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Deep-Breathing Exercise for Reducing Signs and Symptoms of Risk for Violent Behavior in Pediatric Psychiatric Inpatients: A Three-Case Series

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Abstract

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Background: Patients with a nursing diagnosis of risk for violent behavior may display verbal threats, aggressive behavior, clenched fists, a rigid posture, facial flushing, and other signs of escalating anger. Deep-breathing exercise is a simple nonpharmacological nursing intervention intended to reduce physical tension and support emotional control. Objective: To describe changes in signs and symptoms of risk for violent behavior and the ability to perform a deep-breathing exercise among three pediatric psychiatric inpatients. Methods: A descriptive case series was conducted in the Lily Ward of Menur Mental Hospital, Surabaya, Indonesia, from June 3 to 23, 2024. Three inpatients aged 10-17 years with a nursing diagnosis of risk for violent behavior received a supervised deep-breathing exercise on seven consecutive days. The core breathing exercise lasted 5 minutes and consisted of sitting comfortably, closing the eyes, inhaling slowly through the nose, holding the breath for 3 seconds, and exhaling slowly through the mouth. Outcomes were observed using a 14-item checklist based on the Indonesian Nursing Diagnosis Standards. Each present sign or symptom was scored 1 and each absent sign or symptom was scored 0. Results: At baseline, Cases 1, 2, and 3 displayed 7/14 (50.0%), 8/14 (57.1%), and 5/14 (35.7%) signs and symptoms, respectively. No reduction was observed on Day 1, when all participants were unwilling to complete the exercise. On Day 2, the respective scores decreased to 5, 6, and 3; on Day 3, to 3, 4, and 1; and on Day 4, to 2, 2, and 0. No observed signs or symptoms were recorded in any participant from Days 5 through 7. All participants partially completed the exercise on Day 2 and completed all procedural steps from Days 3 through 7. Conclusion: Repeated deep-breathing exercise was feasible after an initial engagement period and was accompanied by a progressive reduction in observed signs and symptoms of risk for violent behavior. Because this uncontrolled three-case series cannot establish causality, deep breathing should be considered an adjunct to comprehensive psychiatric and nursing care rather than a replacement for standard treatment.

Keywords: Deep breathing; emotion regulation; pediatric psychiatric nursing; risk for violent behavior; violence prevention

INTRODUCTION

Risk for violent behavior is a nursing problem characterized by the possibility that an individual may harm themselves, other people, or the surrounding environment. Observable manifestations may include threatening language, swearing, a loud or curt voice, aggressive behavior, glaring, clenched fists, a clenched jaw, facial flushing, a rigid posture, and a sharp gaze (Indonesian National Nurses Association [PPNI], 2019a). These manifestations may emerge when internal or external stressors exceed the individual's available coping resources. In psychiatric inpatient settings, early recognition and management are important because escalating anger can endanger patients, families, other patients, health professionals, and the care environment (Kandar & Iswanti, 2019; Subu et al., 2016).

Management of patients at risk for violent behavior commonly combines environmental safety, therapeutic communication, medication, structured nursing interventions, and skills for controlling anger. Nonpharmacological methods are especially relevant in nursing practice because they can be taught, repeatedly practiced, and used by patients when early signs of anger appear. However, these methods should be integrated with clinical assessment, prescribed pharmacological treatment, and institutional safety procedures rather than used as stand-alone management.

Deep breathing is a relaxation method in which breathing is deliberately slowed and deepened. The patient focuses on inhalation, a brief breath hold, and controlled exhalation. This pattern is intended to reduce bodily tension, facilitate a calmer mental state, and improve the patient's capacity to pause before reacting to a stressor. Previous Indonesian nursing reports have described reductions in anger-related or violent-behavior indicators after breathing or relaxation interventions (Roufuddin & Hoiriyah, 2020; Suryanti & Ariani, 2018; Wardiyah et al., 2022). Deep breathing is also practical because it requires no equipment, can be delivered at the bedside, and can be practiced independently after the patient understands the procedure.

Evidence from small clinical reports remains limited, particularly among children and adolescents receiving inpatient psychiatric care. The present case series therefore aimed to describe the baseline characteristics of three pediatric psychiatric inpatients with a nursing diagnosis of risk for violent behavior, their ability to perform a standardized deep-breathing exercise, and the daily trajectory of observed signs and symptoms during seven days of

practice. This study aimed to describe changes in signs and symptoms of risk for violent behavior and the ability to perform a deep-breathing exercise among three pediatric psychiatric inpatients

METHODS

This study used a quantitative descriptive case-series design. It was conducted in the Lily Ward of Menur Mental Hospital, Surabaya, Indonesia, from June 3 to 23, 2024. The Lily Ward provides inpatient psychiatric care for children and adolescents aged approximately 10-18 years. The report was developed from a professional nursing scientific paper completed at Universitas Muhammadiyah Surabaya.

The accessible population consisted of three patients in the ward who had a nursing diagnosis of risk for violent behavior; all three were included. The inclusion criteria were admission to the Lily Ward, a nursing diagnosis of risk for violent behavior, ability to communicate adequately, willingness to participate, and absence of an identified cognitive impairment that would prevent participation. Patients who were unable to communicate adequately, had a cognitive impairment that prevented following the procedure, or declined participation were excluded.

Each participant was scheduled for one supervised session on seven consecutive days. A complete session lasted approximately 13 minutes: a 3-minute orientation, a 5-minute breathing exercise, and approximately 5 minutes for evaluation and documentation. The intervention was conducted when the participant was clinically able to engage and still displayed signs or symptoms associated with risk for violent behavior.

Data were collected through observation, interview, and review of clinical documentation. The primary outcome was the number of observed signs and symptoms associated with risk for violent behavior. A 14-item observation checklist was constructed from the Indonesian Nursing Diagnosis Standards (PPNI, 2019a). The items represented four major subjective indicators (threatening, swearing or using harsh words, a loud voice, and curt speech), four major objective indicators (attacking another person, injuring self or others, damaging the environment, and aggressive or rampage behavior), and six minor objective indicators (glaring, clenched fists, a clenched jaw, facial flushing, a rigid posture, and a sharp gaze). Each present item was assigned a score of 1 and each absent item a score of 0, producing a total score from 0 to 14. Percentages were calculated by dividing the observed number by 14 and multiplying by 100.

Procedural ability was recorded using a seven-step checklist corresponding to the breathing procedure. Completion was documented daily. The source study recorded whether each participant could perform each step but did not use a separate validated adherence scale.

The data were summarized descriptively as individual case narratives, counts, and percentages. Daily scores were plotted to show within-case trajectories. No inferential statistical test was performed because the study included only three cases, had no comparison group, and was intended to provide a descriptive clinical account.

RESULTS

Participant Characteristics

The participants were one female and two males aged 10, 16, and 17 years. Two were high-school students and one was an elementary-school student. None had a reported family history of mental illness. Cases 1 and 2 had a previous history of psychiatric problems, whereas Case 3 was experiencing a first psychiatric admission. All three were admitted after episodes involving anger, threats, or aggression toward other people. Baseline signs included loud or curt speech, aggressive behavior, glaring, clenched fists, facial flushing, a rigid posture, and a sharp gaze; the pattern differed across cases.

Table 1. Clinical characteristics of the three cases

Characteristic	Case 1	Case 2	Case 3
Age/sex	16 years/female	17 years/male	10 years/male
Education	High school	High school	Elementary school
Previous psychiatric history	Yes	Yes	No reported previous admission
Family history of mental illness	None reported	None reported	None reported
Presenting context	Anger and aggression toward a peer; history of medication nonadherence was reported	Aggression toward family members and verbalized revenge after interpersonal frustration	Threatening and aggressive behavior toward a family member and a peer
Baseline observed items	7/14 (50.0%)	8/14 (57.1%)	5/14 (35.7%)

Ability to Perform the Exercise

On Day 1, all three participants were uncooperative, continued pacing or displaying anger, and did not complete the breathing procedure. On

Day 2, each participant engaged with the procedure but did not sustain the repeated breathing cycle for the full 5 minutes. From Days 3 through 7, all participants completed all procedural steps. Thus, full procedural participation required an engagement period of approximately 2-3 days.

Trajectory of Observed Signs and Symptoms

Baseline scores were 7/14 for Case 1, 8/14 for Case 2, and 5/14 for Case 3. The scores were unchanged on Day 1. A reduction was first observed on Day 2, when the scores decreased to 5, 6, and 3. Further reductions were recorded on Days 3 and 4. Case 3 reached a score of 0 on Day 4, whereas Cases 1 and 2 each retained two observed indicators on that day. From Day 5 through Day 7, no checklist indicators were recorded for any case.

Case Trajectories

Case 1

Case 1 was a 16-year-old female high-school student with a previous psychiatric history and a reported period of medication nonadherence. She was admitted after recurrent anger and aggression toward a peer. At baseline, she displayed 7 of 14 indicators. She did not complete the breathing procedure on Day 1, partially completed it on Day 2, and completed all steps from Day 3 onward. Her observed score decreased from 7 at baseline and Day 1 to 5 on Day 2, 3 on Day 3, 2 on Day 4, and 0 on Days 5-7.

Case 2

Case 2 was a 17-year-old male high-school student with a previous psychiatric history. The admission followed anger, threats, and aggression toward family members in the context of unmet expectations and interpersonal frustration. He had the highest baseline score, with 8 of 14 indicators. After refusing the procedure on Day 1 and partially completing it on Day 2, he completed all steps on Days 3-7. His score decreased from 8 at baseline and Day 1 to 6 on Day 2, 4 on Day 3, 2 on Day 4, and 0 on Days 5-7.

Case 3

Case 3 was a 10-year-old male elementary-school student without a reported previous psychiatric admission. He was admitted following threatening and aggressive behavior toward a family member and a peer. Five of 14 indicators were observed at baseline. He did not complete the exercise on Day 1, partially completed it on Day 2, and completed all steps from Day 3 onward. His score decreased from 5 at baseline and Day 1 to 3 on Day 2, 1 on Day 3, and 0 from Day 4 through Day 7.

Table 2. Daily number of observed signs and symptoms

Case	Baseline	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
Case 1	7 (50.0%)	7 (50.0%)	5 (35.7%)	3 (21.4%)	2 (14.3%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Case 2	8 (57.1%)	8 (57.1%)	6 (42.9%)	4 (28.6%)	2 (14.3%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Case 3	5 (35.7%)	5 (35.7%)	3 (21.4%)	1 (7.1%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)

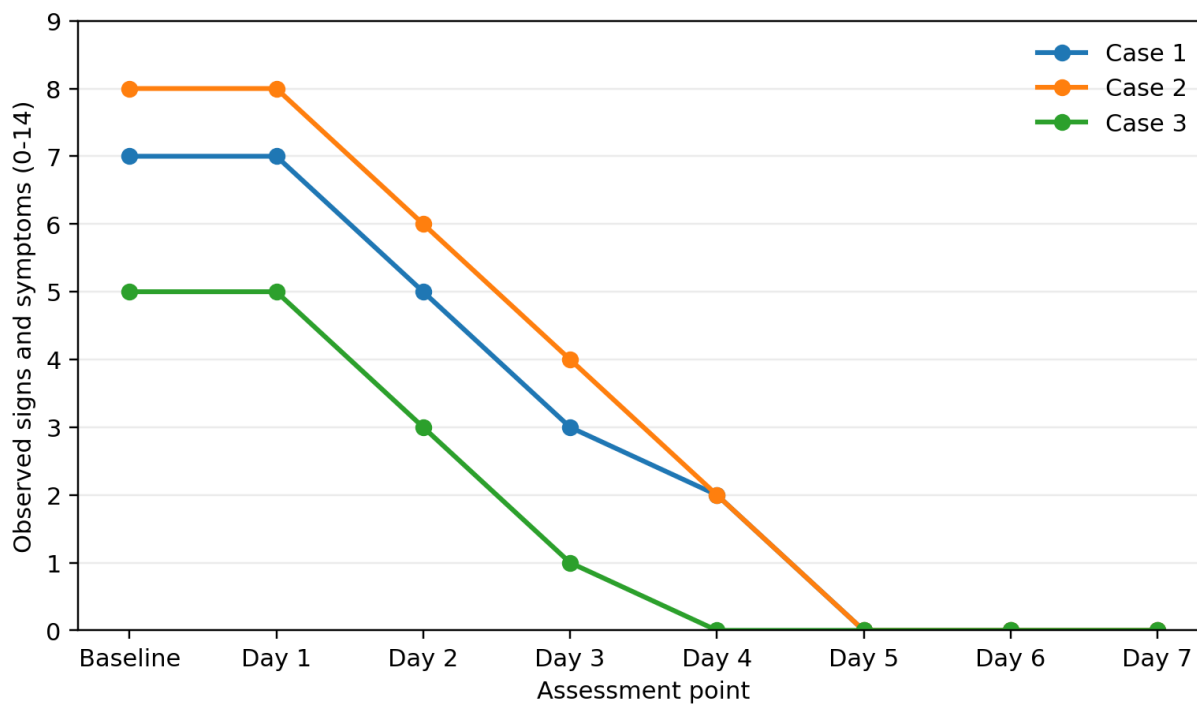


Figure 1. Individual trajectories of observed signs and symptoms from baseline through Day 7. The maximum possible score was 14.

DISCUSSION

This case series described the use of a brief, structured deep-breathing exercise in three pediatric psychiatric inpatients with a nursing diagnosis of risk for violent behavior. Three findings were prominent. First, all participants initially had difficulty engaging in the exercise while anger-related signs remained evident. Second, participation improved after repeated, scheduled contact: each participant completed most steps on Day 2 and all steps from Day 3 onward. Third, observed signs and symptoms decreased progressively over the same period, and no checklist indicators were recorded from Day 5 onward.

The delayed engagement observed on the first two days is clinically important. A patient who is pacing, angry, threatening, or minimally cooperative may be unable or unwilling to sustain attention for a relaxation exercise. The first nursing priority remains safety, reduction of stimulation, therapeutic communication, assessment of imminent risk, and delivery of prescribed treatment. Once the patient is sufficiently calm and able to follow instructions, the

breathing exercise can be introduced in short, clearly structured steps. In this series, repeated explanation and daily practice appeared to support procedural familiarity and cooperation.

The observed reduction is consistent with the intended function of controlled breathing as a relaxation strategy. Slower breathing directs attention toward a predictable bodily activity and may interrupt escalating reactions long enough for the patient to regain behavioral control. The procedure also promotes a comfortable posture and deliberate release of tension during exhalation. Indonesian nursing studies cited in the source scientific paper similarly reported lower anger or violent-behavior indicators after deep-breathing or related relaxation interventions (Roufuddin & Hoiriyah, 2020; Suryanti & Ariani, 2018; Wardiyah et al., 2022). The current cases extend those observations by providing daily trajectories in a child and adolescent inpatient setting.

The pattern should nevertheless be interpreted cautiously. The improvement cannot be attributed exclusively to deep breathing because all participants were hospitalized and likely received concurrent psychiatric assessment, nursing care, medication,

structured routines, and removal from precipitating environments. Natural stabilization during admission, therapeutic relationships, repeated observation, and changes in medication adherence may also have influenced the findings. The absence of a control group and the identical direction of change across three cases do not establish efficacy.

From a nursing-practice perspective, deep breathing may be useful as an adjunctive self-regulation skill. It requires no specialized equipment and can be repeated when early indicators such as muscle tension, clenched fists, facial flushing, loud speech, or a sharp gaze appear. Teaching should be individualized to developmental level. For younger patients, instructions may need to be shorter, concrete, and supported by modeling. For adolescents, the nurse can connect the exercise to personally recognized triggers and create a plan for using the technique before anger escalates.

A strength of this report is the repeated daily observation of each participant over seven days and the use of the same structured procedure and 14-item nursing checklist. The individual-level presentation avoids masking differences between cases. However, the report has major limitations. It included only three patients from one ward, all participants were minors, and no medical psychiatric diagnoses, medication regimens, severity scales, or concurrent interventions were reported in sufficient detail. The checklist was based on nursing diagnostic indicators but was not presented as a validated psychometric violence-risk instrument. The same clinical context may have influenced both delivery and assessment, creating observer bias. There was no blinded assessment, no comparator, no inferential analysis, and no follow-up after discharge. These limitations restrict generalizability and prevent causal conclusions.

Future studies should use a larger sample, clearly describe psychiatric diagnoses and concurrent treatments, use validated measures of aggression, agitation, and emotion regulation, and compare deep breathing with usual care or another structured intervention. Longer follow-up is needed to determine whether patients can use the technique independently and whether gains persist after discharge.

CONCLUSION

In this three-case series, pediatric psychiatric inpatients initially had difficulty performing a deep-breathing exercise, but all participants achieved full procedural completion by Day 3. Observed signs and symptoms associated with risk for violent behavior

decreased progressively, reaching zero by Day 5 in all three cases. The findings support the feasibility of teaching deep breathing as a low-resource adjunct within comprehensive psychiatric nursing care. They do not establish that the intervention alone caused the improvement, and controlled studies with validated outcomes are required. Nurses may introduce deep breathing after immediate safety needs have been addressed and the patient is able to attend to instructions. The exercise should be brief, demonstrated clearly, adapted to the patient's age and developmental level, and repeated consistently. Documentation should include the patient's ability to complete each step, the signs present before and after practice, concurrent medication or de-escalation measures, and any adverse response. Deep breathing should remain one component of a broader violence-prevention plan.

REFERENCES

- Indonesian National Nurses Association. (2019a). Standar diagnosis keperawatan Indonesia: Definisi dan indikator diagnostik (1st ed.). Dewan Pengurus Pusat Persatuan Perawat Nasional Indonesia.
- Indonesian National Nurses Association. (2019b). Standar intervensi keperawatan Indonesia: Definisi dan tindakan keperawatan. Dewan Pengurus Pusat Persatuan Perawat Nasional Indonesia.
- Indonesian National Nurses Association. (2019c). Standar luaran keperawatan Indonesia: Definisi dan kriteria hasil keperawatan (1st ed.). Dewan Pengurus Pusat Persatuan Perawat Nasional Indonesia.
- Kandar, K., & Iswanti, D. I. (2019). Faktor predisposisi dan presipitasi pasien resiko perilaku kekerasan. *Jurnal Ilmu Keperawatan Jiwa*, 2(3), 149-156. <https://doi.org/10.32584/jikj.v2i3.226>
- Ministry of Health of the Republic of Indonesia. (2018). Laporan nasional Riset Kesehatan Dasar 2018. Badan Penelitian dan Pengembangan Kesehatan.
- Ministry of Health of the Republic of Indonesia. (2022, August 24). Teknik relaksasi nafas dalam. https://yankes.kemkes.go.id/view_artikel/1054/teknik-relaksasi-nafas-dalam
- Nursalam. (2018). Konsep dan penerapan metodologi penelitian ilmu keperawatan: Pedoman skripsi, tesis, dan instrumen penelitian keperawatan. Salemba Medika.
- Roufuddin, R., & Hoiriyah, M. (2020). Perbedaan

- perilaku kekerasan sebelum dan sesudah terapi relaksasi nafas dalam pada pasien perilaku kekerasan. *Indonesian Journal of Professional Nursing*, 1(1), 76.
<https://doi.org/10.30587/ijpn.v1i1.2050>
- Subu', M. A., Holmes, D., & Elliot, J. (2016). Stigmatisasi dan perilaku kekerasan pada orang dengan gangguan jiwa (ODGJ) di Indonesia. *Jurnal Keperawatan Indonesia*, 19(3), 191-199.
<https://doi.org/10.7454/jki.v19i3.481>
- Suryanti, S., & Ariani, D. (2018). Pengaruh relaksasi progresif terhadap penurunan perilaku kekerasan pada pasien skizofrenia di Rumah Sakit Jiwa Daerah Klaten. *Interest: Jurnal Ilmu Kesehatan*, 7(1), 67-74.
<https://doi.org/10.37341/interest.v7i1.74>
- Videbeck, S. L. (2018). *Psychiatric-mental health nursing*. Wolters Kluwer.
- Wardiyah, A., Pribadi, T., & Tumanggor, C. S. M. Y. (2022). Terapi relaksasi napas dalam pada pasien dengan resiko perilaku kekerasan di RS Jiwa Bandar Lampung. *Jurnal Kreativitas Pengabdian Kepada Masyarakat*, 5(10), 3611-3626.
<https://doi.org/10.33024/jkpm.v5i10.7322>
- Yosep, I. (2020). *Buku ajar keperawatan jiwa dan advance mental health nursing*. Refika Aditama.
- Prabawati, C. Y., Priyantini, D., Reliani, Winata, S. G., & Rofiqi, E. (2023). Photovoice as a method to assess the perception and behavioral response to potential stigma toward mental illness. In *Proceedings of the 2nd International Conference of Health Innovation and Technology (ICHIT 2022)* (pp. 71–79). Atlantis Press.
https://doi.org/10.2991/978-94-6463-202-6_10
- Ayatulloh, D., Basri, A. H., Prayoga, D. H., & Priyantini, D. (2024). The effect of Benson relaxation on decreasing the degree of blood pressure in older adults with hypertension. *Critical Medical and Surgical Nursing Journal*, 13(2), 59–66.
<https://doi.org/10.20473/cmsnj.v13i2.55488>
- Priyantini, D., Saputro, S. H., Wijaya, S. A., & Ayatulloh, D. (2026). The effectiveness of spiritual-based relaxation technique on patients with post-traumatic stress disorder after treatment in an integrated cardiac intensive care unit. *Jurnal Keperawatan Muhammadiyah*, 11(1), 1–12.
<https://doi.org/10.30651/jkm.v11i1.32489>
- Priyantini, D., Ayatulloh, D., & Prayoga, D. H. (2024). Spiritual mindfulness effect on anxiety, respiratory rate and oxygen saturation in pneumonia patients. *Indonesian Journal of*