Review

Risk Management of Aggressive Behaviors in Mental Health Units for Adolescents: A Scoping Review

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Abstract

Introduction: Research on aggressive behaviors (ABs) in adolescent mental healthcare settings remains limited and underexplored. Such behaviors significantly affect staff, patients, and the therapeutic environment, necessitating nursing interventions for effective risk management to reduce their adverse impact on safety and quality of care. Objective: This review aimed to map the existing evidence on nursing interventions for the risk management of AB in adolescent mental health units. Methods: A search strategy was used to identify relevant studies in databases, respecting the Participant/Concept/Context (PCC) question formulation structure. This review covers studies describing nursing risk management strategies for adolescents (10 to 19 years old) with aggression problems and admitted to mental healthcare units. Results: From the 499 records initially identified, 9 articles met the inclusion criteria and were selected for review, in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for scoping reviews (PRISMA-ScR) and its associated flow diagram. The nursing interventions identified for managing AB in adolescent healthcare settings included risk assessment tools, targeted risk management strategies, evidence-based interventions but also various forms of coercive measures. Conclusions: This review integrates current knowledge on nursing interventions for the risk management of AB in adolescent mental health units. The focus of these interventions is prevention, by early intervention strategies but also intervention programs with improved outcomes for the patient, staff and therapeutic milieu, promoting less coercive interventions and increased care quality and safety.

Keywords: adolescent; aggression; mental health units; interventions; nursing; review

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1. Introduction

Aggressive behavior (AB) in healthcare settings is referred to in the literature as a global health problem, assuming epidemic proportions [1–3], presenting clinical challenges but also attracting increasing research interest [4].

Psychiatric care, particularly in hospital units, is one of the most prevalent contexts and one in which most AB incidents are reported [5], being more evident in psychiatric healthcare units for children and adolescents [6,7].

Mental health problems in adolescence account for a substantial proportion of the overall disease burden at this stage of life and represent a leading cause of functional impairment. Evidence suggests that up to 50% of all mental disorders emerge before the age of 14, and approximately 20% of adolescents experience a diagnosable mental disorder before reaching 18 years of age [2,3].

This stage of life (adolescence) is defined as transition period from childhood to adulthood, comprehended between 10 and 19 years of age [8], and associated with the development of profound physiological, psychological, social and emotional changes [9], essential for the establishment of strong foundations that support good health in adulthood.

Although adolescence is commonly perceived as a generally healthy stage of human development, its transitional nature is associated with increased vulnerability [10]. This heightened susceptibility contributes to a well-documented rise in morbidity, particularly mental health disorders, as well as elevated mortality risk [8].

Despite the wide diversity of psychopathological clinical presentations in adolescence [11], self- or hetero-aggressive behaviors can be associated with behavioral, psychotic, bipolar, and eating disorders, or it may reflect an exaggerated response to challenging environmental circumstances [12].

These behaviors are the primary cause for referral and treatment in psychiatric emergency departments [13] and one of the main reasons for psychiatric hospitalization [14]. They pose a risk to patient safety, other patients, and healthcare professionals [15,16] affecting negatively the therapeutic milieu, disrupting established routines, and reducing the unit's capacity to support recovery and rehabilitation [17]. In addition, AB contributes to increased financial burden through property damage and staff absenteeism [18,19].

The complexity of AB is evident in its very definition, as the scientific literature presents multiple conceptualizations [4,20]. These variations emerge not only from the multifaceted nature of human behavior but also from the influence of individual perceptions [21].

This review adopts a definition of AB that highlights the characteristic emotional development of adolescence, conceptualizing aggression as an adaptive response. Specifically, being defined as the use of physical or verbal force in reaction to perceived threats or experiences of frustration [13]. Verbal aggression is characterized by behaviors such as threats, shouting, the use of profanity, insults, and other forms of offensive language. Physical aggression, on the other hand, includes actions such as hitting, grabbing, punching, and swinging [22].

The etiology of AB is multifactorial, involving intrinsic (personal) and extrinsic risk factors (staff and ward climate) [22,23].

Intrinsic risk factors comprises prenatal or childhood aspects, such as maternal drug and alcohol as well as growth disorders or birth injuries [20]. Neuropsychological deficits, including impairments in self-regulation, inhibitory control, abstract reasoning, problem solving, sustained attention, and organization, have been identified as significant predictors of AB [20]. A negative family environment—characterized by low emotional support, unstable interpersonal relationships, domestic violence, parental abandonment, and experiences of physical or sexual abuse—has been described as an important trigger for

AB [20]. Exposure to hostile and unsupportive school environment but also peer group effect can promote the emergence of AB, especially when the adolescent experienced bullying victimization. The use of alcohol and drugs have a positive association with AB [24,25].

Extrinsic factors are related to healthcare units, namely the ward's social climate and staff attitudes [23]. Other risk factors such as prolonged hospitalization, same-gender inpatient composition, a younger patient population [26], lack of parental visits, or disruptions in the therapeutic environment, such as teasing another patient [27], are associated with an increased likelihood of AB in mental healthcare units.

Aggression episodes evoke fear among service users [28], adversely affecting the ward climate [29], and also induce clinical uncertainty in healthcare professionals [22].

Preventing AB should focus on enhancing the ward's social climate [30], optimizing the physical environment, providing staff training, maintaining an adequate number of experienced personnel [31], and identifying service users at risk of AB [32] through the use of AB risk assessment screening tools [33] and the implementation of appropriate management strategies [34].

These preventive approaches but also management strategies for AB are evidenced by international entities such as the National Institute of Care Excellence (NICE) [23], World Health Organization [35] and others.

The main premise of AB prevention and management protocols is focused on a proactive approach that should be initiated at the earliest possible point within the patient's behavioral deterioration [23]. This aims to decrease the risk, preserve patient autonomy and dignity while simultaneously ensuring a safe care environment for both healthcare professionals and patients [14,23], thereby positively influencing quality and safety of provided healthcare [36,37].

Despite key interventions such as medication, seclusion, and physical restraint being identified in the literature, they primarily address acute episodes rather than providing long-term management [15], creating a demand for evidence-based psychosocial interventions [21] and recovery-oriented [38] care that should be incorporated into comprehensive care plans throughout all stages of treatment.

On the other hand, the use of restrictive measures have been criticized for undermining self-determination and autonomy [39], as well as for lacking evidence to support their therapeutic effectiveness [40,41]. These measures also raise ethical considerations and debate should be considered [41,42].

Despite growing awareness, the prevention, management, and treatment of AB remain underexplored in nursing research [20], with limited studies investigating intervention programs or nursing strategies—highlighting an urgent need for effective approaches to address AB incidents [20,43].

Based on these premises, the decision to conduct a scoping review was aligned with its primary aim: to map the key concepts in a specific area of knowledge—namely, nursing interventions for managing the risk of AB in healthcare units for adolescents with mental illness. This review will provide an overview of the research conducted to date, highlight research gaps, and support the development of specific scientific studies, such as systematic reviews [44,45].

2. Materials and Methods

This scoping review endorses the methodological guidelines proposed by the Joanna Briggs Institute (JBI) for this type of reviews [45].

The review was guided by PRISMA-ScR [46] and the review protocol was registered on the Open Science Framework (OSF) platform (DOI: 10.17605/OSF.IO/SH2UC).

2.1. Research Question

The review question was articulated according to the PCC question formulation framework [45]:

How is the risk management of the AB described in the scientific literature by nurses in health units for adolescents with mental illness?

In addition to the main question, we also wanted to answer the secondary questions:

What assessment tools are used in the risk assessment of AB in health units for adolescents with mental illness?

What are the described results of the use of nursing interventions or risk assessment tools for the management of AB in health units for adolescents with mental illness?

For this scoping review, the defined eligibility criteria were as follows:

Participants—this review considered including studies involving adolescents, aged ten to nineteen years of age [8], with no requirement for a clinical diagnosis of mental illness.

Concept—this review considered all the studies involving nursing interventions or specific intervention programs for the risk management of AB. We also consider the use of risk assessment tools as an intervention in the risk management of AB.

Context—this review considered healthcare units for adolescents with mental illness, more specifically, public or private hospital and forensic units.

Settings such as emergency departments and outpatient, school, or home settings will be excluded.

Documents written in English, Portuguese, and Spanish were considered. The search was limited to published studies from 1 January 2000 till 4 July 2025.

No geographical restrictions were applied, as the aim was to explore how risk management of AB in adolescents is implemented and perceived across diverse cultural settings.

2.2. Types of Sources

This review considered primary and secondary studies employing quantitative, qualitative, and mixed-methods approaches. Additionally, dissertations, opinion articles, gray literature, and clinical guidelines or standards issued by health organizations were included.

2.3. Search Strategy

The search strategy was implemented in accordance with the three-phase approach outlined by the JBI [29], with the objective of identifying both published and unpublished studies.

A preliminary search was conducted in MEDLINE Complete, JBI Database of Systematic Reviews and Implementation Reports, Cochrane Central Register of Controlled Trials, PROSPERO and CINAHL Complete (Cumulative Index to Nursing and Allied Health Literature) databases, and only one literature review was identified [20].

This review differs from the review conducted by Hage et al. (2009) [20] by updating the topic through the mapping of existing evidence on nursing interventions but also identifying international best nursing practices in AB management, and also clinical assessment tools used for identification and risk management of such behaviors.

The following strategy was used: “nursing interventions” [All Fields] AND “aggressive behavior” OR “Violence and Aggression” OR “Disruptive Behavior” [All Fields] AND “Violence Prevention and Control” OR “Risk Management Methods” [All Fields]. Terms identified in the titles and abstracts of relevant articles, together with index terms used to describe them, were employed to develop a comprehensive search strategy.

To address our research question, we selected search descriptors based on Medical Subject Headings (MeSHs) and identified synonyms to ensure the retrieval of relevant studies.

In a second phase, a full search was performed in CINAHL Complete, MEDLINE Complete databases via an EBSCO interface, PUBMED, and SCOPUS. The search strategy, including all keywords and index terms, was adapted to the specifications of each database or information source. The reference lists of all included sources of evidence were screened for additional studies. Unpublished studies were sought through RCAAP—Open Access Scientific Repository of Portugal, via EBSCO Discovery Service, as well as Google Scholar and OpenGrey.

Subsequently, in the third phase, we searched the additional studies included in the references of the publications, as well as those included in the reviews which were considered to be of interest. In this stage, the participation of the librarians team of Universidade Católica Portuguesa was requested to refine and optimize the search results.

All identified references were organized and managed using Zotero® version 7.0.16 (64-bit). Following a preliminary test, titles and abstracts were screened using the web-based Rayyan® Intelligent Systematic Review software (Available online: https://www.rayyan.ai/, accessed on 4 July 2025) in order to remove duplicates and enable a blinded review by two independent reviewers, according to the established eligibility criteria. In cases of disagreement, a third reviewer was consulted. Studies deemed potentially relevant were retrieved in full and imported into the software, with duplicates removed.

The study selection process was reported according to the PRISMA extension [46] for scoping reviews [47].

The articles were analyzed in detail considering the eligibility criteria by three independent reviewers. The reasons for studies exclusion were recorded and reported. Any disagreements arising from the data extraction process by the reviewers were solved by discussion and consensus.

The full search strategy and the results are presented in Appendix A.1.

2.4. Data Extraction

The full texts identified through the conducted database searches were retrieved and independently reviewed by two reviewers, who confirmed their relevance and extracted their data using a specifically designed instrument for that purpose (Appendix A.2).

2.5. Data Analysis and Presentation

The results were organized and presented in tables aligned with the objectives of this review. A narrative synthesis accompanied the tables, highlighting their relevance to the research questions and the overall aims of the review.

3. Results

The database search identified a total of 499 records—494 from databases and 5 from other sources (gray literature). After removing 57 duplicates and applying the eligibility criteria, 9 records were included in the final selection. These consisted of seven primary studies and two clinical guidelines published between 2002 and 2022. Among the seven primary studies, one was a doctoral dissertation and two were master's theses.

Although additional documents related to nursing risk management interventions were found on websites in guidelines and on the OSF platform, they did not meet the eligibility criteria for inclusion in this review. Figure 1 presents a schematic representation of the article selection process, following the PRISMA flow diagram [46].

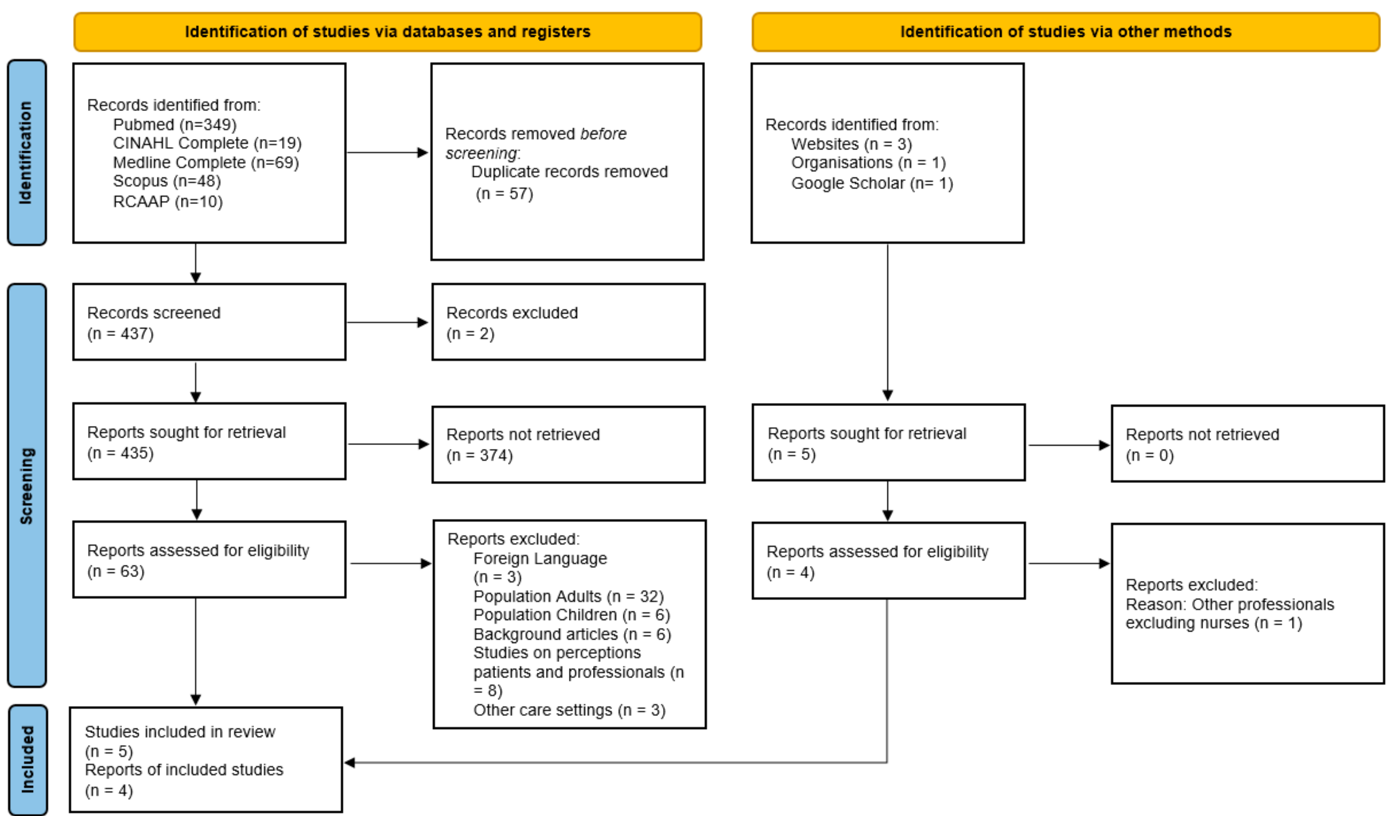

Figure 1. Study flow diagram according to the PRISMA extension.

Following the selection of studies, data extraction was conducted using a purpose-built instrument, after which the information was systematically analyzed and subsequently presented. This descriptive overview of the included studies is presented in Table 1.

Table 1. Descriptive Overview of the Included Studies.

Author	Masters, K.; Bellonci, C.
Title	Practice Parameter for the Prevention and Management of Aggressive Behavior in Child and Adolescent Psychiatric Institutions, With Special Reference to Seclusion and Restraint
Country and Year	2002, United States of America (USA)
Type of Study	Clinical Guideline
Participants/Sample	Child and adolescents/no sample available
Type of Unit	Child and Adolescent Psychiatric Institutions
Objectives	The main objective is to promote approaches that support patient autonomy and improve satisfaction with care, while minimizing the use of restrictive interventions.
Author	Hage, S.; Van Meijel, B.; Fluttert, F.; Berden, G.
Title	Aggressive behavior in adolescent psychiatric settings: what are risk factors, possible interventions and implications for nursing practice? A literature review
Country and Year	The Netherlands, 2009
Type of Study	Literature Review
Participants/Sample	Adolescents from 13 to 18 years old
Type of Unit	Adolescent Psychiatric Settings

Table 1. *Cont.*

Objectives	Identify risk factors for AB in adolescents and describe the intervention strategies currently available.
Author	Berg, J; Kaltiala-Heino, R. & Valimaki, M.
Title	Management of aggressive behavior among adolescents in forensic units: a four-country perspective
Country and Year	2011, Finland
Type of Study	Exploratory, Descriptive Study
Participants/Sample	58 professionals from four forensic units (Belgium n = 15, Finland n = 18, Netherlands n = 16, UK n = 9)
Type of Unit	Forensic Units
Objectives	Explore nursing practices employed to manage aggressive behavior in adolescents within forensic units across four European countries.
Author	Berg, J.
Title	Aggression and its management In adolescent forensic Psychiatric care
Country and Year	2012, Finland
Type of Study	Doctoral Dissertation
Participants/Sample	Adolescents
Type of Unit	Adolescent Forensic Psychiatric Care
Objectives	Explore and identify effective methods for managing aggression and use these insights to develop recommendations for aggression management within adolescent forensic settings.
Author	Baeza, I.; Correll, C.; Saito, E.; Amanbekova, D.;Ramani, M.; Kapoor, S.; Chekuri, R, De Hert, M.; Carbon, M.
Title	Frequency, Characteristics and Management of Adolescent Inpatient Aggression
Country and Year	2013, USA
Type of Study	Retrospective Review Study
Participants/Sample	450 patients consecutively admitted from 12 to 19 years old
Type of Unit	Acute Psychiatric Care Unit for Adolescents
Objectives	Describe the frequency and nature of aggressive incidents in an adolescent inpatient unit that led to the implementation of a targeted intervention and analyze how they were managed; Compare the profiles of patients who exhibited aggressive behavior with those who did not within the same sample.
Author	Ferreira, A.
Title	Predição do Risco de Agressividade na Criança e Adolescente em fase aguda da doença mental—Intervenções de Enfermagem
Country and Year	2014, Portugal
Type of Study	Master's Dissertation
Participants/Sample	Adolescents/sample 21, from 10 to 17 years old
Type of Unit	Child and Adolescent Acute Psychiatric Care Unit
Objectives	Development of skills on preventing and managing aggressive behavior through the risk assessment prediction in hospitalized children and adolescents with acute mental illness.

Table 1. *Cont.*

Author	Pereira, A.
Title	Gestão de comportamentos agressivos na criança e adolescente com doença mental—Intervenções do Enfermeiro Especialista em Saúde Mental
Country and Year	2015, Portugal
Type of Study	Master's Dissertation
Participants/Sample	Adolescents/Sample 17, from 11 to 17 years old
Type of Unit	Child and Adolescent Acute Psychiatric Care Unit
Objectives	The development of skills for preventing and managing aggressive behavior, focusing on enhancing self-regulation abilities in adolescents with mental illness.
Author	West, M.; Melvin, G.; McNamara, F.; Gordon, M.
Title	An evaluation of the use and efficacy of a sensory room within an adolescent psychiatric inpatient unit
Country and Year	Australia, 2017
Type of Study	Longitudinal, Pre- and Post-Test with Retrospective Review
Participants/Sample	112 adolescents (86 females, 76.8%) aged between 12 and 18 years
Type of Unit	Adolescent Psychiatric Inpatient Unit
Objectives	Evaluate the impact of sensory room use on distress levels, identify predictors of greater distress reduction, and assess its effect on seclusion rates.
Author	National Institute for Health and Care Excellence
Title	Violence and aggression: short-term management in mental health, health and community settings
Country and Year	2022, United Kingdom (UK)
Type of Study	Clinical Guideline
Participants/Sample	Adults, youth and children/no sample available
Type of Unit	Mental health Services in Hospital and Community Settings
Objectives	The guideline is intended to protect both staff and service users by preventing violent incidents and providing guidance for their safety management when they occur.

The descriptive overview in Table 1 presents different types of studies/documents, specifically seven primary studies [1,15,20,39,48–50] and two clinical guidelines [23,51,52].

Different psychiatric healthcare units were identified such as inpatient services for children and adolescents in the acute phase of mental illness [15,48–50], child and adolescent psychiatric units/institutions [20,52], and forensic units [1,39]. NICE clinical guideline is applicable to all mental healthcare settings [23].

In terms of geographical distribution, two of the studies were conducted in the USA [15,52], two in Finland [1,39], two in Portugal [48,49], one from Australia [50], one in the Netherlands [20] and one in the UK [23].

The studies were conducted between 2002 and 2024, from 2002 to 2011 [20,39,52] and from 2012 to 2024 [1,15,23,48–50].

The participants ages ranged from 10 to 19 years, with sample sizes varying between 17 adolescents [49] and 450 adolescents [15].

How is the risk management of the aggressive behaviors described in the scientific literature by nurses in mental health units for adolescents with mental illness?

Managing AB in adolescent mental health units presents a major challenge for nursing staff [15,39].

The selected studies, whether primary or secondary studies and clinical guidelines, mention risk management interventions for AB, carried out by nurses in mental health units for adolescents.

The aims of the selected studies reflect diverse methodological approaches, as well as different research samples and objectives. Although these differences occur, these studies focus on risk management of adolescent behaviors (ABs) within mental health units, specifically nursing interventions [1,15,20,39,49] and its combination with one risk assessment tool [48].

The two clinical guidelines focus on the prevention and management of adolescent behaviors (ABs), emphasizing intervention strategies aimed at addressing and modifying such behaviors, considering their severity or risk.

The interventions described in the selected studies for nursing management of AB in adolescent mental health units, along with their outcomes, are presented in Table 2.

Despite all the studies mentioning nursing interventions or intervention programs, we consider it useful to summarily describe our findings in two major sets of interventions: (1) good practices or key principles in nursing interventions on risk management of AB and (2) evidence-based interventions which differ by study methodology and objectives, to specifically evaluate their outcomes in the AB prevalence.

The first set of interventions refer to the management of AB and comprises risk assessment [23,48,49,52], treatment strategies/early interventions such as observation, and de-escalation measures [23,39,48,52], maintaining therapeutic milieu and a structured and clear daily program [1,39], crisis management (e.g., time out, set limits and use of restrictive measures), processing strategies (e.g., debriefing) [1,39,52], treatment planning (e.g., Anger Management and Social Skills Training, Program Strategies, Behavior Management of Groups) [52] and staff training [23,52].

Table 2. Interventions for risk management of AB in mental health units for adolescents with mental illness and its described results.

Title, Author and year: Practice Parameter for the Prevention and Management of Aggressive Behavior in Child and Adolescent Psychiatric Institutions, With Special Reference to Seclusion and Restraint (Masters. K.; Bellonci, C., 2002) [52]	
Name of the interventions:	**Content of Intervention**
Prevention of Aggressive Behavior	Intake and assessment, treatment planning, strategies to prevent AB, de-escalate behavior Staff training Crisis Management: de-escalation strategies Use of Seclusion or Restraint: chemical restraint, mechanical restraint, physical restraint, preventive aggression devices, seclusion, time-out, warning
Processing Strategies	Debriefing with the patient, allowing him to process and understand what has happened (incident). Administrative Oversight: oversight of the practice of seclusion and restraint in the institution.
Treatment Planning	Anger management and social skills training, program strategies, behavior management of groups
Staff Training	Care delivery patterns (de-escalation, use of restrictive measures, documentation)
Main Outcomes	Not Mentioned
Limitations	Not Mentioned
Title, Author and Year: Aggressive behavior in adolescent psychiatric settings: what are risk factors, possible interventions and implications for nursing practice? A literature review (Hage, S.; Van Meijel, B.; Fluttert, F.; Berden, G., 2009) [20]	
Names of the Interventions:	**Content of Intervention**
Individual-Focused Programs—Interpersonal Skills Training	Interventions target the enhancement of problem solving, anger regulation, coping, assertiveness, social, and academic skills. Pedagogical strategies employed include role modeling, role-playing, structured discussions of effective and ineffective problem-solving approaches, and the application of positive reinforcement techniques, such as verbal praise and token systems.

Table 2. *Cont.*

	Main Outcomes: Reported outcomes included a reduction in teacher-reported verbal aggression, decreased AB during an observed laboratory task, and lower institutional staff ratings of AB.
	Limitations: The skills training interventions did not reduce the more drastic forms of behavior, such as engaging in physical fights, destruction of property and severe verbal abuse. The reduction in AB was not sustained over time. The authors concluded that the studies failed to provide evidence for the effectiveness of this program in achieving long-term and meaningful reductions in AB in adolescents.
Name of the Interventions:	**Content of Intervention**
Social-Cognitive Group Therapy	The program focuses on social information processing, problem-solving abilities, social-cognitive skills and self-control skills.
	Main Outcomes: Both groups showed reduced AB and impulsivity, and increased social behavior, self-control, and social-cognitive skills at post-test and follow-up, with boys in the social information-processing program demonstrating greater improvements than the control groups.
	Limitations: Improved outcomes may be attributed to the use of intrinsic motivation and self-management skills, whereas social skills training primarily relied on extrinsic reinforcement via a token economy.
Name of the Interventions:	**Content of Intervention**
Massage Therapy	Massage and Relaxation Therapy.
	Main Outcomes: Following the intervention, adolescents who received massage exhibited significantly reduced AB, lower salivary cortisol and dopamine levels, greater cooperativeness, improved mood, and increased empathy compared with the relaxation therapy group.
	Limitations: These findings are promising; however, further research is needed to validate them on a larger scale and to assess their long-term effects.
Name of the Interventions:	**Content of Intervention**
Family Directed Intervention	Parent Management Training
	Main Outcomes: Significant reduction in aggressive and antisocial behavior in children and adolescents. Improved family functioning and decreased overall behavioral symptoms.
	Limitations: Effectiveness may depend on parental engagement and consistency. Parental stress can undermine effectiveness; additional components like stress-reduction sessions may be needed. May be less effective without addressing child-specific cognitive or emotional issues. Requires time commitment (16+ sessions, plus up to 25 for cognitive training).
Name of the Interventions:	**Content of Intervention**
Intervention Directed to Family	Functional Family Therapy
	Main Outcomes: Longstanding evidence (>25 years) of improvements in adolescent behavior and family functioning. Used in delinquent youth, prevention of aggression and reduction in violence and antisocial behavior.
	Limitations: Requires skilled therapists to work within complex family dynamics. Not suited for families unwilling to engage in therapy.
Name of the Interventions:	**Content of Intervention**
Intervention directed to family	Multi-System Therapy
	Main Outcomes: Reduced externalizing behaviors (e.g., aggression), decreased psychiatric symptoms in adolescents, fewer hospitalizations, improved school attendance, strengthened family cohesion.
	Limitations: Extremely intensive and resource-heavy: therapists have low caseloads; must be available 24/7; require extensive supervision; services must be delivered across multiple settings (home, school, neighborhood); may not be scalable for large populations due to cost and therapist demands; requires highly trained multidisciplinary teams.
Title, Author and Year: Management of aggressive behavior among adolescents in forensic units: a four-country perspective (Berg, J.; Kaltiala-Heino, R. & Valimaki, M., 2011) [39]	
Name of the Interventions:	**Content of Intervention**
Verbal De-escalation	Verbal interventions were employed both during behavioral escalation and after incidents, providing staff and adolescents an opportunity to reflect on AB episodes—an approach considered important for anticipating future aggressive situations. Verbal de-escalation was regarded as the preferred strategy for managing escalated adolescent AB.
Planning and Evaluation of Activities	Staff proactively planned daily routines to reduce escalation risk and, when incidents occurred, assessed AB levels and available resources to guide intervention strategies.

Table 2. *Cont.*

Use of Restrictive Interventions	Physical restraint, isolation, medication, mechanical restraint.
	Main Outcomes: The findings may be biased to those staff members who were motivated to express their perceptions on this ethically sensitive topic. Second, the sample comprised interviewees in several occupational positions, which may affect the trustworthiness of the results. However, descriptions of different professionals were similar. In addition, examining the direct-care staff answers, a clear and coherent description of treatment practices of AB could be observed.
	Limitations: the findings of the present study are representative in the four study units but may not be transferable to other units. In addition, performing research in a cross-cultural context requires being aware of and paying attention to the participants' possible difficulties in understanding and expressing themselves in a foreign language. Also, in different countries, similar tasks may be managed by staff with different educational backgrounds.
Title, Author and Year: Aggression and its management in adolescent forensic psychiatric care (Berg, J., 2012) [1]	
Name of the Interventions:	**Content of Intervention**
Prevention of AB	Anticipating AB is the preferable method to manage aggressive acts.
Structured and Clear Daily Program	These programs incorporate step-by-step protocols for managing challenging situations and individualized aggression management plans emphasizing early intervention.
De-escalation Seclusion and Restraint Debriefing with the Staff and Adolescent	Timely use of de-escalation techniques is recommended as the primary approach for managing AB [23]. Also, observation of the patients should be present. Post-incident discussions team and adolescent (debriefing).
	Main Outcomes: A well-structured aggression management program has proven effective in reducing violent incidents. The reliance on coercive measures during aggressive situations declined, and staff injuries became less common. When using best practices, it is essential that the team shares a common understanding of AB and is familiar with different approaches and assessment methods. International comparison of these practices can promote more equitable care among European countries.
	Limitations: not mentioned.
Title, Author and Year: Frequency, Characteristics and Management of Adolescent Inpatient Aggression (Baeza, I.; Correll, C.; Saito, E.; Amanbekova, D.; Ramani, M.; Kapoor, S.; Chekuri, R, De Hert, M.; Carbon, M., 2013) [15]	
Name of the Interventions:	**Content of Intervention**
Management of Adolescent Inpatient Aggression	Pharmacological interventions Sheet restraint/four-point restraint/wrist restraint/mittens Strict seclusion or quiet room
	Main Outcomes: Pharmacological interventions represent the primary response to AB, with 95.6% of patients experiencing at least one Aggressive Event Requiring Intervention (AERI) were documented in 28.4% of the adolescent inpatient population, with the majority involving physical aggression. These events were most frequently managed through pharmacological measures (69.3%) and, to a lesser extent, mechanical interventions (58.7%), resulting in an overall incidence of seclusion and restraint in 16.9% of patients. Despite the widespread use of pharmacological strategies, seclusion and restraint remain prevalent, although both lack a robust evidence base to support their efficacy or long-term outcomes. **Limitations:** The study did not account for purely behavioral interventions, which were routinely implemented on the ward as preventive strategies or to manage mild to moderate aggression. Several methodological limitations must be noted: (1) the retrospective design; (2) absence of longitudinal data on individual responses and intervention efficacy for AERIs; (3) lack of detailed information regarding the sequential administration of oral and intramuscular PRN/STAT medications in patients whose behavior escalated despite initial oral treatment; (4) insufficient data on non-pharmacological behavioral interventions beyond the use of quiet rooms; (5) unavailability of patient histories concerning prior exposure to violence; and (6) the absence of proportional estimates regarding the availability of inpatient services relative to the population needs within the hospital's catchment area, potentially influencing the clinical severity of admissions.
Title, Author and Year: Predição do Risco de Agressividade na Criança e Adolescente em fase aguda da doença mental—Intervenções de Enfermagem (Ferreira, A., 2014) [48]	
Name of the Interventions:	**Content of Intervention**
Management of AB (Risk Assessment and the Interventions According to the Risk Score)	**Nursing Interventions Using the Broset Violence Checklist (BVC) Risk Assessment** [53] **Low Score (0):** Observation and identification of warning signs; active listening; identify possible triggers with the client; de-escalation techniques; distraction and desensitization techniques (slowdown). Stress reduction techniques: relaxation types; differentiated behavioral reinforcement techniques. Behavioral-type techniques: today/tomorrow programming. **Moderate Risk (1 to 2)**: Intermittent observation; active listening; de-escalation techniques; client desensitization through physical, social, and recreational activities; desynchronization to another space with privacy (mattress room). Environmental containment (mattress room isolation). Stress reduction techniques: relaxation types; reinforcement of service rules (limit setting); pharmacological containment. **High Risk ($\geq$ 3):** Constant observation; active listening; de-escalation techniques; desynchronization to another space; environmental containment (mattress room); pharmacological containment; physical containment.

Table 2. *Cont.*

	Main Outcomes: The use of the BVC in a child and adolescent psychiatry unit showed psychometric properties like an internal consistency of 0.725, a sensitivity of 85.7% and a specificity of 99.7%. The use of the BVC as a predictive instrument allowed for standardization of the language used in incidents, but also for the adequacy of interventions in relation to the assessed risk, always respecting an individualized perspective of the care provided.
	Limitations: Low number of incidents occurred. Although 703 assessments were carried out, only six aggressive incidents were recorded, which statistically influences the psychometric values obtained. Being the only study in Portugal using the BVC in child and adolescents setting, it was not possible to compare results. Considering the limitations, the study should be replicated in other similar units.
Title, Author and Year: Gestão de comportamentos agressivos na criança e adolescente com doença mental—Intervenções do Enfermeiro Especialista em Saúde Mental (Pereira, A., 2015) [49]	
Name of the Interventions:	**Content of Intervention**
Management of Adolescent Inpatient Aggression	Preventing and management of AB, focusing on enhancing self-regulation abilities in adolescents with mental illness.
	Main Outcomes: The main results showed significant differences in self-regulation related to the reason for hospital admission. Young people with conduct disorders had lower scores on the Adolescent Self-Regulatory Inventory suggesting (ASRI) that they had less self-regulation skills.
	Limitations: The ASRI 2 was administered exclusively at the beginning of each adolescent's hospitalization, so there was no basis for comparison with the score obtained after the adolescents participated in the dynamic sessions. Despite the intention to cross-reference the ASRI 2 data with the BVC data used in the service, this was not possible for IT reasons.
Title, Author and Year: An evaluation of the use and efficacy of a sensory room within an adolescent psychiatric inpatient unit (West, M.; Melvin, G.; McNamara, F.; Gordon, M., 2017) [50]	
Name of the Interventions:	**Content of Intervention**
Sensory Room	Use of a sensory room as an intervention to reduce impatient AB.
	Main Outcomes: Sensory room use significantly reduced distress, particularly in adolescents with a history of aggression, with female adolescents and those with anxiety disorders appearing especially receptive. These findings can guide staff in tailoring interventions and inform strategies for managing emotional dysregulation and aggression. Further replication and comparative studies are needed to strengthen the evidence base for sensory rooms in acute adolescent psychiatric units.
	Limitations: The small sample size limited statistical power and variable inclusion, potentially omitting key factors influencing sensory room use or distress reduction. As data were drawn from retrospective case files not designed for research, some relevant variables may be missing. Additionally, confounding factors such as patient self-selection and medication use limit the validity of comparing seclusion rates before and after sensory room implementation. While this approach allows alignment with prior studies, the findings should be interpreted cautiously, underscoring the need for more rigorous, prospective research.
Title, Author and year: Violence and aggression: short-term management in mental health, health and community settings (National Institute for Health and Care Excellence, 2022) [23]	
Name of the interventions:	**Content of Intervention**
Management of Adolescent Inpatient Aggression	Staff training Assessment and initial management De-escalation Restrictive interventions: manual restraint, mechanical restraint, rapid tranquilization, seclusion
Main Outcomes:	Not Mentioned
Limitations:	Not Mentioned

The use of a sensory room [50], individual-focused programs—interpersonal skills training [54], social-cognitive group therapy [55], Massage therapy [56] and directed intervention to the family [20], were evidence-based interventions mentioned in the selected studies.

Assessment tools used in the risk assessment of aggressive behavior in health units for adolescents with mental illness

Assessment tools, specifically the BVC [53], is mentioned in two master's dissertations [48,49].

In one of the dissertations [48], the author conducted a retrospective study regarding the application of the BVC [53] as a screening tool and its psychometric properties in a child and adolescent psychiatric impatient unit, with the sample consisting of adolescents only.

The other dissertation [49] intended to analyze the obtained data from a specific intervention (self-regulation abilities) with the BVC, but it was not possible due to service constraints.

Other risk assessment screening tools for child and adolescent units were identified during the extraction and selection phases in four studies. These tools were the Brief Rating of Aggression by Children and Adolescents (BRACHA) [6], the Dynamic Appraisal of Situational Aggression (DASA) [57], the Dynamic Appraisal of Situational Aggression—Youth Version (DASA-YV) [17,58,59] and the Paediatric Behavioural Early Warning Scale (Pedi-BEWS) [60].

Alas, these studies were excluded from the selected studies due to the participants' age being younger than ten years or older than nineteen years.

Results from the use of nursing interventions or risk assessment tools for the management of aggressive behaviors in health units for adolescents with mental illness

Five studies [20,48–50] present favorable results of risk management interventions as abovementioned in Table 2. Findings from these studies indicate that both the use of the sensory room [50] and the self-regulation skills training program [49] demonstrated effectiveness in reducing AB incidents, while also highlighting the need for further replication.

Baeza and colleagues' study [15] presents a description of frequency, characteristics and different types of restrictive interventions in management of AB.

Both clinical guidelines describe existing interventions for preventing and managing AB in child and adolescent mental health settings, outlining strategies for behavioral escalation across low- to high-risk situations [23,52].

However, the Masters and Bellonci guideline [52] places particular emphasis on treatment planning strategies such as anger management, social skills training, and group behavior management, which are considered essential for fostering coping skills in adolescents and for reducing the likelihood of future AB incidents; however, do not provide outcome data.

The use of risk assessment tools as an nursing intervention was only identified in Ferreira's master's dissertation [48] and in the Masters and Bellonci guideline [52].

Ferreira's study, besides presenting BVC psychometric properties (Cronbach alpha of 0.725), mentions that the use of the BVC as a predictive tool enabled the nursing staff to standardize the language applied in incident reporting. Furthermore, it enhanced awareness of the warning signs identified by the BVC and supported the adequacy of interventions in relation to the assessed risk, while consistently respecting the individualized care provision.

The Overt Aggression Scale [61] is mentioned in the Masters & Bellonci clinical guideline, as a standardized aggression evaluation tool that have been developed for adults settings, but does not present results.

4. Discussion

This scoping review sought to examine and synthesize international evidence on nursing interventions for the risk management of AB in adolescent mental health units. Aggression in psychiatric settings has been consistently identified as a serious global concern, negatively affecting the safety of patients and staff, as well as the therapeutic environment [16,19].

Studies in countries such as the UK, Germany, and Finland have documented high rates of aggressive incidents, highlighting the widespread nature of the problem [62].

While the prevalence of aggression among adult psychiatric inpatients has been widely studied, research specifically addressing adolescents remains remarkably scarce. Only nine studies, conducted between 2002 and 2022, met the inclusion criteria [1,15,20,23,39,48–50,52]. These findings underscore the limited focus on a particularly vulnerable population, especially

given the developmental challenges of adolescence [9] and the heightened risk of behavioral dysregulation prevalent during this period [63].

The findings of this review, therefore, serve as a critical initial step in synthesizing the existing evidence on nursing interventions in this domain while simultaneously highlighting significant gaps in the current knowledge base.

The interventions identified in the literature can be broadly grouped into two categories: general principles of nursing practice in AB management, and specific evidence-informed psychosocial or family-based programs.

The first category encompasses strategies that are well recognized internationally as essential for safe and effective care. These include the use of structured risk assessment tools, observation and early recognition of behavioral deterioration, verbal de-escalation techniques, maintenance of a therapeutic milieu and structured daily routines, crisis management approaches such as time-out or limit-setting, post-incident debriefing with staff and patients, and comprehensive staff training.

These practices were consistently reported across the studies included in this review and closely align with international clinical guidelines, such as those developed by NICE [23], the American Academy of Child and Adolescent Psychiatry [52] and National Association of State Mental Health Program Directors [64]. They also resonate with best practice recommendations from countries like Australia [65] and Scandinavia [66], which emphasize proactive and person-centered approaches to care.

Together, they reflect a shift in contemporary practice away from reactive, coercive strategies toward preventive [62,67], recovery-oriented approaches that preserve the autonomy and dignity of young patients.

The second category of interventions, although less extensively studied, highlights the potential of psychosocial and family-centered approaches to reduce aggression and support emotional regulation. Evidence from the included studies suggested that social-cognitive group training [55], interpersonal skills programs [54], self-regulation training, massage therapy [56], sensory rooms [50], and family-based interventions such as functional family therapy may have beneficial effects. These interventions, however, were typically examined in isolated studies with small samples, limiting the ability to generalize findings.

Nonetheless, they resonate with the broader international literature on adolescent externalizing disorders [18,21], where family involvement and skills-based interventions have been shown to improve outcomes and reduce behavioral problems [20,68]. For example, a study in the Netherlands showed that a model using cognitive behavioral therapy (CBT) with a focus on social problem-solving skills to treat conduct problems, including aggression, in adolescents [69].

Their relative absence within the inpatient nursing literature highlights a critical gap that demands urgent attention. Integrating the findings of this review with the wider body of international research reveals both important convergences and divergences.

For example, the BVC, tested in a Portuguese adolescent psychiatric unit [48], demonstrated promising psychometric properties and allowed nurses to standardize risk communication and tailor interventions according to observed BVC warning signs. Tools such as the DASA-YV, BVC, and the Violence Risk Assessment Checklist for Youth ages 12–18 (V-Risk) have demonstrated predictive validity for adolescent violence within 24 h (AUC = 0.70–0.95) [66].

These findings are consistent with international studies in adult psychiatry on risk assessment tools, such as the BVC and DASA, which have been validated in multiple countries, including the UK, Australia, and Canada [70].

The use of structured risk assessment instruments thus appears to be a promising strategy across age groups; however, their adaptation and validation for adolescent populations

remain limited [32]. Notably, the lack of youth engagement in violence risk assessment has been consistently reported, with scoring typically conducted by staff—primarily nurses. Future research should prioritize actively involving adolescents in the scoring and evaluation of assessment and management processes. Evidence-based recommendations are needed to guide meaningful youth engagement in this context [66].

Similarly, the emphasis placed in several studies on maintaining the ward climate through structured routines, predictable schedules, and collaborative staff approaches mirrors the principles of the Early Recognition Method (ERM), a structured intervention in adult psychiatry designed to detect and manage early warning signs of AB [71–73]. Yet, despite its success in adult populations, including studies from Denmark [74] and the Netherlands [71] showing reduced rates of seclusion and restraint, the ERM has not been systematically adapted for adolescent care, representing another path for further research.

Geographical and methodological diversity was also evident in the included studies. Research conducted in the United States and Australia tended to emphasize pharmacological management and sensory-based interventions, while European studies were more likely to focus on structured behavioral approaches and risk assessment tools [1,20,39,48,49].

These differences may reflect variations in healthcare systems, professional training, cultural attitudes toward coercion, and resource availability [41,42]. For instance, in North American contexts the reliance on pharmacological interventions remains high, with retrospective studies reporting the widespread use of rapid tranquilization and mechanical restraint despite the lack of robust evidence for their long-term effectiveness [15].

In contrast, Scandinavian and Southern European studies highlighted structured nursing approaches, prevention through daily routines, and the use of risk assessment tools [1,48,49].

This heterogeneity points to the absence of standardized international protocols for managing AB in adolescents and underscores the need for cross-national collaboration to harmonize best practices.

One of the most striking gaps identified by this review is the underrepresentation of family-based interventions in inpatient nursing practice. While decades of international research on adolescent behavioral problems have confirmed the value of family involvement—through approaches such as multisystemic therapy, functional family therapy, or parent management training—such interventions were scarcely reflected in the literature included here.

This is particularly surprising given the central role families play in adolescent development, treatment adherence, and recovery. Studies from the UK and USA have demonstrated that involving parents in behavioral interventions can lead to significant reductions in externalizing behaviors [54,68,75].

Their limited integration into nursing-led interventions for inpatient AB management highlights a missed opportunity and suggests the need for new models of care that more systematically incorporate family systems.

The implications of these findings for nursing practice are significant. Nurses are uniquely positioned at the frontline of care, often being the first to detect early signs of agitation and escalation [38]. Their continuous presence and close interactions with adolescents enable them to implement observation, verbal de-escalation, and individualized interventions that not only prevent aggression but also model self-regulation and coping strategies. International guidelines consistently emphasize that staff attitudes, skills, and competencies are decisive in shaping outcomes, and the evidence reviewed here reinforces this perspective [4]. A study in Australia found that structured training in de-escalation techniques and improved teamwork significantly reduced the use of restraint and seclusion [65].

Where nurses are empowered with structured protocols, validated assessment tools, and adequate training, outcomes tend to improve, while reliance on coercive interventions diminishes. Conversely, where such resources are lacking, coercion continues to be used as a default, with associated ethical, psychological, and clinical risks for young people.

At the same time, the evidence base for nursing interventions in adolescent AB management remains weak. The small number of studies, the predominance of single-site designs, limited sample sizes, and variability in outcome measures restrict the ability to draw firm conclusions. Replication of promising approaches is essential, ideally through multicenter studies with standardized definitions and outcome measures. Cross-national research could also help to identify context-sensitive adaptations of interventions, taking into account cultural, legal, and systemic differences. For example, the Safewards framework, originating in the UK [76], has been successfully adapted and implemented in countries such as Australia [77] and Germany [78] to reduce conflict and containment in adult psychiatric wards [79].

In addition, the development and evaluation of structured implementation models, such as the Safewards [76] framework that has been successfully applied in adult psychiatric units, could support the creation of safer and more recovery-oriented environments for adolescents.

In conclusion, this review positions nursing interventions for adolescent AB management within the broader international literature, highlighting both encouraging practices and persistent gaps.

Preventive and recovery-oriented strategies are increasingly recognized as best practice, yet their implementation in adolescent settings remains inconsistent and under-evaluated. Evidence-informed psychosocial interventions and family-centered approaches, despite their promise, are not yet embedded in routine nursing practice. Strengthening the evidence base through rigorous, collaborative research and translating findings into context-sensitive nursing protocols will be essential steps toward improving the quality and safety of care.

Ultimately, prioritizing early detection, prevention, and patient-centered strategies can safeguard adolescents' rights, enhance therapeutic relationships, and promote resilience during this critical stage of development.

5. Limitations

This review presents certain limitations, acknowledged by its authors.

The number of studies meeting the inclusion criteria was relatively low ($n = 9$), underscoring the scarcity of research on this topic, particularly during this transitional stage of life [20]. This review sought to map nursing interventions related to the risk management of AB in adolescents aged 10 to 19 years, without distinguishing between specific developmental stages, in order to capture a broader and more comprehensive spectrum of interventions.

However, healthcare settings that provide care for adolescents—often within pediatric services—vary considerably across countries and may serve diverse patient populations. These variations are further influenced by differing definitions of adolescence, which in some contexts extend from ages 10 to 24 years. This issue was also reflected in the risk assessment tools for AB identified in other studies, many of which were excluded from this review because their samples included children or adolescents older than 19 years, representing a limitation.

Moreover, while this review aimed to encompass a range of mental health units for adolescents, the studies included primarily focused on inpatient and forensic care, with limited representation of other settings such as residential or correctional facilities. These

limitations suggest that future reviews could benefit from adopting broader definitions of adolescence—incorporating wider age ranges and diverse care settings—while still accounting for the distinct developmental and environmental complexities characteristic of this life stage.

6. Implications for Practice/Research

Several implications have emerged, namely the following:

- Early recognition and prevention: nurses are in a privileged position to detect early signs of aggression and apply preventive measures such as observation, verbal de-escalation, and structured routines.
- Use of risk assessment tools: these tools can help standardize communication, guide decision-making, and support individualized care. Wider validation in adolescent populations is still needed.
- Reducing coercion: despite their frequent use, restrictive and pharmacological interventions lack strong evidence of long-term benefit. Nursing practice should prioritize preventive and therapeutic approaches, using coercive strategies only as a last resort.
- Staff training: ongoing education in de-escalation, crisis management, and recovery-oriented care is essential to ensure safety and quality of care.
- Family involvement: family-centered approaches remain underutilized, even though evidence shows they can reduce AB and improve recovery outcomes.
- Research priorities: larger, multicenter studies are needed to evaluate nursing interventions, adapt adult-focused frameworks (e.g., Safewards, ERM) for adolescents, and build stronger international standards of practice.

7. Conclusions and Prospects

This scoping review mapped the current evidence on nursing interventions for managing AB in adolescent mental health units. The findings highlight that preventive and de-escalation strategies—such as observation, structured routines, therapeutic communication, and staff training—are central to effective practice. While coercive and pharmacological measures remain widely used, their limited therapeutic value underscores the need to prioritize non-coercive, recovery-oriented approaches that preserve dignity and safety.

Risk assessment tools showed potential to support clinical decision-making and standardize communication, though further validation in adolescent populations is required. Psychosocial, sensory-based, and family-centered interventions also demonstrated promise, but their integration into everyday nursing practice remains inconsistent.

Overall, the review reinforces the pivotal role of nurses in early recognition and prevention of AB, shaping the therapeutic milieu, and safeguarding adolescents' well-being. Future research should focus on adapting and evaluating evidence-based frameworks for adolescent care, expanding the use of structured assessment tools, and embedding family participation into clinical practice to strengthen both safety and recovery outcomes.

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Abbreviations

The following abbreviations are used in this manuscript:

AB	Aggressive Behavior
BRACHA	Brief Rating of Aggression by Children and Adolescents
BVC	Broset Violence Checklist
DASA	Dynamic Appraisal of Situational Aggression
DASA-YV	Dynamic Appraisal of Situational Aggression—Youth Version
ERM	Early Recognition Method
JBI	Joanna Brigs Institute
NICE	National Institute for Health and Care Excellence
OSF	Open Science Framework
Pedi-BEWS	Paediatric Behavioural Early Warning Scale
PRISMA	Preferred Reporting Items for Systematic Reviews and Meta-Analysis

Appendix A.

Appendix A.1. Full Strategy Search

This appendix presents the full strategy search developed for this review.

Table A1. CINAHL Complete (EBSCO Host) (4 de julho de 2025).

Search	Expression	Results
S1	MH (“crisis intervention” OR “nursing interventions”) OR XB (“crisis intervention*” OR “nursing intervention*” OR nurs*)	629,738
S2	MH “risk management” OR XB (“risk management” OR “prevention and control” OR “violence prevention” OR “violence control” OR “crisis intervention method*” OR “risk management strateg*” OR “aggression management” OR “therapeutic strateg*” OR “prevention and management”)	47,970
S3	MH (“acting out” OR “disruptive behavior” OR “behavioral symptoms”) OR XB (“acting out” OR “disruptive behavio#r” OR “behavioral symptom*” OR “aggressive behavio#r” OR violen* OR aggress* OR hostil*)	17,643
S4	MH (“mental disorders” OR “mental health services” OR “psychiatric units” OR “psychiatric care”) OR XB (“mental disorder*” OR “mental health service*” OR “psychiatric unit*” OR “psychiatric care” OR “psychiatric inpatient*” OR “mental illness*” OR “mental disease*” OR “acute psychiatry” OR “adolescent unit*” OR “adolescent care” OR “inpatient care”)	147,170
S5 (S1 AND S2 AND S3 AND S4)	(MH (“crisis intervention” OR “nursing interventions”) OR XB (“crisis intervention*” OR “nursing intervention*” OR nurs*)) AND (MH “risk management” OR XB (“risk management” OR “prevention and control” OR “violence prevention” OR “violence control” OR “crisis intervention method*” OR “risk management strateg*” OR “aggression management” OR “therapeutic strateg*” OR “prevention and management”)) AND (MH (“acting out” OR “disruptive behavior” OR “behavioral symptoms”) OR XB (“acting out” OR “disruptive behavio#r” OR “behavioral symptom*” OR “aggressive behavio#r” OR violen* OR aggress* OR hostil*)) AND (MH (“mental disorders” OR “mental health services” OR “psychiatric units” OR “psychiatric care”) OR XB (“mental disorder*” OR “mental health service*” OR “psychiatric unit*” OR “psychiatric care” OR “psychiatric inpatient*” OR “mental illness*” OR “mental disease*” OR “acute psychiatry” OR “adolescent unit*” OR “adolescent care” OR “inpatient care”))	19

Table A2. Medline Complete (EBSCO Host) (4 de julho de 2025).

Search	Expression	Results
S1	MH (“crisis intervention”) OR XB (“crisis intervention*” OR “nursing intervention*” OR nurs*)	578,085
S2	MH “risk management” OR XB (“risk management” OR “prevention and control” OR “violence prevention” OR “violence control” OR “crisis intervention method*” OR “risk management strateg*” OR “aggression management” OR “therapeutic strateg*” OR “prevention and management”)	226,204
S3	MH (hostility OR “behavioral symptoms” OR “acting out” OR “problem behavior”) OR XB (“acting out” OR “disruptive behavio#r” OR “behavioral symptom*” OR “aggressive behavio#r” OR violen* OR aggress* OR hostil*)	42,428
S4	MH (“mental disorders” OR “mental health services”) OR XB (“mental disorder*” OR “mental health service*” OR “psychiatric unit*” OR “psychiatric care” OR “psychiatric inpatient*” OR “mental illness*” OR “mental disease*” OR “acute psychiatry” OR “adolescent unit*” OR “adolescent care” OR “inpatient care”)	303,293
S5 (S1 AND S2 AND S3 AND S4)	(MH (“crisis intervention”) OR XB (“crisis intervention*” OR “nursing intervention*” OR nurs*)) AND (MH “risk management” OR XB (“risk management” OR “prevention and control” OR “violence prevention” OR “violence control” OR “crisis intervention method*” OR “risk management strateg*” OR “aggression management” OR “therapeutic strateg*” OR “prevention and management”)) AND (MH (hostility OR “behavioral symptoms” OR “acting out” OR “problem behavior”) OR XB (“acting out” OR “disruptive behavio#r” OR “behavioral symptom*” OR “aggressive behavio#r” OR violen* OR aggress* OR hostil*)) AND (MH (“mental disorders” OR “mental health services”) OR XB (“mental disorder*” OR “mental health service*” OR “psychiatric unit*” OR “psychiatric care” OR “psychiatric inpatient*” OR “mental illness*” OR “mental disease*” OR “acute psychiatry” OR “adolescent unit*” OR “adolescent care” OR “inpatient care”))	68

Table A3. PubMed/Medline (4 de julho de 2025).

Search	Expression	Results
S1	“crisis intervention”[MeSH Terms] OR “crisis intervention*”[Title/Abstract] OR “nurs*”[Title/Abstract] OR “nursing intervention*”[Title/Abstract]	592,763
S2	“risk management”[MeSH Terms] OR “risk management”[Title/Abstract] OR “prevention and control”[Title/Abstract] OR “violence prevention”[Title/Abstract] OR “violence control”[Title/Abstract] OR “crisis intervention method*”[Title/Abstract] OR “risk management strateg*”[Title/Abstract] OR “aggression management”[Title/Abstract] OR “therapeutic strateg*”[Title/Abstract] OR “prevention and management”[Title/Abstract]	597,588

Table A3. *Cont.*

Search	Expression	Results
S3	"hostility"[MeSH Terms] OR "behavioral symptoms"[MeSH Terms] OR "acting out"[MeSH Terms] OR "problem behavior"[MeSH Terms] OR "acting out"[Title/Abstract] OR "disruptive behavio#r"[Title/Abstract] OR "behavioral symptom*"[Title/Abstract] OR "aggressive behavio#r"[Title/Abstract] OR violen*[Title/Abstract] OR aggress*[Title/Abstract] OR hostil*[Title/Abstract]	513,929
S4	"mental disorders"[MeSH Terms] OR "mental health services"[MeSH Terms] OR "mental disorder*"[Title/Abstract] OR "mental health service*"[Title/Abstract] OR "psychiatric unit*"[Title/Abstract] OR "psychiatric care"[Title/Abstract] OR "psychiatric inpatient*"[Title/Abstract] OR "mental illness*"[Title/Abstract] OR "mental disease*"[Title/Abstract] OR "acute psychiatry"[Title/Abstract] OR "adolescent unit*"[Title/Abstract] OR "adolescent care"[Title/Abstract] OR "inpatient care"[Title/Abstract]	1,675,053
S5 (S1 AND S2 AND S3 AND S4)	("crisis intervention"[MeSH Terms] OR "crisis intervention*"[Title/Abstract] OR "nurs*"[Title/Abstract] OR "nursing intervention*"[Title/Abstract]) AND ("risk management"[MeSH Terms] OR "risk management"[Title/Abstract] OR "prevention and control"[Title/Abstract] OR "violence prevention"[Title/Abstract] OR "violence control"[Title/Abstract] OR "crisis intervention method*"[Title/Abstract] OR "risk management strateg*"[Title/Abstract] OR "aggression management"[Title/Abstract] OR "therapeutic strateg*"[Title/Abstract] OR "prevention and management"[Title/Abstract]) AND ("hostility"[MeSH Terms] OR "behavioral symptoms"[MeSH Terms] OR "acting out"[MeSH Terms] OR "problem behavior"[MeSH Terms] OR "acting out"[Title/Abstract] OR "disruptive behavio#r"[Title/Abstract] OR "behavioral symptom*"[Title/Abstract] OR "aggressive behavio#r"[Title/Abstract] OR violen*[Title/Abstract] OR aggress*[Title/Abstract] OR hostil*[Title/Abstract]) AND ("mental disorders"[MeSH Terms] OR "mental health services"[MeSH Terms] OR "mental disorder*"[Title/Abstract] OR "mental health service*"[Title/Abstract] OR "psychiatric unit*"[Title/Abstract] OR "psychiatric care"[Title/Abstract] OR "psychiatric inpatient*"[Title/Abstract] OR "mental illness*"[Title/Abstract] OR "mental disease*"[Title/Abstract] OR "acute psychiatry"[Title/Abstract] OR "adolescent unit*"[Title/Abstract] OR "adolescent care"[Title/Abstract] OR "inpatient care"[Title/Abstract])	349

Table A4. Scopus (4 de julho de 2025).

Search	Expression	Results
S1	(TITLE-ABS-KEY (* and control" OR "Violence Prevention and Control" OR "Crisis Intervention Method*" OR "Risk management strateg*" OR "Aggression management" OR "Therapeutic strateg*" OR "Prevention and management") AND TITLE-ABS-KEY (hostility OR "Behavioral Symptom*" OR "Acting Out" OR "Problem Behavio?r" OR "aggressive behavio?r" OR "violence and Aggression" OR "Disruptive Behavio?r") AND TITLE-ABS-KEY (nurs* OR "nursing intervention*" OR "crisis Intervention*") AND TITLE-ABS-KEY ("mental disorder*" OR "Mental Health Service*" OR "Psychiatric inpatient*" OR "mental illness*" OR "mental disease*" OR "acute Psychiatry" OR "Adolescent unit*" OR "adolescent care" OR "inpatient care" OR "Psychiatric Unit*" OR "Psychiatric Care"))	48

Table A5. RCAAP (EBSCO Discovery Service) (4 de julho de 2025).

Search	Expression	Results
S1	TI ("crisis intervention*" OR "nursing intervention*" OR nurs* OR enferm* OR intervenç*) OR AB ("crisis intervention*" OR "nursing intervention*" OR nurs* OR enferm* OR intervenç*) OR SU ("crisis intervention*" OR "nursing intervention*" OR nurs* OR enferm* OR intervenç*)	6,142,414
S2	TI ("risk management" OR "prevention and control" OR "violence prevention" OR "violence control" OR "crisis intervention method*" OR "risk management strateg*" OR "aggression management" OR "therapeutic strateg*" OR "prevention and management" OR "gestão de risco" OR prevenção OR agress*) OR AB ("risk management" OR "prevention and control" OR "violence prevention" OR "violence control" OR "crisis intervention method*" OR "risk management strateg*" OR "aggression management" OR "therapeutic strateg*" OR "prevention and management" OR "gestão de risco" OR prevenção OR agress*) OR SU ("risk management" OR "prevention and control" OR "violence prevention" OR "violence control" OR "crisis intervention method*" OR "risk management strateg*" OR "aggression management" OR "therapeutic strateg*" OR "prevention and management" OR "gestão de risco" OR prevenção OR agress*)	4,452,721
S3	TI (hostility OR "behavioral symptoms" OR "acting out" OR "problem behavior" OR hostilidade OR violen* OR agress*) OR AB (hostility OR "behavioral symptoms" OR "acting out" OR "problem behavior" OR hostilidade OR violen* OR agress*) OR SU (hostility OR "behavioral symptoms" OR "acting out" OR "problem behavior" OR hostilidade OR violen* OR agress*)	448,940
S4	TI ("mental disorder*" OR "mental health service*" OR "psychiatric unit*" OR "psychiatric care" OR "psychiatric inpatient*" OR "mental illness*" OR "mental disease*" OR "acute psychiatry" OR "adolescent unit*" OR "adolescent care" OR "inpatient care" OR "saúde mental" OR "doenç* menta*" OR "disturbio* menta" OR "serviço de agudos" OR psiquiatr*) OR AB ("mental disorder*" OR "mental health service*" OR "psychiatric unit*" OR "psychiatric care" OR "psychiatric inpatient*" OR "mental illness*" OR "mental disease*" OR "acute psychiatry" OR "adolescent unit*" OR "adolescent care" OR "inpatient care" OR "saúde mental" OR "doenç* menta*" OR "disturbio* menta" OR "serviço de agudos" OR psiquiatr*) OR SU ("mental disorder*" OR "mental health service*" OR "psychiatric unit*" OR "psychiatric care" OR "psychiatric inpatient*" OR "mental illness*" OR "mental disease*" OR "acute psychiatry" OR "adolescent unit*" OR "adolescent care" OR "inpatient care" OR "saúde mental" OR "doenç* menta*" OR "disturbio* menta" OR "serviço de agudos" OR psiquiatr*)	1,832,696
S5 (S1 AND S2 AND S3 AND S4)	(TI ("crisis intervention*" OR "nursing intervention*" OR nurs* OR enferm* OR intervenç*) OR AB ("crisis intervention*" OR "nursing intervention*" OR nurs* OR enferm* OR intervenç*) OR SU ("crisis intervention*" OR "nursing intervention*" OR nurs* OR enferm* OR intervenç*)) AND (TI ("risk management" OR "prevention and control" OR "violence prevention" OR "violence control" OR "crisis intervention method*" OR "risk management strateg*" OR "aggression management" OR "therapeutic strateg*" OR "prevention and management" OR "gestão de risco" OR prevenção OR agress*) OR AB ("risk management" OR "prevention and control" OR "violence prevention" OR "violence control" OR "crisis intervention method*" OR "risk management strateg*" OR "aggression management" OR "therapeutic strateg*" OR "prevention and management" OR "gestão de risco" OR prevenção OR agress*) OR SU ("risk management" OR "prevention and control" OR "violence prevention" OR "violence control" OR "crisis intervention method*" OR "risk management strateg*" OR "aggression management" OR "therapeutic strateg*" OR "prevention and management" OR "gestão de risco" OR prevenção OR agress*)) AND (TI (hostility OR "behavioral symptoms" OR "acting out" OR "problem behavior" OR hostilidade OR violen* OR agress*) OR AB (hostility OR "behavioral symptoms" OR "acting out" OR "problem behavior" OR hostilidade OR violen* OR agress*) OR SU (hostility OR "behavioral symptoms" OR "acting out" OR "problem behavior" OR hostilidade OR violen* OR agress*)) AND (TI ("mental disorder*" OR "mental health service*" OR "psychiatric unit*" OR "psychiatric care" OR "psychiatric inpatient*" OR "mental illness*" OR "mental disease*" OR "acute psychiatry" OR "adolescent unit*" OR "adolescent care" OR "inpatient care" OR "saúde mental" OR "doenç* menta*" OR "disturbio* menta" OR "serviço de agudos" OR psiquiatr*) OR AB ("mental disorder*" OR "mental health service*" OR "psychiatric unit*" OR "psychiatric care" OR "psychiatric inpatient*" OR "mental illness*" OR "mental disease*" OR "acute psychiatry" OR "adolescent unit*" OR "adolescent care" OR "inpatient care" OR "saúde mental" OR "doenç* menta*" OR "disturbio* menta" OR "serviço de agudos" OR psiquiatr*) OR SU ("mental disorder*" OR "mental health service*" OR "psychiatric unit*" OR "psychiatric care" OR "psychiatric inpatient*" OR "mental illness*" OR "mental disease*" OR "acute psychiatry" OR "adolescent unit*" OR "adolescent care" OR "inpatient care" OR "saúde mental" OR "doenç* menta*" OR "disturbio* menta" OR "serviço de agudos" OR psiquiatr*))	717
S6	Filters: Content provider: RCAAP Source types: Dissertations/Theses	10

Appendix A.2. Instrument for Data Recovering

Table A6. Data extraction tool.

Responsible for Extraction:	________________________
Title:	Risk management of aggressive behaviors in mental health units for adolescents: a scoping review protocol
Research Question:	How is the risk management of the aggressive behaviors by nurses in health units for adolescents described in the scientific literature?
Bibliographical data:	
Title	
Author(s):	
Year of Publication:	
Country:	
Methodological Data:	
Type of study:	
Objectives:	
Population and sample:	
Type of health unit:	
Interventions:	
Name of the intervention	
Content of the intervention:	
Main Outcomes:	
Limitations:	
Concepts associated with the review question:	
Risk Assessment instruments:	
Bibliographical references:	

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