 and attitude scores 33.75 ± 6.50 ; based on these results, it was concluded that nurses had moderate knowledge and right attitude regarding the use of physical restraint so it is necessary to provide opportunities for self-development through training and education for nurses (Kassew et al., 2020). Nurses in the psychiatric room have experienced verbal violence, threats, and physical attacks several times, so aggression management training is needed (Raveesh et al., 2015).

Based on the results of interviews and observations, the patient enters the emergency room in a fixated state, goes berserk, and while in the treatment room, the patient will be restrained/fixated if the patient endangers himself, others, and the environment. Based on the data above, the researcher is interested in conducting research.

PURPOSE

To determine the effect of restrain management on the knowledge, skills, and attitudes of nurses at RSKD DADI, South Sulawesi Province.

METHOD

Types of Research

This research is quasi-experimental research with the number of samples divided into one intervention group and one control group by comparing the pretest and posttest values.

Location and Time of Research

This research was conducted at RSKD Dadi South Sulawesi Province. This research was conducted in November 2022.

Population and Sample

The population of this study was nurses at DADI RSKD South Sulawesi Province. The sample was determined by consecutive sampling; all subjects who met the study criteria were included in the study until the required number of subjects was met. Samples taken from the study population met the inclusion, exclusion, and dropout criteria with a total sample of 20 people in the intervention group and 20 people in the control group, so the total sample was 40. Inclusion criteria were Diploma III and Nursing Education, at least six months working in a psychiatric inpatient room, willing to be a participant. Exclusion criteria were obtaining a certificate of emergency psychiatric training as a nurse in a polyclinic. Moreover, the criteria for dropping out are participants not participating in training and taking leave. The training was conducted for two days, and the evaluation was performed in the second week.

Data Collection

The survey was conducted using a demographic data questionnaire and a knowledge questionnaire consisting of 13 questions on a true and false scale, 12 on skills, and 11 on a scale of always, sometimes, and never. The results of the validity test of the knowledge form are as follows. The results of the reliability test are 0.329-0.763, and the results of the reliability test are Cronbach's Alpha 0.774, the validity test of skills questions is 0.612 - 0.904, and the reliability value of Cronbach's Alpha is 0.940, whereas, in the attitude question, the results of the validity test are 0.348-0.805. Cronbach's Alpha reliability value is 0.828. Research ethics approval was granted by the Health Research Ethics Commission, Faculty of Medicine and Health Sciences, University of Muhammadiyah Makassar, Ethics Number: 221/UM/PKE/X/44/2022. Before filling out the questionnaire, informed consent was given, containing an explanation of the survey and a statement of willingness to participate in this study, the intervention group was given training, and the control group was not given training. Data were collected by observing the principles of information disclosure and confidentiality by not including names and using only initials.

Data Processing and Data Analysis

We are processing data using computer software. Data analysis carried out was a descriptive test on data on gender, education, age, and length of work. The t-test is to see the mean difference between the two groups, and the one-way anova: post hoc test is to see the mean difference between groups in detail and normality test.

RESULTS

Table 1. Characteristics Respondent (n=40)

Characteristics Respondent		n	%
Gender	Male	23	57.5
	Female	17	42.5
Education	Diploma III in Nursing	28	70
	Ners	12	30
Age (years)	Mean + SD:	34.50 + 7.442	
	Min – Max:	24 - 58	
Work Experience	Mean + SD:	7.05 + 7.324	
	Min – Max:	1 - 34	

Based on Table 1, the characteristics of the respondents show that more than half of the respondents were male 57.5%, educational level D III 70%, had an average age of 34.5 years, and the average length of work was 7.05 years.

Table 2. Result t-test control group

Variable	Max Score	Control group			
		Pre-test Mean ± SD	Post-test Mean ± SD	t-test	P value
Knowledge	13	7,20 ± 1,908	7,75 ± 1,585	-2,604	<0,017
Practices	36	29,35 ± 4,120	29,85 ± 3,924	-2,939	<0,008
Attitudes	33	20,35 ± 3,573	21,35 ± 4,107	-2,874	<0,010

Based on Table 2, it is known that the pretest mean ± SD 7.20 ± 1.908, post-test mean ± SD 7.75 ± 1.585, t-test value -2.604, and p-value <0.017. 2) Skill mean pretest value ± SD 29.35 ± 4.120, post-test mean ± SD 29.85 ± 3.924, t-test value -2.939, and p-value <0.008, 3) Attitude mean pretest value ± SD 20, 35 ± 3.573, post-test mean ± SD 21.35 ± 4.107, t-test value -2.874, and p-value <0.010 in the control group.

Table 3. Result t-test intervention group

Variable	Max Score	Intervention group			
		Pre-test Mean ± SD	Post-test Mean ± SD	t-test	P value
Knowledge	13	6,80 ± 2,191	10,05 ± 3,170	-5,212	<0,000
Practices	36	27,95 ± 7,877	34,25 ± 1,743	-3,988	<0,001
Attitudes	33	20,45 ± 4,893	24,70 ± 5,611	-5,160	<0,000

Based on Table 3, the results of the -t-test in the intervention group showed that knowledge of the mean pretest ± SD was 6.80 ± 2.191, the post-test mean ± SD was 10.05 ± 3.170, the t-test value was -5.212, and the p-value <0.000. 2) Skill mean pretest value ± SD 27.95 ± 7.877, post-test mean ± SD 34.25 ± 1.743, t-test value -3.988, and p-value <0.001, 3) Attitude mean pretest value ± SD 20, 45 ± 4.893, post-test mean ± SD 24.70 ± 5.611, t-test value -5.160, and p-value <0.000.

Table 4. Comparison of the mean values control and intervention groups

Variable	Score	Post-test kontrol Mean ± SD	Post-test Intervensi Mean ± SD	Uji-t	Nilai-p
Knowledge	13	7,75 ± 1,585	10,05 ± 3,170	-3,359	<0,003
Practices	36	29,85 ± 3,924	34,25 ± 1,743	-5,646	<0,000
Attitudes	33	21,35 ± 4,107	24,70 ± 5,611	-2,258	<0,036

Based on Table 4 comparison of the mean and SD values in the control and intervention groups 1) Knowledge of the pretest value of the control group mean ± SD 7.75 ± 1.585, the post-test of the intervention group mean ± SD 10.05 ± 3.170, the t-test value -3.359, and p-value < 0.003. 2) Skills pretest value of the control group mean ± SD 29.85 ± 3.924, the post-test intervention group mean ± SD 34.25 ± 1.743, t-test value -5.646, and p-value <0.000, 3) Attitude of the control group's pretest value mean ± SD 21.35 ± 4.107, the post-test intervention group mean ± SD 24.70 ± 5.611, t-test value -2.258, and p-value <0.036.

Table 5. One-way anova test: *post hoc*

		Mean	IKS95%		P
		difference	Min	Max	value
Knowledge	Knowledge	-24,200	-26,25	-22,15	<0,000
	Attitudes	-14,650	-18,29	-11,01	<0,000
Practices	Knowledge	24,200	22,15	26,25	<0,000
	Attitudes	9,550	6,16	12,94	<0,000
Attitudes	Knowledge	14,650	11,01	18,29	<0,000
	Practices	-9,550	-12,94	-6,16	<0,000

Table 5 shows the results of the post hoc analysis between knowledge and skills and attitudes, skills with knowledge and attitudes, and attitudes with knowledge and skills with a p-value <0.000 with a 95% confidence level.

DISCUSSION

Based on the research results of [Kaya & Dogu \(2018\)](#) the participants were nurses aged 26 years or older (53.6%), female gender 79.4%, worked 1-5 years 50.5% high school to undergraduate education level 80.4%. Nurse knowledge score 7.83 ± 1.59 (0-11), attitude score 30.00 ± 4.82 (12-48), and skills score 36.01 ± 2.82 (14-42) and demographic characteristics such as age group, gender, length of work, and level of education had no significant relationship with education, attitudes, and skills in implementing restraint with a value of $p > 0.05$. Most of the nurses were aged 18-25 years (55.6%), nursing diploma education level was 82.1%, knowledge of physical restraint was obtained with a score of 52.1%, indicating above the median range (43), and skills in carrying out restraints 54.7% adequate (mean 80.1 and SD 7.7) ([Pradhan et al., 2019](#)). [Lee et al., \(2021\)](#) that, in general, nurses have good control knowledge with good attitudes and practices, although their knowledge, attitudes, and practices regarding restraint vary.

The effect of the training program on the attitude of knowledge and practice of nurses regarding restraint found that the knowledge score increased from before being given training 6.42 (SD=1.56) to 8.20 (SD=1.44) after being given training with $t=6.48$ and $p\text{-value} < 0.001$, nurse attitude 18.50 (SD = 3.48) became 23.12 (SD = 3.7) after being given training with $t = 3.77$, and $p < 0.001$ nurse skills 23.67 (SD = 2.41) became 25.44 (SD = 2.21) after being given training with $t = 5.72$ and the value $p < 0.001$ ([Rentala et al., 2021](#)). Cross-sectional research on the attitude of nurses in the use of neutral restraints in the use of restraints averaged 3.2 on a scale of 1-5, felt a restriction from restraints on an average of 2.1 on a scale of 1-3, and discomfort users an average of 2.2 on a scale of 1-3. The results of the linear regression analysis show that the attitude in carrying out restraint is related to work experience; with ample work experience, the attitude is more restrained in restraining patients ([Thomann, et al., 2022](#)). Nurses' knowledge and attitudes have a significant relationship with the skills to use restraint ([Eskandari et al., 2017](#)).

Nurses have good knowledge about using restraints in elderly patients, are neutral, and look for other alternatives before using restraints (Elhameed & Elemam, 2020). Observations that have been made show that the practice of implementing restraints requires clear reasons for using restraints, the process of making decisions and using restraints, and looking for other alternatives to restraint (Thomann, et al., 2022). Physical restraint 30.47 ± 2.96 (24 to 39) and skills in carrying out physical restraint 38.88 ± 2.73 (29 to 43) based on these results it was concluded that most of the nurses in the intensive care unit had moderate knowledge, positive attitudes, and good skills in using physical restraint (Lim & Fong, 2021).

Nurses have good knowledge 7.2 ± 1.7 (maximum value 11), good attitude 30.8 ± 3.33 (highest score 48), and good skills 31.2 ± 6.2 (maximum value 42). Nurses who worked for more than ten years had better attitudes toward the use of physical restraint, and nurses with higher education differed significantly in practice scores compared to primary nursing education $p < 0.005$. So it was concluded that good knowledge, attitudes, and skills among nurses regarding the use of physical restraint in providing mental health services, but there is a need to improve practice more often through continuing education programs (Gandhi et al., 2018). It is highly recommended to carry out a physical restraint training program in using physical restraint as a last resort after providing other alternative interventions (Ye et al., 2021).

Nurses carry out physical restraint to prevent patients from injuring themselves and others. There is no injury to patients, so in this study, the results were that the average nurse's knowledge score related to physical restraint was 7.8 ± 1.8 , attitude score 31.9 ± 3.8 , and skills score of 37.2 ± 3.8 . Nurses who get the latest information about the use of physical restraint mostly reflect a positive attitude in applying knowledge of physical restraint skills (Akbas et al., 2021). The nurse's knowledge of restraint is better; the nurse's positive attitude about using physical restraint indicates that the nurse has good knowledge and attitude toward applying physical restraint skills (Aslam et al., 2022). The limitation of this study is that the data collection in the existing research was through a self-reported questionnaire which needs to be supported by observations.

CONCLUSION AND RECOMENDATION

The research findings showed a significant increase in the mean scores of knowledge, attitude, and skills after participating in the restraint training. This study suggests that nursing staff and other healthcare personnel should regularly participate in in-service education programs that focus on aspects such as ensuring patient safety, the consequences of restraint use, alternative methods to restraints, and caring for patients under control, as well as the ethical and legal implications associated with restraint procedures.

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