

Clinical Supervision Training for Head Nurses Improves Staff Nurses' Perceived Knowledge and Compliance with the Safewards Model

Junita Lasma¹, Emiliana Tarigan¹, Bantari Wisynu Kusuma Wardhani¹, Neng Esti Winahayu²

¹Department of Nursing, STIK Sint Carolus, Jakarta, Indonesia; ²Department of Nursing, RS Soeharto Heerdjan, Jakarta, Indonesia

Correspondence: **Junita Lasma**. Jl. Salemba Raya 41, Jakarta Pusat 10440, Indonesia; natejue6@gmail.com

ABSTRACT

Nurses are the healthcare professionals who interact most frequently with patients and play a central role in implementing the Safewards model. Strengthening clinical supervision is therefore essential to optimize Safewards practices and improve patient safety. This study aimed to examine whether clinical supervision training for head nurses leads to improvements in staff nurses' perceived knowledge and compliance with the Safewards model in two Indonesian hospitals. A quasi-experimental pre-post design with intervention and control groups was conducted from January 10 to February 19, 2026. The intervention consisted of clinical supervision training for 12 head nurses, followed by clinical supervision implementation involving 60 staff nurses. Perceived knowledge and compliance were measured using standardized questionnaires. Most respondents were Diploma III nursing graduates, had more than 15 years of work experience, and were categorized as PK III. The results showed increased knowledge among head nurses after training and significant improvements in staff nurses' perceived knowledge ($p = 0.009$) and compliance ($p = 0.005$) following clinical supervision. Clinical supervision training significantly influenced both outcomes ($p = 0.001$), contributing 14.4% to perceived knowledge and 23.6% to perceived compliance. In conclusion, these findings demonstrate that structured clinical supervision training for head nurses enhances staff nurses' understanding and adherence to the Safewards model. Hospitals should institutionalize continuous clinical supervision training and integrate training-based learning mechanisms into Safewards implementation SOPs to ensure sustainable improvements in nursing practice and patient safety.

Keywords: safewards model; clinical supervision; perceived knowledge; nurse compliance; head nurse training

INTRODUCTION

Inpatient psychiatric units worldwide are fundamentally designed to ensure the safety of individuals with mental disorders, healthcare personnel, and the therapeutic environment in which care is delivered. Despite this core mandate, various forms of conflict continue to occur frequently, including episodes of violence, self-harm behaviors, illicit substance use, attempts to abscond from care, and refusal of treatment [1]. Such conflict events disrupt the therapeutic milieu, diminish the quality of patient care, and increase the burden on healthcare providers. In certain circumstances, restrictive practices such as seclusion, forced medication, and physical restraint are still employed as protective measures. To address these persistent challenges, Bowers introduced the Safewards model; an evidence-based framework aimed at reducing both conflict and restrictive interventions through strengthened communication, enhanced staff-patient relationships, and the creation of a safer, more supportive ward environment [1]. The model posits that conflict and containment do not arise randomly; rather, they are shaped by a constellation of originating domains, including patient characteristics, nursing team dynamics, the physical environment of the ward, patient community interactions, regulatory frameworks, and external factors beyond the hospital setting.

International evidence consistently demonstrates that Safewards implementation contributes to reductions in violence, improvements in perceived safety, and enhanced job satisfaction among nursing staff [2]. Similar findings were reported by other investigators [3], who observed that Safewards positively influences staff safety and overall workplace experience in psychiatric services. Nevertheless, the effectiveness of Safewards is highly dependent on staff comprehension of its goals, mechanisms, and practical application [4]. Compliance with Safewards interventions also constitutes a critical determinant of success. A previous study [2] emphasized that the model's effectiveness is strongly influenced by the degree to which staff adhere to the prescribed interventions. Another investigation [5] revealed that compliance levels remain suboptimal, with only 27.28% of interventions implemented as intended across six psychiatric wards. These findings underscore the necessity of managerial support, comprehensive training, and structured follow-up through clinical supervision or mentoring to ensure consistent and effective implementation.

In Indonesia, the Safewards model has been progressively introduced in several national psychiatric hospitals under the Ministry of Health since 2020. Beginning in 2021, Safewards was formally designated as one of the priority performance indicators within the transformation agenda for national vertical hospitals. The primary evaluation parameter for Safewards implementation is the reduction of restrictive practices, with a national target of achieving 95% of patients who do not receive any form of containment [6]. This policy direction reflects the growing recognition of Safewards as a strategic approach for improving the quality and safety of mental health services in Indonesia.

At the local level, Hospital X is a government-owned Class A psychiatric hospital and one of the vertical hospitals under the Ministry of Health of the Republic of Indonesia. With a 105-year history, the hospital operates 12 inpatient psychiatric wards and maintains 32 seclusion or isolation rooms. One of its strategic missions for 2025 is to enhance the quality of service providers through competency development and productivity improvement, as well as to strengthen clinical service quality through standardized care. Although Safewards has been introduced, the hospital's performance indicators for Safewards-based mental health services have not yet met the expected targets. According to the 2024 LAKIP report, the proportion of patients who did not receive restrictive interventions was 94.27%, falling short of the 95% target. In the first quarter of 2025, this figure declined further to 87.22%, indicating that Safewards implementation at Hospital X requires substantial optimization.

Beyond unmet performance indicators, various safety incidents continue to occur in the inpatient psychiatric wards. In 2023, eight patients attempted to abscond, four successfully escaped, three nurses were physically assaulted, and one patient died by suicide. In 2024, one patient successfully absconded, fourteen attempted to escape, three security officers were assaulted, one nurse was bitten, and another nurse was threatened with death by a patient. During the first quarter of 2025, incidents included the assault of one nurse, one cleaning staff member, and one security officer. These data illustrate that conflict prevention, reduction of restrictive practices, and enhancement of safety remain urgent priorities. A preliminary assessment conducted on 5 June 2025 involving 12 nurses revealed limited understanding of Safewards. None of the nurses could accurately define Safewards, and none were able to list all ten Safewards interventions. Only one nurse correctly described the concept of conflict within the Safewards framework. Furthermore, seven nurses reported not knowing the meaning of containment, while five

nurses believed that seclusion or isolation constituted containment intended solely to protect patients. These findings highlight a significant knowledge gap regarding the fundamental concepts of Safewards.

Observational data from one adult male inpatient ward further demonstrated that Safewards principles were not optimally applied. During the admission of a new patient, the individual was immediately directed to an isolation room without any introductory interaction or initial therapeutic engagement from the nurse. When the patient shouted and banged on the isolation room door, the nurse requested security personnel to perform physical restraint. This scenario illustrates that the actions taken were still oriented toward behavioral control rather than conflict prevention, contrary to Safewards principles. In addition to issues related to knowledge and implementation, clinical supervision practices at Hospital X were also found to be suboptimal. Supervisors lacked adequate understanding of supervision activities and their responsibilities. Nurses assigned as supervisors did not clearly comprehend their roles, resulting in supervisory practices that resembled coordination rather than true clinical supervision. Supervisors were also frequently assigned additional tasks unrelated to supervision.

Clinical supervision is a critical strategy for improving the quality of nursing care. Evidence indicates that clinical supervision supports the enhancement of patient care quality [7], provides constructive feedback, emotional support, and a supportive learning environment, thereby increasing nurses' confidence and competence [8]. Beyond individual skill development, clinical supervision contributes to knowledge management at both team and organizational levels [9]. This study adopts Patricia Benner's nursing theory as its theoretical foundation. Benner's model explains that nursing competence develops progressively from novice to expert through sustained clinical experience [10]. Within this context, clinical supervision functions as a bridge for competency development by facilitating learning, coaching, and continuous clinical exposure. Clinical supervision also offers opportunities for healthcare personnel to refine their skills and knowledge within ongoing professional relationships, both individually and collectively [11].

Taken together, these findings indicate that Safewards implementation at Hospital X faces challenges related to nurses' knowledge, compliance with interventions, supervisory support, and consistency of application in inpatient psychiatric wards. Consequently, a targeted strategy is required to strengthen the capacity of head nurses in conducting clinical supervision so that they can effectively guide, direct, and monitor staff nurses in applying Safewards interventions appropriately. Strengthening supervisory competence is expected to enhance the quality and safety of mental health services. Therefore, the objective of this study is to examine the effect of clinical supervision training for head nurses on staff nurses' perceived knowledge and compliance regarding the Safewards model.

METHODS

Time and location

The present study was conducted between January and February 2026 in two Class A psychiatric hospitals in Indonesia, namely Hospital X in West Jakarta and Hospital Y in Bogor. These two institutions were deliberately selected to serve as the intervention and control sites, respectively, in order to minimize the risk of intervention contamination across study groups. Hospital X, as the intervention site, implemented the clinical supervision training, whereas Hospital Y, as the control site, maintained usual practice throughout the study period. Conducting the research across two geographically distinct psychiatric hospitals also strengthened internal validity by reducing the likelihood of cross-exposure to the intervention among nursing staff.

Study design

Methodologically, the study employed a quasi-experimental design using a pretest–posttest control group approach, which is widely recognized as an appropriate design when randomization is not feasible in clinical settings. This design allowed the researchers to compare changes in outcomes before and after the intervention within each group, as well as to contrast the magnitude of change between the intervention and control groups. The quasi-experimental nature of the study was necessitated by the organizational structure of psychiatric inpatient units, where random assignment of nurses to intervention and control conditions is impractical due to staffing patterns, shift allocations, and managerial responsibilities.

Sampling design

The study population consisted of nurses working in inpatient psychiatric wards at both hospitals. The sample included 120 staff nurses, comprising 60 nurses in the intervention group at Hospital X and 60 nurses in the control group at Hospital Y. In addition, 12 head nurses at Hospital X participated as recipients of the clinical supervision training. The sampling technique used was purposive sampling, guided by predetermined inclusion criteria: staff nurses were required to have a minimum of six months of work experience in psychiatric inpatient care, express willingness to participate as respondents, not be on leave during the data collection period, and not hold the position of head nurse. These criteria ensured that participants had sufficient clinical exposure to Safewards-related practices and were available for both pretest and posttest assessments.

Variables and measurement

The intervention consisted of a structured clinical supervision training program delivered to head nurses at Hospital X, focusing specifically on the application of the Safewards model in psychiatric inpatient settings. The training was conducted over a four-hour session, covering theoretical foundations, supervisory competencies, communication strategies, and practical guidance for supporting staff nurses in implementing Safewards interventions. Following the training, head nurses conducted two weeks of clinical supervision with staff nurses, providing coaching, monitoring, and feedback related to Safewards implementation. Meanwhile, the control group at Hospital Y did not receive any intervention during the study period and continued routine clinical operations.

Data collection was carried out at two time points; pretest and posttest using structured questionnaires. The study variables included respondent characteristics, nurses' knowledge of the Safewards model, and nurses' compliance with Safewards implementation. Knowledge was measured using a 16-item questionnaire consisting of true–false statements, enabling assessment of conceptual understanding and factual accuracy. Compliance was measured using a self-report instrument adapted from the Safewards Fidelity Checklist, modified into a four-point Likert scale to capture the frequency and consistency of Safewards-aligned behaviors in daily practice.

Prior to full implementation, the instruments underwent validity and reliability testing at Hospital Z in East Jakarta, involving 30 staff nurses and 12 head nurses. The validity test confirmed that all questionnaire items were valid. Reliability testing demonstrated strong internal consistency,

with Cronbach's Alpha values of 0.925 for head nurses' knowledge of clinical supervision, 0.935 for staff nurses' knowledge of the Safewards model, and 0.826 for staff nurses' compliance with Safewards implementation. These reliability coefficients indicate that the instruments were highly dependable for measuring the intended constructs.

Data analysis

Data analysis was performed using SPSS version 25. Descriptive analysis was used to describe respondent characteristics through frequency distributions and percentages. Bivariate analysis employed paired t-tests or appropriate non-parametric alternatives depending on data distribution, enabling comparison of pretest and posttest scores within each group. Additionally, Chi-square tests were used to examine associations between categorical variables. To identify the independent effect of clinical supervision training and to control for potential confounding factors, multivariate analysis was conducted using multiple linear regression with a backward elimination method. This analytical approach began with the inclusion of all candidate variables in the initial model, followed by systematic removal of non-significant variables until the most parsimonious and statistically optimal model was obtained.

Research ethics

The study adhered to rigorous ethical standards. Ethical approval was obtained from the Ethics Committee of STIK Sint Carolus Jakarta, and the protocol was subsequently validated by the Health Research Ethics Committee of Hospital Y in Bogor. All participants were informed about the study objectives, procedures, potential risks, and benefits. Participation was voluntary, and confidentiality of respondent data was strictly maintained throughout the research process.

RESULTS

The descriptive distribution presented in Table 1 illustrates the demographic and professional characteristics of respondents in both the intervention and control groups. From an educational standpoint, the majority of respondents in both groups held a DIII Nursing qualification, accounting for 75.0% in the intervention group and 78.3% in the control group. Meanwhile, respondents with a Ners (professional nurse) qualification constituted 25.0% of the intervention group and 21.7% of the control group. This relatively parallel distribution suggests that both groups were comparable in terms of educational background, thereby reducing the likelihood that differences in educational attainment would confound subsequent analyses.

Regarding length of employment, the intervention group was overwhelmingly dominated by nurses with more than 15 years of experience (71.7%), indicating a workforce with substantial clinical exposure and professional maturity. In contrast, the control group demonstrated a more heterogeneous distribution of employment duration, with notable proportions across all categories: 18.3% with less than 5 years, 21.7% with 5–10 years, 18.3% with 10–15 years, and 41.7% with more than 15 years of experience. This pattern suggests that the intervention group consisted of more senior nurses, whereas the control group included a broader mix of junior, mid-career, and senior staff.

In terms of career level (PK), the intervention group was predominantly composed of nurses at PK 3 (58.3%), reflecting a concentration of individuals at an advanced career stage. Conversely, the control group exhibited a more balanced distribution across PK 1, PK 2, and PK 3, with each category representing approximately one-third of the sample. This indicates that the intervention group had a higher proportion of nurses occupying advanced professional roles, while the control group included a more diverse range of career levels.

Table 1. Distribution of respondent characteristics based on educational background, length of employment, and career level (pk) in the intervention and control groups

Variable	Intervention group		Control group	
	Frequency	Percentage	Frequency	Percentage
Educational background				
Diploma 3 nursing	45	75.0	47	78.3
Ners	15	25.0	13	21.7
Length of employment				
<5 years	1	1.7	11	18.3
5–10 years	2	3.3	13	21.7
>10–15 years	14	23.3	11	18.3
>15 years	43	71.7	25	41.7
Career level (PK)				
PK 1	7	11.7	19	31.7
PK 2	14	23.3	19	31.7
PK 3	35	58.3	20	33.3
PK 4	4	6.7	2	3.3

Table 2. Distribution of head nurses' perceived knowledge of clinical supervision before and after the intervention

Head nurses' perceived knowledge of clinical supervision	Before intervention		After intervention	
	Frequency	Percentage	Frequency	Percentage
Poor	4	33.3	0	0.0
Adequate	4	33.3	1	8.3
Good	4	33.3	11	91.7

Table 2 demonstrates a substantial improvement in head nurses' perceived knowledge of clinical supervision following the intervention. Prior to the training, the distribution of knowledge levels was evenly split across the three categories—poor, adequate, and good—each representing

33.3% of respondents. This indicates considerable variability in baseline understanding of clinical supervision, suggesting that head nurses entered the intervention with differing levels of preparedness.

Following the intervention, the distribution shifted dramatically. The poor category was eliminated entirely (0.0%), reflecting that all head nurses achieved at least an adequate level of knowledge. The adequate category decreased to 8.3%, while the good category increased sharply to 91.7%, demonstrating a pronounced and positive effect of the training. These results indicate that the intervention was highly effective in enhancing head nurses' perceived knowledge of clinical supervision, a critical competency for supporting Safewards implementation.

Table 3. Distribution of staff nurses' perceived knowledge before and after the intervention

Group	Staff nurses' perceived knowledge	Before intervention		After intervention	
		Frequency	Percentage	Frequency	Percentage
Intervention	Poor	8	13.3	0	0.0
	Adequate	31	51.7	5	8.3
	Good	21	35.0	55	91.7
Control	Poor	5	8.3	5	8.3
	Adequate	39	65.0	30	50.0
	Good	16	26.7	25	41.7

The data in Table 3 reveal a marked contrast between the intervention and control groups in terms of changes in perceived knowledge. In the intervention group, the pre-test distribution showed that 51.7% of respondents had adequate knowledge, 35.0% had good knowledge, and 13.3% had poor knowledge. After the intervention, the poor category was eliminated entirely, the adequate category decreased to 8.3%, and the good category surged to 91.7%. This dramatic shift indicates that the intervention had a strong and positive impact on staff nurses' perceived knowledge of the Safewards model.

In contrast, the control group exhibited more modest improvements. While the proportion of respondents with good knowledge increased from 26.7% to 41.7%, the poor category remained unchanged at 8.3%, and the adequate category decreased from 65.0% to 50.0%. These changes suggest that although some natural improvement occurred; possibly due to routine exposure or informal learning the magnitude of change was substantially smaller than in the intervention group.

Table 4. Distribution of staff nurses' perceived compliance with safewards implementation

Staff nurses' perceived compliance with safewards implementation	Before intervention		After intervention	
	Frequency	Percentage	Frequency	Percentage
Intervention group				
Poor	8	13.3	0	0.0
Adequate	17	28.3	21	35.0
Good	35	58.3	39	65.0
Control group				
Poor	3	5.0	4	6.7
Adequate	23	38.3	26	43.3
Good	34	56.7	30	50.0

Table 4 highlights differences in compliance outcomes between the intervention and control groups. In the intervention group, compliance was already relatively high at baseline, with 58.3% of respondents categorized as having high compliance. After the intervention, the poor category was eliminated, and the proportion of respondents with high compliance increased to 65.0%. This suggests that the intervention not only improved knowledge but also translated into more consistent application of Safewards principles.

Conversely, the control group showed inconsistent changes. The proportion of respondents with high compliance decreased from 56.7% to 50.0%, while the poor category increased from 5.0% to 6.7%. These findings indicate that without structured supervision or targeted intervention, compliance with Safewards may fluctuate or even decline.

Based on Table 5, the Kolmogorov–Smirnov test results indicate that both variables; perceived knowledge and perceived compliance follow a normal distribution, with p-values of 0.074 and 0.071, respectively. Since both values exceed the threshold of 0.05, the assumption of normality is satisfied. This statistical condition permits the use of parametric tests such as the paired t-test and linear regression in subsequent analyses.

Based on Table 6, the homogeneity test results demonstrate that all variables have p-values greater than 0.05, indicating that the variances between the intervention and control groups are statistically equivalent. This includes educational background, length of employment, career level,

Table 5. Normality test results

Variable	Kolmogorov–Smirnov	Interpretation
Perceived knowledge	0.074	Normal
Perceived compliance	0.071	Normal

Table 6. Homogeneity test results

Variabel	Levene	p-value	Interpretation
Education	2.114	0.115	Homogen
Length of employment	1.254	0.214	Homogen
Career level (PK)	2.110	0.455	Homogen
Perceived knowledge	2.664	0.106	Homogen
Perceived compliance	1.891	0.172	Homogen

perceived knowledge, and perceived compliance. Homogeneity of variance is a critical assumption for comparative analyses, ensuring that differences observed between groups can be attributed to the intervention rather than underlying variance disparities.

Table 7 presents a comparative analysis of staff nurses' perceived knowledge scores before and after the implementation of clinical supervision training for head nurses. In the intervention group, the mean pre-test score of 11.37 ± 2.365 indicates a moderate baseline understanding of the Safewards model. Following the intervention, the mean score increased substantially to 14.22 ± 1.403 , with a statistically significant p-value of 0.009. This demonstrates that the training intervention produced a meaningful enhancement in nurses' perceived knowledge. In contrast, the control group exhibited a slight decline in perceived knowledge, decreasing from 13.40 ± 2.279 to 13.05 ± 2.197 , with a non-significant p-value of 0.234. These findings clearly indicate that the improvement observed in the intervention group was attributable to the clinical supervision training provided to head nurses, whereas no comparable change occurred in the absence of such training.

Table 7. Analysis of differences in staff nurses' perceived knowledge of the safewards model before and after clinical supervision training for head nurses in the intervention and control groups at Hospitals X and Y, Jakarta

Variable		Frequency	Before intervention		After intervention		p-value
			Mean	SD	Mean	SD	
Perceived knowledge	Intervention group	60	11.37	2.365	14.22	1.403	0.009
	Control group	60	13.40	2.279	13.05	2.197	0.234

Table 8. Analysis of differences in staff nurses' perceived compliance with the safewards model before and after clinical supervision training for head nurses in the intervention and control groups

Variable		Frequency	Before intervention		After intervention		p-value
			Mean	SD	Mean	SD	
Perceived compliance	Intervention group	60	43.95	10.150	47.53	5.724	0.005
	Control group	60	46.55	8.468	44.73	9.055	0.098

Table 9. Effect of clinical supervision training for head nurses on staff nurses' perceived knowledge and compliance

Variable	Phase	n	Mean	SD	t	p-value
Perceived knowledge	Before-after intervention	120	1.25	2.192	2.625	0.009
Perceived compliance	Before-after intervention	120	3.317	10.962	3.314	0.001

Table 10. Relationship between educational background, length of employment, career level, perceived knowledge, and clinical supervision training with staff nurses' compliance in implementing the safewards model

Variabel	Kepatuhan Perawat Dalam Menerapkan Model <i>Safewards</i>								p-value
	Low		Moderate		High		Total		
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	
Educational background									0.003*
D3 nursing	1	1.1	42	45.7	49	53.3	92	100.0	
Ners	3	10.7	5	17.9	20	71.4	28	100.0	
Length of employment									0.681
<5 year	0	0.0	4	33.3	8	66.7	12	100.0	
5-10 year	1	6.7	8	54.3	6	40.0	15	100.0	
10-15 year	0	0.0	10	40.0	15	60.0	25	100.0	
>15 year	3	4.4	25	36.8	40	58.8	68	100.0	
Career level (PK)									0.207
PK 1	1	3.8	14	53.8	11	43.3	26	100.0	
PK 2	0	0.0	10	30.3	23	69.7	33	100.0	
PK 3	2	3.6	21	44.7	32	58.2	55	100.0	
PK 4	1	16.7	2	4.3	3	50.0	6	100.0	
Perceived knowledge									0.988
Poor	0	0.0	1	33.3	2	66.7	3	100.0	
Adequate	1	4.5	9	40.9	12	54.5	22	100.0	
Good	3	3.2	37	38.7	55	57.9	95	100.0	
Perceived compliance	4	6.7	26	43.3	30	50.0	60	100.0	0.027*
Training	0	0.0	21	35.0	39	65.0	60	100.0	
Given	0	0.0	21	35.0	39	65.0	60	100.0	0.027
Not given	4	6.7	26	43.3	30	50.0	60	100.0	

Table 8 illustrates the effect of clinical supervision training on staff nurses' perceived compliance with Safewards implementation. In the intervention group, the mean compliance score increased from 43.95 ± 10.150 to 47.53 ± 5.724 , with a statistically significant p-value of 0.005. This improvement suggests that the training not only enhanced cognitive understanding but also strengthened behavioral adherence to Safewards

principles. Conversely, the control group experienced a decline in compliance, with mean scores decreasing from 46.55 ± 8.468 to 44.73 ± 9.055 , and a non-significant p-value of 0.098. These findings reinforce the conclusion that structured clinical supervision training for head nurses is an effective mechanism for improving staff compliance with Safewards interventions.

Table 9 provides a combined analysis of pre–post differences across both groups. For perceived knowledge, the mean difference of 1.25 ± 2.192 , with a t-value of 2.625 and a p-value of 0.009, confirms a statistically significant improvement attributable to the intervention. Similarly, perceived compliance demonstrated a mean difference of 3.317 ± 10.962 , with a t-value of 3.314 and a highly significant p-value of 0.001. These results collectively affirm that clinical supervision training for head nurses exerts a measurable and beneficial impact on both knowledge and compliance dimensions of Safewards implementation among staff nurses.

Table 10 reveals that educational background and clinical supervision training are significantly associated with staff nurses' compliance in implementing the Safewards model. Nurses with a D3 Nursing qualification demonstrated higher levels of compliance (71.4%) compared to those with a D3 Nursing background (53.3%), with a statistically significant p-value of 0.003. Clinical supervision training also showed a significant association with compliance ($p = 0.027$). Nurses who received training exhibited higher compliance (65.0%) compared to those who did not (50.0%). Meanwhile, length of employment, career level (PK), and perceived knowledge did not show significant associations, suggesting that these variables do not independently influence compliance.

Based on Table 11, the multivariate regression analysis using backward elimination demonstrates that clinical supervision training is a significant predictor of both perceived knowledge and perceived compliance. For perceived knowledge, the final model yielded an R Square of 0.144, indicating that the predictors explained 14.4% of the variance. Significant predictors included career level (PK) ($B = 0.520$; $p = 0.042$) and clinical supervision training ($B = 1.303$; $p = 0.001$). For perceived compliance, the final model produced an R Square of 0.236, meaning that the predictors explained 23.6% of the variance. After backward elimination, clinical supervision training remained the sole significant predictor ($B = 3.624$; $p = 0.045$). These findings underscore the central role of structured supervision training in enhancing both cognitive and behavioral dimensions of Safewards implementation.

Table 11. Multivariate linear regression analysis using backward elimination for confounding variables and clinical supervision training perceived knowledge

Perceived knowledge			
Variable	B	R Square	p-value
Step 1			
(Constant)		0.144	0.000
Educational background	-0.311		0.487
Carer level (PK)	0.520		0.042*
Clinical supervision training	1.303		0.001*
Perceived compliance			
Variable	B	R Square	p-value
Step 1		0,236	
(Constant)			0,000
Educational background	0.581		0.757
Carer level (PK)	-0.451		0.636
Clinical supervision training	3.014		0.042
Step 2			
(Constant)	3.624		0,000
			0.045*

DISCUSSION

The findings of this study reveal that the characteristics of respondents in both the intervention and control groups were largely comparable, particularly in terms of educational background, length of employment, and clinical career level. This comparability is essential because it strengthens the internal validity of the quasi-experimental design by reducing the likelihood that differences in baseline characteristics would confound the observed effects of the intervention. The majority of respondents in both groups possessed a DIII Nursing qualification, with 75.0% in the intervention group and 78.3% in the control group. This distribution indicates that vocationally trained nurses continue to dominate the psychiatric inpatient nursing workforce in Indonesia. The Diploma 3 Nursing program plays a central role in supporting clinical nursing services because it emphasizes foundational clinical competencies, hands-on patient care, and the application of basic nursing procedures. This aligns with the Indonesian Ministry of Health Regulation No. 26 of 2019, which states that the DIII Nursing program is a vocational track designed to produce mid-level professional nurses with practical nursing competencies [12]. In psychiatric inpatient settings, where direct patient interaction, behavioral observation, and crisis management are routine, the practical orientation of vocational nursing education becomes particularly relevant.

Regarding length of employment, the intervention group was dominated by nurses with more than 15 years of experience (71.7%), whereas the control group had a more varied distribution, with only 41.7% having more than 15 years of experience. A long duration of employment suggests that many nurses in the intervention group have accumulated substantial clinical exposure to diverse psychiatric cases, including acute agitation, self-harm behaviors, aggression, and complex psychosocial needs. Work experience is widely recognized as a critical determinant of clinical competence because it shapes nurses' ability to recognize patterns, anticipate risks, and respond effectively to challenging situations. This finding is consistent with previous studies [13], which argue that length of employment influences an individual's skills and knowledge because extended experience contributes to more effective work patterns. Additional support comes from [14], which reports that length of employment has a significant relationship with nursing competence. In psychiatric inpatient care, where clinical judgment and situational awareness are crucial, the presence of experienced nurses may contribute to a more stable therapeutic environment.

In terms of clinical career level, most respondents in the intervention group were at PK III (58.3%), whereas the control group had the highest proportion at PK III (33.3%). Clinical career levels reflect the degree of competence, experience, responsibility, and autonomy possessed by nurses in delivering care. The predominance of nurses at intermediate to advanced PK levels suggests that many respondents in the intervention

group had sufficient clinical readiness to receive and apply interventions based on clinical supervision. This observation is consistent with Patricia Benner's theory, which explains that nursing competence develops progressively through clinical experience, evolving from novice to expert [15]. The career-level framework also aligns with the Indonesian Ministry of Health Regulation No. 47 of 2017 concerning the development of professional nursing career pathways [16]. In this context, nurses at PK III typically demonstrate higher levels of clinical reasoning, leadership potential, and independence in decision-making, making them more receptive to supervisory interventions aimed at improving practice.

The distribution of head nurses' perceived knowledge of clinical supervision before and after the intervention demonstrates a clear and substantial improvement following the training. Prior to the training, head nurses' knowledge was evenly distributed across the categories of poor, adequate, and good (each 33.3%). This variation suggests that head nurses entered the intervention with differing levels of preparedness and understanding of clinical supervision. After the training, nearly all head nurses were categorized as having good knowledge (91.7%), and none remained in the poor category. This improvement indicates that the clinical supervision training effectively enhanced head nurses' understanding of the concepts, stages, roles, and benefits of clinical supervision in the implementation of the Safewards model. Training is a structured learning process aimed at improving knowledge, skills, experience, and attitudes necessary for performing specific roles. This finding is consistent with [17], which states that training aims to develop specific abilities or insights.

The improvement in head nurses' knowledge can also be explained through Benner's theoretical framework. The initial variation in knowledge levels reflects differences in competence. After the training, most head nurses demonstrated improved knowledge, indicating a progression toward higher competence. In this context, clinical supervision training serves as structured learning that helps head nurses understand their roles as supervisors, mentors, and facilitators in implementing the Safewards model in psychiatric inpatient wards. This finding is supported by [18], which shows that training effectively enhances nurses' knowledge, both cognitively and in practical skills. The training likely provided head nurses with clearer frameworks for conducting supervision, including how to observe practice, provide constructive feedback, facilitate reflective discussions, and support nurses in applying Safewards interventions.

Knowledge improvement was also observed among staff nurses. In the intervention group, prior to clinical supervision training, most nurses had adequate knowledge (51.7%), followed by good knowledge (35.0%). After head nurses received training and conducted clinical supervision, staff nurses' knowledge increased substantially, with 91.7% categorized as having good knowledge and none in the poor category. Conversely, the control group showed only a modest improvement, with the proportion of nurses in the good category increasing from 26.7% to 41.7%, while the poor category remained unchanged at 8.3%. This indicates that clinical supervision conducted by head nurses served as an effective mechanism for transferring knowledge to staff nurses. This finding aligns with the study by [19], which emphasizes that clinical supervision in outpatient units is essential for nurses' success in delivering healthcare services. The themes identified include head nurses' knowledge of supervision, performance assessment methods, supervisor support, and expectations in the supervision process. This literature is relevant because it positions head nurses as key figures in guiding, evaluating, and supporting nursing practice.

Statistical analysis also supports these findings. In the intervention group, the mean knowledge score increased from 11.37 to 14.22, indicating a significant difference before and after the intervention. In contrast, the control group's mean score decreased from 13.40 to 13.05, showing no significant difference. These results suggest that the improvement in knowledge in the intervention group was likely due to the clinical supervision training provided to head nurses, which was subsequently applied in mentoring staff nurses. This aligns with [20], which reports increased nurse knowledge following an intervention, and [21], which explains that clinical supervision training not only enhances knowledge but also contributes to service quality.

The improvement in nurses' knowledge of the Safewards model can also be linked to the function of clinical supervision as a professional learning process. Clinical supervision emphasizes observation, feedback, reflection, and mentoring to enhance individual competence. Through supervision, nurses gain opportunities to revisit Safewards principles such as clear mutual expectations, soft words, positive words, talk down, bad news mitigation, calm down methods, reassurance, and discharge messages. Clinical supervision also functions as a knowledge-sharing mechanism, facilitating the exchange of experiences and insights between head nurses as supervisors and staff nurses as supervisees. This aligns with [22], which highlights that clinical supervision enhances knowledge through learning, reflection, feedback, and documentation of best practices.

Regarding compliance, the study found that before the intervention, most respondents in both groups already demonstrated high compliance. In the intervention group, high compliance increased from 58.3% to 65.0% after the intervention, while the poor compliance category decreased from 13.3% to 0%. In the control group, high compliance decreased from 56.7% to 50.0%, and poor compliance increased from 5.0% to 6.7%. These findings indicate that clinical supervision training for head nurses positively influenced staff nurses' compliance with Safewards implementation, particularly by eliminating poor compliance. This aligns with [23], which shows that reflective clinical supervision helps mental health nurses understand and adopt Safewards interventions in clinical practice, supporting practice change through structured reflection.

Statistical analysis reinforces these findings. In the intervention group, the mean compliance score increased from 43.95 to 47.53, indicating a significant difference before and after the intervention. In the control group, the mean score decreased from 46.55 to 44.73, showing no significant difference. This suggests that the improvement in compliance in the intervention group was not merely a natural change but was associated with the clinical supervision training and its application by head nurses. This finding is consistent with [24], which reports increased compliance before and after clinical supervision interventions, and [25], which states that nurses' actions in implementing the Safewards model can enhance compliance.

Compliance in this study refers to nurses' disciplined behavior in applying Safewards principles and interventions according to established standards. Compliance is not merely adherence to rules but also reflects professional awareness in choosing actions that are safe, therapeutic, and aligned with patient needs. As noted by [1], compliance is a positive behavior characterized by conscious adherence to rules, instructions, or norms. In psychiatric inpatient settings, nurse compliance with the Safewards model is crucial because it directly relates to conflict prevention, reduction of restrictive practices, and enhancement of patient and staff safety.

Despite the improvement, post-test results in the intervention group still showed that 35.0% of nurses were in the moderate compliance category. This indicates that although training and supervision improved compliance, they did not fully optimize compliance across all nurses. This may be due to nurses who previously fell into the poor category shifting to moderate compliance but not yet reaching high compliance. Therefore, clinical supervision must be implemented continuously and not limited to short-term training. Routine, structured supervision accompanied by direct feedback is necessary to ensure that knowledge improvements translate into consistent behavioral changes.

The analysis of intervention effects shows that clinical supervision training significantly influenced nurses' perceived knowledge and compliance. This indicates that training head nurses in clinical supervision effectively enhances staff nurses' understanding and adherence to the

Safewards model. Clinical supervision training helps head nurses understand how to conduct mentoring, guidance, monitoring, and evaluation of nursing practice. Subsequently, the supervision process ensures that nurses understand and apply Safewards interventions more accurately.

This finding aligns with [26], which states that clinical supervision is an effective nursing management strategy when supported by relevant education, structured supervision processes, and critical mentoring. Additionally, [11] explains that clinical supervision provides opportunities for healthcare personnel to develop skills and knowledge within ongoing professional relationships, both individually and collectively. Furthermore, [9] notes that supervision not only enhances individual competence but also supports knowledge management at team and organizational levels.

The analysis of relationships among other variables shows that educational background, career level (PK), and clinical supervision training met the criteria for inclusion in multivariate analysis. Educational background and clinical supervision training demonstrated significant relationships with compliance, while career level was considered a potential confounding variable. These findings indicate that nurse compliance with Safewards implementation is influenced not only by clinical supervision training but also by educational background and clinical career level. Therefore, multivariate analysis was conducted to identify the most dominant factor after controlling for other variables.

Multivariate analysis revealed that clinical supervision training was the most consistent and influential factor in improving nurses' perceived knowledge of the Safewards model. Clinical supervision training had a positive effect on knowledge ($B = 1.303$). Career level (PK) also influenced knowledge, whereas educational background did not show a significant effect after controlling for other variables. The R^2 value of 0.144 indicates that educational background, career level, and clinical supervision training collectively explained 14.4% of the variance in perceived knowledge, while the remaining variance was influenced by other unexamined factors.

For compliance, regression analysis showed that clinical supervision training was the most dominant factor influencing nurses' adherence to Safewards implementation. After eliminating non-significant variables using the backward method, clinical supervision training remained the sole significant predictor ($B = 3.624$). The R^2 value of 0.236 indicates that clinical supervision training contributed 23.6% to the variance in compliance, while the remaining 76.4% was influenced by other factors not examined in this study. These findings demonstrate that clinical supervision training for head nurses is an effective managerial strategy for enhancing nurse compliance with Safewards implementation.

These results reinforce the importance of head nurses as clinical leaders in implementing the Safewards model. Head nurses who receive clinical supervision training can serve as mentors, facilitators, and guides for staff nurses. Through supervision, head nurses can ensure that nurses understand Safewards objectives, apply interventions according to principles, and reflect on their practice. This aligns with [27], which states that head nurses have significant responsibilities in organizational performance and achieving service goals, including improving patient safety and preventing safety incidents.

Theoretically, these findings also align with Patricia Benner's theory, which explains that nursing competence develops through structured, reflective clinical experience supported by guidance from more competent nurses. In this study, head nurses acted as clinical mentors who helped staff nurses understand and apply the Safewards model. With clinical supervision training, head nurses were equipped to perform supervision more effectively. This process helped staff nurses improve knowledge, strengthen compliance, and develop safer and more therapeutic nursing practices.

Based on the overall findings, it can be concluded that clinical supervision training for head nurses positively influenced staff nurses' perceived knowledge and compliance in implementing the Safewards model. Knowledge improvement was evident from the shift in knowledge categories toward "good" and the significant increase in mean scores. Compliance improvement was reflected in the increased proportion of nurses with high compliance and the elimination of poor compliance in the intervention group. Therefore, clinical supervision training can be recommended as a nursing managerial strategy to support Safewards implementation, enhance patient safety, reduce conflict, and strengthen the quality of psychiatric nursing services in hospitals.

This study possesses several notable strengths that reinforce the credibility and practical relevance of its findings. First, the research employs a quasi-experimental pretest-posttest control group design, allowing a clear comparison between nurses who received supervision from trained head nurses and those who did not. This design strengthens causal inference regarding the effect of clinical supervision training on knowledge and compliance. Second, the study integrates a multi-level intervention, beginning with structured training for head nurses and followed by direct clinical supervision of staff nurses. This two-tiered approach reflects real-world managerial practice and enhances the ecological validity of the intervention. Third, the study uses validated and reliable instruments, demonstrated by strong Cronbach's alpha values, ensuring that measurements of knowledge and compliance are accurate and consistent. The inclusion of both descriptive and inferential statistical analyses further strengthens the robustness of the findings. Fourth, the research is grounded in established theoretical frameworks, particularly Patricia Benner's model of competence development, which provides a solid conceptual foundation for interpreting changes in knowledge and compliance. Fifth, the study captures practical outcomes directly relevant to psychiatric inpatient care, such as improved understanding of Safewards principles and increased adherence to conflict-prevention interventions. These outcomes have immediate implications for patient safety, staff well-being, and the reduction of restrictive practices. Finally, the study demonstrates strong ethical rigor, with informed consent, confidentiality protections, and independent data collection, ensuring that the research process upholds professional and ethical standards. Overall, the study's methodological rigor, theoretical grounding, validated instruments, and practical relevance collectively form a strong foundation that enhances the reliability and applicability of its conclusions.

The limitations of this study warrant careful consideration when interpreting the findings, as they highlight several methodological and contextual constraints that may influence the strength and generalizability of the results. The use of a quasi-experimental design with non-randomized group allocation introduces the possibility of selection bias, even though the researchers attempted to control for confounding variables through appropriate statistical techniques. Without full randomization, differences between groups may still exist and could subtly affect outcomes. The study was also conducted in only two psychiatric hospitals, both of which share similar organizational structures and service characteristics. As a result, the applicability of the findings to hospitals with different staffing patterns, institutional cultures, or levels of Safewards implementation should be approached with caution. Broader sampling across multiple institutions would strengthen external validity. Furthermore, the study did not incorporate external contextual factors that may influence nurses' compliance with Safewards, such as workload intensity, shift rotation patterns, leadership style, organizational climate, and individual psychological conditions. These variables are known to affect nurse behavior and performance, and their absence limits the ability to fully explain variations in compliance. Another limitation relates to the implementation of supervision itself. Some nurses reported feeling fearful, avoidant, or resistant to being supervised, which may have influenced the consistency and depth of the intervention. Emotional responses to supervision can shape how effectively guidance is received and applied, and such reactions may have moderated the intervention's impact. Despite these limitations, the researchers took steps to minimize potential biases and ensure adherence to the study protocol. Ethical approval, clear procedures, validated instruments, and structured supervision processes contributed to maintaining methodological rigor throughout the research.

CONCLUSION

The study indicates that clinical supervision training for head nurses positively influences staff nurses' perceived knowledge and compliance in applying the Safewards model in psychiatric inpatient settings. First, the training enhances head nurses' understanding of the concepts, stages, and supervisory roles, enabling them to carry out coaching functions more effectively. Second, the supervision delivered by trained head nurses contributes to improved staff nurses' knowledge of Safewards, particularly regarding conflict prevention, therapeutic communication, and reduction of containment practices. Third, this increase in knowledge is followed by better compliance in implementing Safewards interventions in daily care. Fourth, in practice, head nurses act as clinical supervisors who guide, direct, observe, provide feedback, and evaluate Safewards implementation continuously. Therefore, clinical supervision training can be used as a nursing managerial strategy to strengthen Safewards implementation, enhance patient and staff safety, and create a safer and more therapeutic psychiatric care environment aligned with mental health service standards.

Ethical consideration, competing interest and source of funding

- The ethical procedures applied in this study were comprehensive and aligned with established standards for research involving human participants. Prior to data collection, the researcher obtained formal ethical approval from the authorized ethics committee as well as institutional permission from the participating hospitals. All respondents received clear information regarding the study's purpose, benefits, and procedures before providing written informed consent. Confidentiality of participants' identities was strictly maintained, and all collected data were used solely for research purposes.
- The author also declares that no conflict of interest was present in this study. Every stage of the research was conducted objectively and independently, without influence from personal interests, institutional pressures, or external parties that could compromise the integrity of the findings.
- Furthermore, the study was fully self-funded by the author. All expenses incurred throughout the research process were covered independently, with no financial support from sponsors, institutions, or other organizations.

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