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Pedersen, Martin Locht; Gildberg, Frederik; Laulund, Ronni; Jørgensen, Kim; Tingleff, Ellen

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REVIEW ARTICLE

Nurses' clinical decision-making in the use of rapid tranquillization in adult mental health inpatient settings: An integrative review

Martin Locht Pedersen[1,2,3] | **Frederik Alkier Gildberg**[2,3] | **Ronni Laulund**[4] | **Kim Jørgensen**[1,5] | **Ellen Boldrup Tingleff**[2,3]

[1]Department of Public Health, Aarhus University, Aarhus, Denmark

[2]Department of Regional Health Research, Forensic Mental Health Research Unit Middelfart, University of Southern Denmark, Middelfart, Denmark

[3]Psychiatric Department Middelfart, Mental Health Services in the Region of Southern Denmark, Middelfart, Denmark

[4]Aarhus Municipality, Aarhus, Denmark

[5]Department of People and Technology, Roskilde University, Roskilde, Denmark

Correspondence
Martin Locht Pedersen, Forensic Mental Health Research Unit Middelfart, University of Southern Denmark, Østre Hougvej 70, Middelfart DK-5500, Denmark.
Email: martin.locht.pedersen@rsyd.dk

Abstract

Rapid tranquillization is a restrictive practice that remains widely used in mental health inpatient settings worldwide. Nurses are the professionals most likely to administer rapid tranquillization in mental health settings. To improve mental health practices, an enhanced understanding of their clinical decision-making when using rapid tranquillization is, therefore, important. The aim was to synthesize and analyse the research literature on nurses' clinical decision-making in the use of rapid tranquillization in adult mental health inpatient settings. An integrative review was conducted using the methodological framework described by Whittemore and Knafl. A systematic search was conducted independently by two authors in APA PsycINFO, CINAHL Complete, Embase, PubMed and Scopus. Additional searches for grey literature were conducted in Google, OpenGrey and selected websites, and in the reference lists of included studies. Papers were critically appraised using the Mixed Methods Appraisal Tool, and the analysis was guided by manifest content analysis. Eleven studies were included in this review, of which nine were qualitative and two were quantitative. Based on the analysis, four categories were generated: (I) becoming aware of situational changes and considering alternatives, (II) negotiating voluntary medication, (III) administering rapid tranquillization and (IV) being on the other side. Evidence suggests that nurses' clinical decision-making in the use of rapid tranquillization involved a complex timeline with various impact points and embedded factors that continuously influenced and/or were associated with nurses' clinical decision-making. However, the topic has received scant scholarly attention, and further research may help to characterize the complexities involved and improve mental health practice.

KEYWORDS
chemical restraint, clinical judgement, forced medication, nursing, psychiatry

INTRODUCTION

Reducing the use of restrictive practices, such as restraint, seclusion and rapid tranquillization in mental health settings has been an international priority (Sugiura et al., 2020) for several reasons. Their use may infringe human rights (National Institute for Health and Care Excellence, 2015), and additional negative consequences have been reported, both for those subjected to restrictive practices and the staff involved (Beames & Onwumere, 2021). Consequently, attempts have been made to reduce such strategies, mainly focusing on seclusion/restraint (Baker et al., 2021). Nevertheless, most mental health laws accept staff's use of restrictive practices as a last resort in cases of violence and aggression (Maguire et al., 2021; Völlm & Nedopil, 2016) in an

attempt to prevent people from harming themselves or others (Pedersen, 2020; Power et al., 2020). While restrictive practices have been investigated and debated for decades, rapid tranquillization seems to have eluded attention and has been studied with varying clarity (Baker et al., 2021; Hu et al., 2019; Muir-Cochrane, Oster, & Grimmer, 2020; Pedersen et al., 2022). Rapid tranquillization is the coercive administration of acute calming medication, typically by intramuscular injection (National Institute for Health and Care Excellence, 2015; Völlm & Nedopil, 2016). In mental health inpatient settings, it is most often administered by nurses (Muir-Cochrane, Oster, & Grimmer, 2020; Nash et al., 2018), yet relatively little is known about nurses' clinical decision-making concerning such use. Such knowledge is needed to improve mental health and to reduce the use of rapid tranquillization. Several studies have explored nurses' clinical decision-making within restrictive mental health practices (Goethals et al., 2012; Laiho et al., 2013; Riahi et al., 2016), but these studies were limited and focused only on seclusion/restraint. Therefore, the present paper presents an overview and analysis of research literature that provides insights into decision-making in the use of rapid tranquillization in adult mental health inpatient settings from a nursing professional perspective.

BACKGROUND

Rapid tranquillization has been reported as the most common restrictive practice used in mental health inpatient settings in many countries (Raboch et al., 2010). Despite this, scant evidence has been produced regarding the safety and efficacy of particular medicines (Muir-Cochrane, Oster, Gerace, et al., 2020; Muir-Cochrane, Oster, & Grimmer, 2020) whose use may vary widely between settings (Hu et al., 2019; Patel et al., 2018; Paton et al., 2019; Raboch et al., 2010). In a UK-based study, benzodiazepine was reported to be used more often than antipsychotics (Paton et al., 2019), while the opposite was reported in a study from Australia (Hu et al., 2019). Furthermore, rapid tranquillization may cause psychological and physical harm to those who are tranquilized and the staff, including medical adverse events such as extrapyramidal events, blood pressure change and airway compromise (Danda, 2020; Gustafsson & Salzmann-Erikson, 2016; Haglund et al., 2003; Muir-Cochrane, Oster, Gerace, et al., 2020). Additionally, rapid tranquillization may often be combined with seclusion/restraint (Hu et al., 2019; Mann et al., 2021; Muir-Cochrane, Grimmer, Gerace, et al., 2020; Patel et al., 2018), practices that are further associated with psychological and physical injuries to both the people exposed to them and the staff involved (Beames & Onwumere, 2021).

In recent years, both researchers in nursing and clinicians have called for further practice-oriented research concerning the use of rapid tranquillization in mental health inpatient settings (Danda, 2020; Hu et al., 2019; Muir-Cochrane, Oster, & Grimmer, 2020). Research on rapid tranquillization seems scarce from the (nursing) staff perspective (Muir-Cochrane, Oster, & Grimmer, 2020) and little is known about nurses' clinical decision-making in this regard. However, the ability to make clinical decisions is an important nursing competency. In all healthcare settings, nurses participate in a variety of multifaceted patient-centred decisions that may be large or small (Tanner, 2006). Tanner (2006) defines the ability to make a decision as 'an interpretation or conclusion about a patient's needs, concerns, or health problems, and/or the decision to take action (or not), use or modify standard approaches, or improvise new ones as deemed appropriate by the patient's response' (p. 204). Tanner's (2006) description of the concept further stresses that these decisions are based on a complex decision-making process and that various factors may influence and/or be associated with nurses' clinical decisions. Since nurses are subjective human beings, their decision-making may be flawed or 'wrong', if, for example, uncertainty or ambiguity exists in the clinical situation and their decision-making diverges from what is considered desirable or acceptable professional behaviour (Teece, 2021). Furthermore, making decisions under time pressure, such as in the context of rapid tranquillization, may lead to the use of cognitive shortcuts, where nurses' clinical decision-making is the result of rules developed from previous experiences (Stevenson et al., 2015; Thompson & Dowding, 2009).

Evidence suggests that nurses may play key roles in the decision-making process about rapid tranquillization (Muir-Cochrane, Oster, & Grimmer, 2020; Nash et al., 2018). They are not only the professionals most likely to administer rapid tranquillization but they are also involved in pre- and post-use care and treatment (Gustafsson & Salzmann-Erikson, 2016; Haglund et al., 2003; Vuckovich & Artinian, 2005). Additionally, research has reported potential factors influencing and/or associated with nurses' clinical decision-making concerning its use, and nurses may not be fully conscious that their decision-making in clinical practice is a process governed by various factors (Tanner, 2006; Thompson & Dowding, 2009). In a Canadian interview study of eight nurses working in mental health, rapid tranquillization was reported as a means of controlling safety on acute units (Danda, 2020). Keser Özcan et al. (2015) studied Turkish nurses' attitudes towards containment methods and the relationship between nurses' use of these methods and their perception of patient aggression, finding that rapid tranquillization is more likely to be approved among nurses who perceived aggression as undesirable/dysfunctional. However, the exact process of decision-making in the use of rapid tranquillization, just as the factors influencing and/or associated with nurses' clinical decision-making in this regard, lack clarity and overview.

Considering the above, and given the knowledge gap in the field, the purpose of this study is to explore nurses' clinical decision-making concerning the use of rapid tranquillization in order to provide the needed and relevant knowledge for improving extant mental health practice.

AIM

The aim of this integrative review was to synthesize and analyse the research literature on nurses' clinical decision-making in the use of rapid tranquillization in adult mental health inpatient settings. Specifically, the decision-making process and factors influencing and/or associated with nurses' clinical decision-making were reviewed.

METHOD

An integrative review was conducted based on the methodological framework described by Whittemore and Knafl (2005) to ensure rigour and transparency. According to Whittemore and Knafl (2005), integrative reviews make it possible to include different types of knowledge, including experimental and non-experimental research. Thus, different perspectives on a topic of interest are included. Integrative reviews are particularly valuable for developing evidence-based nursing practice because they can answer questions about clinical practice from a nursing professional perspective (Toronto & Remington, 2020; Whittemore & Knafl, 2005). In line with this framework, the following five steps were undertaken: problem identification (established through introduction, background and aim), literature search, data evaluation, data analysis and presentation.

Literature search

To identify relevant literature, a well-defined search strategy for primary studies was developed in collaboration with an informatics specialist based on the JBI recommendations (Lizarondo et al., 2020). A systematic search followed three steps. Firstly, a search in CINAHL Complete (EBSCO) and Embase (Elsevier) was conducted to identify relevant medical subject headings and keywords (Lizarondo et al., 2020). Secondly, these medical subject headings and keywords were combined with the Boolean operators OR/AND in a systematic block search (see Table 1 as an example; a full overview is provided in Appendix S1) conducted in all of the included databases: APA PsycINFO (EBSCO), CINAHL Complete, Embase, PubMed (NCBI) and Scopus (Elsevier) (Lizarondo et al., 2020). All databases were searched from the date of inception of the database. The final search was undertaken on 9 September 2021 and was updated on 3 June 2022. Thirdly, a search for additional relevant literature was conducted by examining the reference lists of included studies (Lizarondo et al., 2020). Searches for grey literature were conducted in Google, OpenGrey and websites of selected organizations (i.e. Danish Health Authority (sst.dk), Mind (mind.org.uk), National Institute for Health and Care Excellence (nice.org.uk), Race Equality Foundation (raceequalityfoundation.org.uk) and Substance Abuse and Mental Health Services Administration (samhsa.gov)) (Lizarondo et al., 2020). The selected organizations are health authorities and interest groups and they were considered relevant for inclusion in relation to the review aim.

Inclusion criteria

Studies were included if they were primary studies, including qualitative, quantitative and mixed methods studies describing situations and/or clinical decision-making concerning the use of rapid tranquillization; addressing causes and/or reasons for such use; or presenting perceptions, attitudes and/or experiences about clinical decision-making related to the use of rapid tranquillization. Studies from a nurse perspective and with rapid tranquillization used in adult (≥18 years old) mental health inpatient settings were included.

Exclusion criteria

Studies without empirical data, for example, editorials or theoretical/discussion papers were excluded, as were

TABLE 1 Search terms combined with Boolean operators (OR/AND) in PubMed.

Block 1: Nurse	Block 2: Rapid tranquillization	Context: Mental health inpatient settings
Nurse OR Nursing AND	Rapid tranquillization OR Rapid tranquillisation OR Forced medication OR Rapid neuroleptization OR Therapeutic sedation OR Urgent sedation OR Chemical restraint OR Involuntary medication OR Coerced medication OR Pharmacological restraint OR Forced sedation OR Acute sedative OR Coercive medication OR Compulsory medication OR "Acute medication" AND	Psychiatry OR Psychiatric OR Mental health OR Mental health service OR Forensic OR Secure service OR Secure setting

also reviews and dissertations. Epidemiological studies without identified causes and/or reasons for the use of rapid tranquillization were also excluded. This was also the case for studies presenting research on methods to reduce the use of rapid tranquillization or where no full-text paper was available.

Study selection

As shown in Figure 1 (Page et al., 2021), 1800 studies were initially identified across the databases. The studies were imported into the reference tool Endnote where 532 duplicates were removed. Following the removal of the duplicates, 1268 studies were imported into the screening tool Covidence to ensure a systematic selection process. In Covidence, title/abstract were initially screened, based on the inclusion/exclusion criteria, which excluded 1212 studies. Subsequently, 56 studies were sought for retrieval. Of these, six studies were not available. The remaining 50 studies were full-text screened, which further excluded 42 studies. The first and third authors independently performed the screening process. In cases of disagreement, the relevance of the study was discussed until consensus was achieved. Two additional studies were identified using other methods (Figure 1). The updated search identified one additional study. Finally, 11 studies were included in this review.

Data evaluation

Critical study appraisal was performed by the first and third authors independently using the Mixed Methods Appraisal Tool (Hong et al., 2018). The tool is designed for critical appraisal of studies included in reviews with various research studies. It consists of two screening questions for all types of study designs, followed by five questions targeting the respective study design category (Hong et al., 2018). The final appraisal was based on a subsequent discussion between the two authors, where studies were divided into low, medium or high quality, and any uncertainties regarding study quality were described in detail (Hong et al., 2018).

Data analysis

The included studies were analysed using manifest content analysis inspired by Graneheim and Lundman (2004) and guided by the following two analytical questions: (I) what characterizes the decision-making process in nurses' use of rapid tranquillization? and (II) what characterizes the factors influencing and/or associated with nurses' clinical decision-making in the use of rapid tranquillization? The analysis was performed in four steps by the first author. Firstly, included studies were reread several times to ensure that the first author was immersed in the data (Graneheim & Lundman, 2004). Secondly,

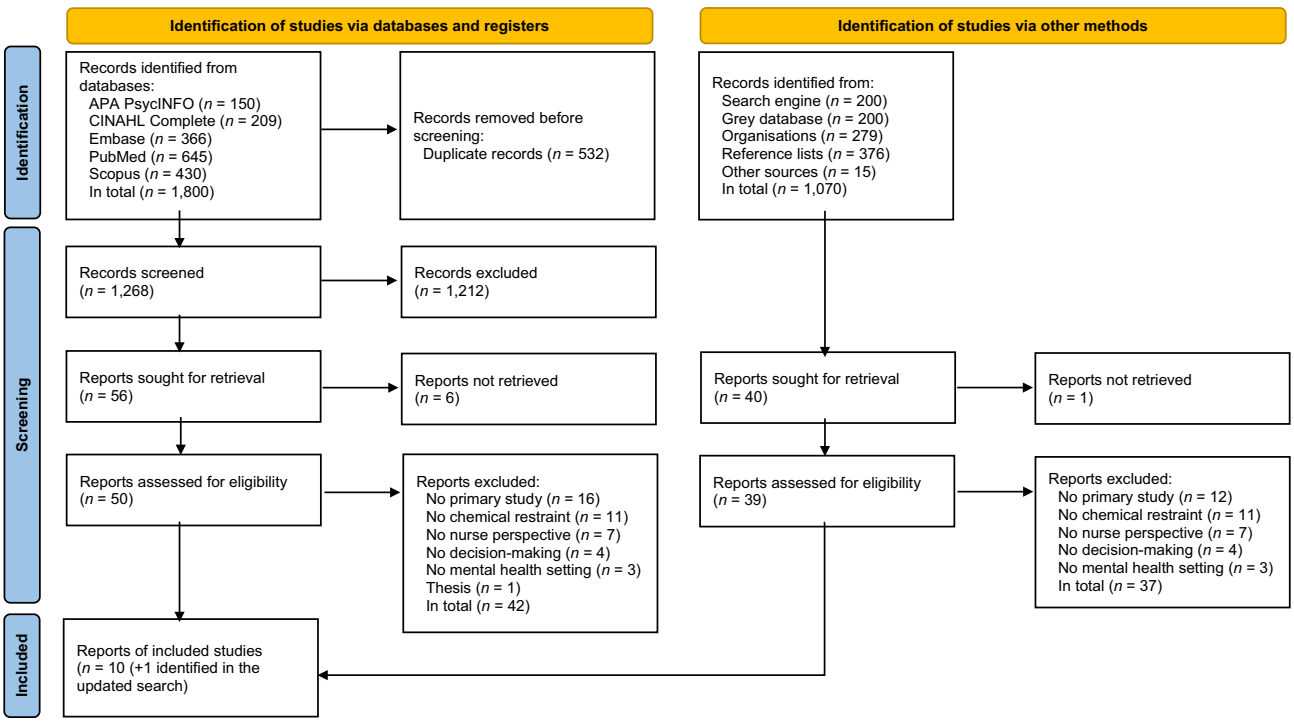

FIGURE 1 PRISMA flow diagram.

meaning units were highlighted in the studies based on the analytical questions (Graneheim & Lundman, 2004; Krippendorff, 2004). Thirdly, meaning units were condensed and coded, where condensation preserved the essence or core of the meaning units in shortened form before the condensed texts were abstracted into codes (Graneheim & Lundman, 2004). Finally, codes were compared for similarities and differences and sorted into categories (Graneheim & Lundman, 2004, Krippendorff, 2004).

RESULTS

Included studies

Altogether, 11 studies were included. They were all assessed positively for the two screening questions in the Mixed Methods Appraisal Tool and addressed the design-specific questions (see Table 2). Studies were published between 1987 and 2022 in European and Western countries and included findings based on 397 nurses (225 female and 121 male). Two studies were based on the same sample and are counted only once (Danda, 2020, 2022). Three studies reported no or incomplete gender information (missing data: $n=51$) (Lützén, 1987; Muir-Cochrane et al., 2018; Vuckovich & Artinian, 2005). Five studies included nurses working in different mental health inpatient settings (Keser Özcan et al., 2015; Lützén, 1987; Muir-Cochrane et al., 2018; Tucker et al., 2020; Vuckovich & Artinian, 2005), five studies included nurses working in acute or locked settings (Danda, 2020, 2022; Haglund et al., 2003; Lind et al., 2004; Stevenson et al., 2015) and the remaining study included nurses working in forensic mental health (Gustafsson & Salzmann-Erikson, 2016). Seven of the nine qualitative studies were based on individual interviews (Danda, 2020, 2022; Gustafsson & Salzmann-Erikson, 2016; Haglund et al., 2003; Lützén, 1987; Stevenson et al., 2015; Vuckovich & Artinian, 2005), while the remaining two were based on focus group interviews (Muir-Cochrane et al., 2018; Tucker et al., 2020). The two quantitative studies were based on questionnaires (Keser Özcan et al., 2015; Lind et al., 2004). An overview of the included studies is displayed in Table 2.

Results of content analysis

From the 11 studies, four categories were generated: (I) becoming aware of situational changes and considering alternatives; (II) negotiating voluntary medication; (III) administering rapid tranquillization and (IV) being on the other side. These categories progress sequentially. The decision-making process concerning use of rapid tranquillization appeared with a timeline based on various impact points and factors embedded that continuously affected nurses' clinical decisions in different ways. Therefore, in line with the aim of this review, the categories included knowledge related to the decision-making process concerning use of rapid tranquillization and the factors influencing and/or associated with nurses' clinical decision-making in the use of rapid tranquillization. In the following, the above categories will be presented.

Becoming aware of situational changes and considering alternatives

The starting point of processes concerning use of rapid tranquillization arose when clinical situations changed in nature and became more acute so that nurses became aware that violent and aggressive behaviour from a person was potentially imminent. This attention was typically caused by people being clearly frustrated, for example, with being hospitalized (Haglund et al., 2003), leading to a changed nursing language between staff, where the dangers of the new situation were highlighted (Danda, 2020, 2022; Vuckovich & Artinian, 2005). When nurses became aware of situational changes, they had the opportunity to respond, for instance, by attempting de-escalation (Danda, 2022; Tucker et al., 2020; Vuckovich & Artinian, 2005), considering transfer (Muir-Cochrane et al., 2018) and ongoing risk assessment (Danda, 2020; Tucker et al., 2020). However, it was also reported in the studies that nurses could be unaware of situational changes, and as a result failed to respond to the potentially imminent violent and aggressive behaviour before it escalated (Tucker et al., 2020; Vuckovich & Artinian, 2005). Additionally, as nurses become aware of situational changes, they could start documenting information in the medical record that was useful as a foundation for decisions regarding rapid tranquillization later in the process, such as observations of the person's behaviour, care needs and nursing considerations concerning patient rights, autonomy, illness and danger (Danda, 2020; Vuckovich & Artinian, 2005).

Nurses generally considered rapid tranquillization as something to be avoided if possible, although attitudes among nurses towards its use were divergent. For instance, they could use it as the first or only resort in some situations if alternatives provided only a short-term solution (Danda, 2022; Haglund et al., 2003; Muir-Cochrane et al., 2018; Tucker et al., 2020) or if nurses considered rapid tranquillization the least intrusive measure or as neither wrong, punitive nor problematic to use (Danda, 2020, 2022; Gustafsson & Salzmann-Erikson, 2016; Lind et al., 2004). Furthermore, the more frequently rapid tranquillization was used, the more its use became accepted among nurses (Keser Özcan et al., 2015). However, rapid tranquillization was mostly reported in the studies as a last resort in the management of violence and aggression (Danda, 2020; Haglund et al., 2003; Muir-Cochrane et al., 2018; Tucker et al., 2020;

TABLE 2 Overview of included studies.

Author(s)	Year	Study design	Mental health inpatient setting	Country	Sample (nurses)	Demographical information			Summary of critical appraisal
						Age (year)	Women (%)	Experience	
Danda[c]	2020	Hermeneutic phenomenological approach. Semi-structured interviews and critical analysis	Acute mental health units	Canada	8	26–58	100	Nursing experience ranged from 1.5 to 9 years	Medium quality. Uncertain if the findings are adequately derived from the data and if there is coherence between qualitative data sources, collection, analysis and interpretation
Danda[c]	2022	Hermeneutic phenomenological approach. Semi-structured interviews	Acute mental health units	Canada	8	26–58	100	Nursing experience ranged from 1.5 to 9 years	Medium quality. Uncertain if the findings are adequately derived from the data and if there is coherence between qualitative data sources, collection, analysis and interpretation
Gustafsson and Salzmann-Erikson	2016	Descriptive qualitative research approach. In-depth, open-ended interviews and inductive content analysis	Forensic mental health care	Sweden	8	32–55	62.5	Nursing experience in forensic mental health ranged from 2 to over 10 years	High quality
Haglund et al.	2003	Explorative qualitative research approach. Semi-structured, open-ended interviews and content analysis	Locked mental health wards	Sweden	8	36–54	62.5	The median time of nursing experience in mental health care was 18 years	High quality
Keser Özcan et al.	2015	Descriptive cross-sectional design. Questionnaires	Mental health wards	Türkiye	144	33.63[a]	65.3	The mean time of nursing experience in the mental health ward was 1.7 years	Medium quality. Uncertain if the sample is representative of the target population and if the risk of non-response bias is low

(Continues)

TABLE 2 (Continued)

Author(s)	Year	Study design	Mental health inpatient setting	Country	Sample (nurses)	Demographical information			Summary of critical appraisal
						Age (year)	Women (%)	Experience	
Lind et al.	2004	Cross-sectional design. Questionnaire	Acute mental health settings	Sweden	126	22–59	63	Nursing experience as mental health nurse ranged from under 5 to over 10 years. Additional nursing experience is described	High quality. Uncertain if the sample is representative of the target population
Lützén	1987	Qualitative research approach. Interviews and content analysis	Mental health units	Sweden	10	NR	NR	NR	Medium quality. Uncertain if the findings are adequately derived from the data and if there is coherence between qualitative data sources, collection, analysis and interpretation
Muir-Cochrane et al.	2018	Descriptive qualitative research approach. Focus group interviews and thematic analysis	Mental health settings and emergency departments	Australia	44	25–74[b]	55[b]	The mean time of nursing experience in mental health practice settings was 21 years[b]. Additional nursing experience is described	High quality
Stevenson et al.	2015	Interpretive description. Semi-structured interviews and thematic analysis	Acute mental health units	Canada	12	27–57	66.7	Nursing experience in acute mental health settings ranged from 4 to 23 years	High quality

TABLE 2 (Continued)

Author(s)	Year	Study design	Mental health inpatient setting	Country	Sample (nurses)	Demographical information			Summary of critical appraisal
						Age (year)	Women (%)	Experience	
Tucker et al.	2020	Descriptive qualitative research approach. Semi-structured focus group interviews and thematic analysis	Mental health unit	Australia	20	NR	75	Nursing experience in mental health settings ranged from 1 to 40 years. Additional nursing experience is described	High quality
Vuckovich and Artinian	2005	Grounded theory described by Glaser. Unstructured interviews, memos, transcriptions of working sessions, written comments of experts and literature review	Mental health facilities	USA	17	NR	NR	NR	High quality

Abbreviation: NR, not reported.

[a]Only mean available.

[b]Information not available on all participants.

[c]Based on the same sample.

Vuckovich & Artinian, 2005), as the most problematic type of restrictive practice to use (Lind et al., 2004; Vuckovich & Artinian, 2005) and as an alternative to other restrictive practices and non-pharmacological approaches (Muir-Cochrane et al., 2018; Tucker et al., 2020). Therefore, rapid tranquillization was considered only at the moment when other responses to the behaviour had been tried without success, followed by a decision that the behaviour had escalated to a level that required medication, if necessary administered by force (Danda, 2020; Lützén, 1987; Vuckovich & Artinian, 2005). This decision was made by nurses, often in collaboration with other professionals (Danda, 2020, 2022; Lützén, 1987; Vuckovich & Artinian, 2005). Additionally, it was occasionally reported that nurses perceived that hospitalized people had co-responsibility for such decisions about medication needs as it was their behaviour that led to the decisions (Danda, 2020, 2022; Gustafsson & Salzmann-Erikson, 2016).

Negotiating voluntary medication

Following decisions on the need for medication, nurses initiated a negotiation period in which they tried to persuade the person to voluntarily take medication. Nurses reported that people who had a definite need for medication better preserved their dignity by taking medication voluntarily, and therefore, nurses made an effort to assist them understand their situation and the necessity for medicine (Danda, 2020; Lützén, 1987; Vuckovich & Artinian, 2005). Furthermore, nurses could feel guilt and frustration if people received rapid tranquillization without prior proper negotiation of alternatives (Danda, 2022; Vuckovich & Artinian, 2005). In the studies, it was reported that those involved on both sides of these negotiations could affect the negotiations in both directions, where the probability of rapid tranquillization use was either increased or reduced, for instance, due to the mental health status of the person who was hospitalized (Gustafsson & Salzmann-Erikson, 2016; Vuckovich & Artinian, 2005) or nurses' experiences, and fear and commitment in the situation (Danda, 2020, 2022; Gustafsson & Salzmann-Erikson, 2016; Vuckovich & Artinian, 2005). However, other local conditions could also affect the use of rapid tranquillization and at worst contribute to its increased use, such as environmental challenges, for example, poorly organized buildings with lack of resources and overly restrictive care areas (Danda, 2020, 2022; Lützén, 1987; Stevenson et al., 2015), periods of increasing numbers of violent and aggressive cases (Stevenson et al., 2015), staff resources, knowledge and divergent attitudes regarding managing people's violent and aggressive behaviour (Danda, 2020, 2022; Keser Özcan et al., 2015; Lützén, 1987; Vuckovich & Artinian, 2005). Nurses could document their negotiation attempts and results in the medical record to support legal justification for the use of rapid tranquillization (Vuckovich & Artinian, 2005). In contrast to the above, it was reported in the studies that some nurses did not really negotiate but instead used threats or underlined that medication was needed no matter what, for example, because the decision about medication had already been made and simply had to be administered (Danda, 2020, 2022; Lützén, 1987; Vuckovich & Artinian, 2005).

If negotiations ended without agreement between those involved in the administration of voluntary medication, an impasse arose. In those situations, nurses re-assessed the violent and aggressive behaviour, and if the conclusion was that danger associated with behaviour was no longer imminent, they could stop the process and refrain from moving towards rapid tranquillization (Danda, 2020, 2022; Vuckovich & Artinian, 2005). However, if behaviour was unchanged or escalated, decisions on the need for medication were upheld and the administration of rapid tranquillization was initiated (Danda, 2020, 2022; Gustafsson & Salzmann-Erikson, 2016; Haglund et al., 2003; Keser Özcan et al., 2015; Lind et al., 2004; Lützén, 1987; Muir-Cochrane et al., 2018; Stevenson et al., 2015; Tucker et al., 2020; Vuckovich & Artinian, 2005). Furthermore, rapid tranquillization could also be used as a backup if voluntary medication intake had not had a calming effect on the behaviour (Tucker et al., 2020; Vuckovich & Artinian, 2005). Among nurses, a hierarchy arose in pathways of involuntary medication administration in the management of violence and aggression. Oral tablets were preferred over intramuscular injection, which was their last medical resort, for example, due to the trauma of receiving injections while being physically restrained by staff (Danda, 2020, 2022).

Administering rapid tranquillization

Initially, during the administration of rapid tranquillization, nurses reiterated the circumstances to the person who was to receive it, justified the need for medication and gave advice on legal and patient rights (Lützén, 1987; Vuckovich & Artinian, 2005). However, in escalating situations, the justification for and use of rapid tranquillization was not always time-separated (Tucker et al., 2020; Vuckovich & Artinian, 2005). Nurses generally experienced that people reacted very differently during the administration process. Typically, reactions were physical and the medication was verbally resisted (Danda, 2020; Gustafsson & Salzmann-Erikson, 2016), while others did not react at all (Haglund et al., 2003). Administration of rapid tranquillization was performed by nurses, as all prescriptions were their responsibility (Danda, 2020; Gustafsson & Salzmann-Erikson, 2016; Haglund et al., 2003; Lützén, 1987; Vuckovich & Artinian, 2005). Therefore, nurses had many considerations related to the use of rapid tranquillization in regard to ethical

perspectives on advantages and disadvantages and on administering the medicine properly (Danda, 2020, 2022, Gustafsson & Salzmann-Erikson, 2016, Vuckovich & Artinian, 2005). However, it was also reported in the studies that some rapid tranquillization episodes required the involvement of multiple staff if physical restraint was used concurrently (Danda, 2020, 2022; Gustafsson & Salzmann-Erikson, 2016; Haglund et al., 2003; Lützén, 1987; Vuckovich & Artinian, 2005).

Nurses experienced rapid tranquillization as a necessary part of mental health to control escalating situations in poorly organized buildings with a lack of resources and overcrowding (Danda, 2020, 2022; Gustafsson & Salzmann-Erikson, 2016; Lützén, 1987; Muir-Cochrane et al., 2018; Stevenson et al., 2015; Vuckovich & Artinian, 2005). Furthermore, they believed that prohibition of rapid tranquillization would simply lead to the use of more sedatives or use of other restrictive practices (Muir-Cochrane et al., 2018). Therefore, nurses' acceptance of rapid tranquillization use was reported in the studies as a requirement, although this did not mean that everyone became accustomed to using it (Danda, 2022; Gustafsson & Salzmann-Erikson, 2016; Vuckovich & Artinian, 2005). However, despite the general acceptance of rapid tranquillization, nurses did not attach the same value to its use in daily practice. Some nurses primarily regarded use of rapid tranquillization as a clinical process that was necessary to manage violent and aggressive behaviour so that people got better and to ensure a safe environment (Gustafsson & Salzmann-Erikson, 2016; Vuckovich & Artinian, 2005). For others, rapid tranquillization was not only about reducing violence and aggression, it was also considered a caring process that focused on mitigating negative and ethical issues for the person receiving it, as well as documenting its justification in the medical record (Danda, 2022; Gustafsson & Salzmann-Erikson, 2016; Haglund et al., 2003; Vuckovich & Artinian, 2005).

Being on the other side

After the administration of rapid tranquillization, a period of debriefing began, conducted as structured or unstructured meetings. The debriefing was conducted between the person who received rapid tranquillization and the staff involved when the situation had calmed down, for example, immediately after use (Gustafsson & Salzmann-Erikson, 2016). Indeed, nurses considered rapid tranquillization use as a dramatic experience that left them with responsibility for creating and maintaining the trust and sympathy of people exposed to this practice (Gustafsson & Salzmann-Erikson, 2016; Lützén, 1987; Vuckovich & Artinian, 2005). However, especially in cases of violence and aggression during the administration of rapid tranquillization, it could take longer before the situation had calmed down so that debriefing could be conducted (Gustafsson & Salzmann-Erikson, 2016; Lützén, 1987; Vuckovich & Artinian, 2005). Nurses generally needed to talk to all involved in rapid tranquillization episodes, including other professionals, as its use could be emotionally demanding and lead to reflections, for example, about the underlying causes of the violent and aggressive behaviour and their own role in the procedure (Danda, 2020, 2022; Gustafsson & Salzmann-Erikson, 2016; Haglund et al., 2003; Lützén, 1987; Vuckovich & Artinian, 2005). Rapid tranquillization was particularly demanding for nurses to use if those exposed to it showed fear, anger or physical resistance, and if other restrictive practices were used concurrently (Gustafsson & Salzmann-Erikson, 2016; Haglund et al., 2003; Lützén, 1987). This underlined the importance of what was reported as a good working environment with shared responsibility for treatment decisions and the well-being of colleagues in cases where rapid tranquillization was used (Gustafsson & Salzmann-Erikson, 2016; Lützén, 1987). Being on the other side of administration for nurses also included the last part of justifying the use of rapid tranquillization documented in the medical record (Danda, 2022; Vuckovich & Artinian, 2005).

Rapid tranquillization use affected other aspects of the nurses' professional and private lives. Thus, the final aspect in the process concerning the use of rapid tranquillization was without an obvious end point. As described above, the timing of debriefing varied. Furthermore, particularly demanding episodes could negatively affect nurses' subsequent daily care and spare time, meaning that the consequences were not only work related, for example, if threats were directed at their families, talking to colleagues after such episodes was not always enough (Danda, 2022; Gustafsson & Salzmann-Erikson, 2016; Haglund et al., 2003; Lützén, 1987). However, despite the impact noted above on their own lives and the potential harm to those exposed to rapid tranquillization, nurses experienced that its use helped to alleviate suffering in people. Therefore, when nurses subsequently tried to understand whether or not they had done the right thing by using this practice, they considered the alternatives, such as harming themselves or others, to be worse (Danda, 2020, 2022; Gustafsson & Salzmann-Erikson, 2016; Vuckovich & Artinian, 2005).

DISCUSSION

In this review, we summarized the evidence on nurses' clinical decision-making in the use of rapid tranquillization in adult mental health inpatient settings. The systematic search identified only 11 studies relating to this topic published from 1987 up to 2022. Although most studies were recent publications ($n=7$; 2015–2022), suggesting that the topic has gained some interest, research around decision-making in nurses' use of rapid tranquillization

has overall received scant scholarly attention. These trends are not evident in comparable international reviews on seclusion/restraint, which generally show a greater spread of publications and a higher number of included studies, even with a narrow research focus, such as on decision factors (Goethals et al., 2012; Laiho et al., 2013; Riahi et al., 2016). Therefore, the results of the present review add to existing knowledge and include evidence on both the decision-making process concerning use of rapid tranquillization and the factors influencing and/or associated with nurses' decision-making in that regard. This enables a more comprehensive understanding of nurses' clinical decisions, which, in line with the calls from mental health researchers and clinicians (Danda, 2020; Hu et al., 2019; Muir-Cochrane, Oster, & Grimmer, 2020), provides important knowledge that should be used as a foundation in future and more primary research on this topic to support efforts towards reducing the use of rapid tranquillization in mental health.

As shown in Table 2, research has been conducted mainly in general mental health settings, with only one study from forensic mental health. This distribution of settings was not surprising as it is supported by recent research analysis within restrictive practice use (Baker et al., 2021; Pedersen et al., 2022). However, people in forensic mental health are hospitalized in restrictive settings where the level of conflict and use of restrictive practices may be particularly high (Pedersen, 2020; Völlm & Nedopil, 2016). Hence, research on nurses' clinical decision-making in the use of rapid tranquillization should address forensic settings to a greater extent so that this vulnerable population is not exposed to further harm. The present review demonstrated the potential value of research in nurses' clinical decisions concerning the use of rapid tranquillization for improving knowledge of this practice in mental health. The results are, therefore, of critical importance and may have applicability as a starting point in other settings that use rapid tranquillization to prevent harm from people to themselves or others but where the research focus has been absent or underrepresented, such as in forensic mental health.

The results of this review provide increased understanding of how nurses are affected by factors in their clinical decisions concerning rapid tranquillization use. The complexity of nurses' decision-making within restrictive use is commonly observed both in restraint and seclusion studies (Goethals et al., 2012; Laiho et al., 2013; Riahi et al., 2016). As shown in our findings, nurses should be able to respond to situational changes, where they manage imminently violent and aggressive behaviour through various practice options. However, we also found that nurses could be unaware of changes in behaviour and thus not respond and provide violence prevention that would reduce conflict in mental health inpatient settings (Hallett, 2018), resulting in escalating situations and use of rapid tranquillization. This exemplification of the complexity is supported by Laiho et al. (2013). They reported that nurses' decisions to use seclusion or restraint are based on observation and assessment of potential risks while attempting to de-escalate the situation, but that there may be escalating situations where practices are used without further explanation (Laiho et al., 2013). Additionally, Goethals et al. (2012) emphasized that appropriate restraint use depends on and may be hindered by the context and nurses' analysis of behaviour. This complexity, which is reported above with uniformity across different restrictive practices, could be explained by the fact that their use must sometimes be understood in terms of a unified whole unrelated to a specific restrictive practice. Furthermore, as suggested by Fluttert et al. (2008), it may be possible for mental health nurses to recognize early warning signs even in people with severe mental illness and thus prevent violent and aggressive behaviour and use of restrictive practices. Therefore, further initiatives have been proposed to detail the complexity of restrictive processes by exploring why some situations do not allow the use of violence prevention strategies, which this review illustrated may involve a wide range of reasons.

Our findings show that an impasse arose if the person did not accept the medication that was deemed necessary by the staff. This impasse may be an important part of the process because it signifies a moment that could allow nurses to discontinue the process towards rapid tranquillization and thus avoid rapid tranquillization, grounded in reflection and reassessment of the situation. Tanner (2006) refers to this situation as 'reflection-in-action' (p. 209), which is described as nurses' ability to adjust nursing care based on assessment of how a person responds to that care. Altering the administrative decision by stopping the process further emphasizes what others have pointed out: that nurses' clinical decision-making may be incorrect, flawed or simply right at one point and then change over time due to a change in the clinical situation (Thompson & Dowding, 2009). Like others (Goethals et al., 2012; Laiho et al., 2013; Riahi et al., 2016), we found that restrictive practices, such as rapid tranquillization, were difficult for nurses to administer and were associated with many ethical considerations underpinning the decision-making process. These difficulties and considerations highlight that nurses are subjective human beings who may need to modify their decisions (Teece, 2021) to navigate such situations. This is a legitimate realization and should receive more attention in health care, especially if potentially traumatizing and harming practices such as rapid tranquillization are to be reduced. This review illustrated the importance of the period of impasse in nurses' clinical decision-making as it reflects a potential point at which nurses can consider how to provide the best possible nursing care. Such an impasse with time for reflection may contribute to

minimal rapid tranquillization use where possible, as with all restrictive mental health practices (Sugiura et al., 2020; Völlm & Nedopil, 2016). The results are, therefore, valuable for mental health practice and have broad implications for other processes that use restrictive practices as part of treatment and care.

Like other studies reporting the importance of debriefing to counteract emotional impact and fear following restrictive practice use (Mangaoil et al., 2020; Patel et al., 2018; Riahi et al., 2020), we found that this also applies to nurses' use of rapid tranquillization. The impact on subsequent care can be explained by nurses' strong personal investment in the use of restrictive practices (Goethals et al., 2012; Laiho et al., 2013; Riahi et al., 2016), a conclusion our findings support. Therefore, it is important to process such episodes so that they do not negatively affect post-use care and treatment of these people. However, and in line with others (Mangaoil et al., 2020; Sutton et al., 2014), we found that the practice of debriefing seems to vary much across settings and is inconsistently reported in the literature. Furthermore, as suggested by Mangaoil et al. (2020), core components of the debriefing process should be incorporated into policies, guidelines and training to ensure consistent standardization of the concept. Hence, mental health practices should focus on this part of the process to optimize debriefing, as well-executed debriefing may provide a helpful antidote to the negative influences that follow in the wake of restrictive practice use, including rapid tranquillization (Mangaoil et al., 2020; Sutton et al., 2014). The findings of this review, therefore, highlight the importance of nurses' involvement in structured debriefing processes following the use of rapid tranquillization. We recommend that identifying how this is ensured should be investigated further.

Generally, nurses considered rapid tranquillization as something that should be avoided, if possible; it is the last resort in the management of violence and aggression. This understanding is confirmed by comparable studies that investigate mental health nurses' decision-making within seclusion/restraint (Goethals et al., 2012; Laiho et al., 2013; Riahi et al., 2016, 2020). However, as our results indicate, nurses may have divergent attitudes on a range of restrictive practices regarding the level of intrusiveness. In contrast to being the last resort, we found that rapid tranquillization could be considered the least intrusive measure in some situations, supporting its use over other practices. These contrasting findings may be due to several reasons, but one main explanation could be that the studies were conducted in different geographical contexts. It is well documented that not only legislation and related procedures but also mental health treatment and nursing culture in the use of coercive processes and restrictive practices vary between settings (McLaughlin et al., 2016; Raboch et al., 2010). Also, subcultures could be present in certain local settings; an issue that should receive greater attention to ensure the best and most consistent nursing care.

The wide range of factors that continuously affected nurses' decision-making, such as their nursing experience, people's mental health status and local conditions were reported as having an influence on rapid tranquillization use that went in both directions. Thus, these factors could either increase or decrease the probability of its use, indicating the risk of using rapid tranquillization without being based on professional clinical judgement. The risk is underpinned by its widespread use (Hu et al., 2019; Muir-Cochrane, Grimmer, Gerace, et al., 2020; Raboch et al., 2010) and the reported risk factors associated with its use (Beames & Onwumere, 2021; Pedersen et al., 2022). Further research in this field is needed to ensure minimal and safe use and safety for all. Recent studies, for example, show that improving institutional characteristics may reduce the use of rapid tranquillization in mental health settings (Mann et al., 2021). Therefore, we strongly recommend conducting research on the associations between particular factors and use of rapid tranquillization to reduce its use in mental health.

Limitations

First, additional keywords or databases could have increased the amount of literature included. ProQuest Dissertations and Theses Global may serve to exemplify this; much qualitative health research is available in this database (Frandsen et al., 2019) and therefore its inclusion could have strengthened this review, potentially leading to other results. Second and relatedly, the author's linguistic limitations may also have affected the number of studies for inclusion; particularly regarding the serendipity of grey searches (Mahood et al., 2014). We wanted to include a wide range of literature, meaning studies from different contexts. However, out of the 11 studies, four were conducted in Sweden and three were conducted in Canada. Thus, the studies centred on specific European and Western countries, with other geographical contexts being absent. Wider linguistic competencies in the grey searches, such as knowledge about relevant Google keywords or websites, could potentially fill these gaps. Third, our search strategy was guided by an informatics specialist to effectively address the above challenges, as recommended by the JBI (Lizarondo et al., 2020). In future studies, it would also be relevant to conduct advanced cross-country collaboration reviews in this field with the aim of obtaining a larger number of publications, for example, unpublished studies. Finally, only one author was mainly involved in performing the analysis. Since the inclusion of findings from different study designs and analyses may be complex (Whittemore

& Knafl, 2005), the analysis could have benefited from the support of multiple authors or computer software.

CONCLUSIONS

In conclusion, nurses' clinical decision-making in the use of rapid tranquillization involved a complex timeline with various impact points and factors embedded that continuously influenced and/or were associated with their clinical decision-making in different ways. The details of the complexity, however, may be wider than it is possible to identify from the studies. Therefore, further research is warranted in the field, exploring nurses' use of rapid tranquillization in clinical practice and how such decisions are performed. Notably, the influence of the factors on use may be vital to explore to truly understand this.

RELEVANCE TO CLINICAL PRACTICE

We found that the decision-making process in nurses' use of rapid tranquillization is complex and follows a timeline. Various factors were embedded in the decision-making process, and these factors continuously affected the decision-making process in different ways. Further research is needed to build the evidence base that drives changes in the use of rapid tranquillization towards a reduction, as the topic has received scant scholarly attention from a nursing professional perspective.

AUTHOR CONTRIBUTIONS

All authors contributed to the study concept and design. MLP and RL conducted the literature searches, and the screening, selection and quality assessment of studies for inclusion. MLP performed the analysis, while the other authors continuously contributed by discussing the analysis and interpreting the data and findings. MLP drafted the first manuscript, and all other authors participated in the revision of the manuscript. All authors read and approved the final manuscript before submission.

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DATA AVAILABILITY STATEMENT

This publication is a review, meaning no new data were generated. Nevertheless, it should be stated that all data and material generated and analysed for this review are available in the publication or in the supplementary material.

ETHICAL APPROVAL

None.

ORCID

Martin Locht Pedersen https://orcid.org/0000-0003-3620-3523
Frederik Alkier Gildberg https://orcid.org/0000-0001-9075-6108
Kim Jørgensen https://orcid.org/0000-0001-9362-7600
Ellen Boldrup Tingleff https://orcid.org/0000-0001-6464-4911

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SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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