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Ethnic disparities in clinical decision-making for rapid tranquillisation in adult forensic mental health inpatient settings: a qualitative study

Abstract

Rapid tranquillisation is a widely used restrictive practice, but evidence suggests that ethnic minorities are disproportionately exposed compared with majority populations. This retrospective qualitative multiple-case study explored how staff clinical decision-making regarding rapid tranquillisation, as reflected in clinical documentation, may vary by ethnicity in adult forensic mental health inpatient settings. Nineteen cases involving rapid tranquillisation use between 01 Jul 2021 and 31 Jan 2025 were purposively selected using paper-based forensic registration forms and electronic health records. Cases were categorised dichotomously by ethnicity using country of birth (ethnic minorities vs. the majority population), and data from clinical documentation were analysed using content analysis, guided by a four-component framework of clinical decision-making, examining similarities and differences within and between cases. The SRQR standards were used for reporting. Overall patterns of rapid tranquillisation use were broadly similar across groups. However, differences were reported in the temporal unfolding of situations leading to rapid tranquillisation, negotiation and planning processes and the documentation of distress, severity and risk. Escalating distress and behaviour tended to be recognised later among ethnic minorities, often shortly before rapid tranquillisation, whereas escalation among the majority population was more frequently documented over longer periods. Documentation of proactive planning, voluntary medication negotiation and debriefing was limited overall but less visible for ethnic minorities. Clinical decision-making appeared iterative and cyclical, with repeated rapid tranquillisation use occurring across both groups. Ethnicity may influence clinical decision-making regarding rapid tranquillisation, with disparities emerging through cumulative, process-oriented variations in practice. Further research is required to confirm these findings.

Keywords:

Chemical restraint. Clinical decision-making. Ethnicity. Forced medication. Forensic psychiatry. Rapid tranquillisation.

Introduction

Rapid tranquillisation (RT) is a common restrictive practice in adult mental health care internationally (Belayneh et al., 2024, Muir-Cochrane et al., 2020a). It involves the forced administration of sedatives to manage acute disturbed behaviour (National Institute for Health and Care Excellence, 2015, Council of Europe, 2017). Although legally permitted as a last resort (Steinert and Lepping, 2009), reducing RT use is a global priority due to associated risks, including injuries and serious adverse events (Muir-Cochrane et al., 2020a, Muir-Cochrane et al., 2020b, National Institute for Health and Care Excellence, 2015). Notably, evidence suggests that ethnic minorities are disproportionately subjected to RT compared with majority populations (Pedersen et al., 2025b, Pedersen et al., 2025a), raising issues about equity, cultural competence and clinical decision-making in mental health services.

RT requires staff to balance safety with respect for individual autonomy (Birkeland et al., 2024). Such decisions are often made under conditions of clinical variability and rely on nuanced clinical judgement shaped by various factors (Völlm and Nedopil, 2016, Pedersen et al., 2024). In forensic mental health services, which provide specialist care for individuals with mental illness who have committed offences, this complexity is intensified. These high-security services are characterised by legal demands and heightened risk of conflict, which may influence the likelihood and nature of RT use (Völlm and Nedopil, 2016). Although many countries have expanded and re-evaluated their forensic services (Mundt et al., 2021, Tomlin et al., 2021), evidence supporting their effectiveness remains limited (Tully et al., 2024, Kennedy, 2022).

The overrepresentation of ethnic minorities in forensic populations further amplifies these concerns outlined above (Smith and Mohan, 2024, Völlm and Nedopil, 2016, Brooks et al., 2025). Delivering care in multicultural societies remains challenging, particularly in addressing ethnic disparities. These disparities may reflect structural and institutional biases that undermine culturally appropriate, patient-centred practice (Macpherson, 1999, Williams and Etkins, 2021, Pedersen et al., 2024, Craig et al., 2025, Buongiorno et al., 2025). Evidence indicates that, compared with majority populations, ethnic minorities often experience higher rates of involuntary admission (Barnett et al., 2019, Anderson et al., 2014), longer delays and hospital stays (Schoer et al., 2019, Ajnakina et al., 2020), greater exposure to restrictive practices (Della Rocca et al., 2024, Pedersen et al., 2022a, Beames and Onwumere, 2022), and higher risk of death associated with these practices (Aiken et al., 2011, INQUEST, 2023). Staff perceptions of ethnic minorities as more dangerous (Hallett et al., 2025, Jones et al., 2025, Brooks et al., 2025) may also contribute to disproportionate RT use (Pedersen et al., 2025b, Pedersen et al., 2025a).

Explanations for these disparities in RT use often focus on individual-level factors, such as age, gender or diagnosis (Pedersen et al., 2025b, Beames and Onwumere, 2022), yet these do not fully account for observed differences (Smith et al., 2022). Staff perceptions of cultural background and language may also influence clinical decision-making (Pedersen et al., 2025b, Pedersen et al., 2025a, Della Rocca et al., 2024, Buongiorno et al., 2025), with evidence suggesting that shared background reduces RT use (Collazos et al., 2021). Furthermore, RT remains more frequent among ethnic minorities even after adjusting for physical size as a factor influencing perceived risk of violence (Smith et al., 2022). Despite calls to strengthen the evidence base on RT and reduce restrictive practices (Muir-Cochrane and Oster, 2021, Muir-Cochrane et al., 2020b, Pedersen et al., 2023), limited research has examined how staff make decisions about RT use in forensic services.

To address this gap, this study explored how staff clinical decision-making regarding RT, as reflected in clinical documentation, may vary by ethnicity in adult forensic mental health inpatient settings. Understanding these dynamics could enhance cultural competence, support safer and more equitable care, and reduce RT reliance.

Methods

This retrospective qualitative study employed a multiple-case framework inspired by Baxter and Jack (2008) and was grounded in a pragmatist methodology following Blumer (1986). This approach is well-suited to examining clinical decision-making in forensic services, which may be complex and context-dependent, allowing for a deeper exploration of RT use among individuals from diverse ethnic backgrounds. The research team consisted of individuals with nursing backgrounds with varying academic qualifications, half of whom had forensic clinical experience. All members were external to the research context, with no prior clinical contact with individuals. The study was reported following the Standards for Reporting Qualitative Research (SRQR) (O'Brien et al., 2014) and addressed the following research question:

- What characterises staff clinical decision-making regarding RT use in individuals from ethnic minority backgrounds in adult forensic mental health inpatient settings compared with those from the majority population?

Setting and sample

The study was conducted at the largest hospital site covering adult (≥18 years old) forensic mental health inpatient settings in the Region of Southern Denmark. Cases involving individuals subjected to RT between 01 Jul 2021 and 31 Jan 2025 were purposively selected (Baxter and Jack, 2008) based on the following inclusion criteria:

- Availability of a paper-based registration form for the Danish Forensic Mental Health Database (sundk.dk).
- Documented RT use in electronic health records.

Cases that did not meet these criteria were excluded. For individuals with repeated RT use, only the first available case within the study period was included, ensuring that each case could be analysed independently in line with the multiple-case framework (Baxter and Jack, 2008).

In Denmark, according to the Mental Health Act (Ministry of the Interior and Health, 2024), RT may be administered (e.g., orally or intramuscularly) following a medical assessment if deemed essential for improving the condition of a highly agitated individual. The start date of 01 Jul 2021 was selected to align with a significant shift in Danish regulations covering electronic health record documentation (Ministry of the Interior and Health, 2021), thereby ensuring a consistent data foundation throughout the study period. Consistent with prior research on restrictive practices in forensic services (Gildberg et al., 2015), each case encompassed the period shortly before, during and shortly after RT use (± three days), and was intended to enable the exploration of similarities and differences within and between

cases (Baxter and Jack, 2008). Sample size was determined considering information richness within the constraints of the available dataset (Morse et al., 2002).

During the study period visualised in Figure 1, 901 RT cases occurred, representing 54.2% of all restrictive practice use (RT, manual and mechanical restraint; N=1,683). These cases involved 100 individuals, of whom 19 (19%) met the inclusion criteria outlined above and were included in the study.

Data collection

We incorporated data from registration forms for the Danish Forensic Mental Health Database and electronic health records. Registration forms are completed only for individuals subject to a forensic mental health measure; further information on these measures in Denmark is available elsewhere (e.g., Pedersen et al., 2022b). The two data sources were linked using the Danish civil registration number (CPR) and recorded in an Excel spreadsheet via SharePoint.

Cases were categorised dichotomously into two ethnic groups according to country of birth, the available operationalisation of ethnicity in the data extracted from the registration forms: ethnic minorities (individuals born abroad, i.e., in Western countries, the Middle East, Africa (other), the Rest of the World, Greenland or with unknown country of birth; n=7) and the majority population (individuals born in Denmark; n=12).

For each included case, all available clinical documentation (±3 days surrounding RT use) were extracted from the electronic health records, including structured fields (e.g., medication lists, restrictive practice records, risk assessments) and free-text notes (e.g., staff observations, behavioural descriptions, interactions).

To describe the cases, additional data were extracted from registration forms, including characteristics of included individuals (e.g., age at sentencing, gender, forensic measure, legal status), while total RT use during the study period was extracted from the electronic health records.

Case overviews are shown in Tables 1 and 2.

[**Figure 1**]

[**Table 1**]

[**Table 2**]

Analysis

Cases were analysed using content analysis (Krippendorff, 2004, Gildberg and Wilson, 2023b, Gildberg and Wilson, 2023a). To explore staff clinical decision-making regarding RT use, data from clinical documentation were categorised according to the four-component framework of clinical decision-making in RT use in adult mental health inpatient settings previously identified and synthesised in a review by Pedersen et al. (2023): becoming aware of situational changes and considering alternatives, negotiating voluntary medication, administering RT and being on the other side.

The framework was used as an analytic structure to organise and compare data across cases, capturing the period shortly before, during and shortly after RT use (± three days). Data were initially coded through systematic reading of all available clinical documentation, identifying segments of text reflecting clinical decision-making, which were subsequently categorised within the four components of the framework. Within each component, similarities and differences were examined within and between cases (Baxter and Jack, 2008), with particular attention to ethnic minorities and the majority population.

Analysis was conducted by the first author. Data quality and interpretative rigour were ensured through ongoing peer discussions within the research team, fostering trustworthiness and credibility throughout the process (Morse et al., 2002).

Results

Characteristics of included cases

As shown in Tables 1 and 2, 19 cases were available for inclusion in the study. Most cases involved males, with a high prevalence of substance use history, particularly cannabis. In all cases, individuals were subject to a forensic mandatory care and treatment order and had primarily committed violent offences, with approximately two-thirds having prior convictions. RT was administered via both monotherapy and combination therapy, using oral or intramuscular routes, and, in several cases, individuals had a history of repeated RT. Overall patterns were broadly similar across ethnic groups, with minor differences in, for instance, age at sentencing, substance use and RT frequency.

Results of content analysis

Analysis revealed patterns in staff clinical decision-making around RT, structured according to the four components of Pedersen et al. (2023). While these components are presented sequentially (Pedersen et al., 2023), our analysis highlighted a more circular and iterative process in practice. Staff frequently moved back and forth between becoming aware of situational changes, considering alternatives and negotiating voluntary medication, rather than following a linear path toward RT. Repeated RT use within the days shortly after the first episode in several cases indicated a cyclical dynamic over time. Additionally, the first component – 'becoming aware of situational changes and considering alternatives' – revealed distinct temporal escalation patterns, leading us to add a sub-component capturing escalating distress and behaviour. A visual representation of this updated framework is provided in Figure 2.

[**Figure 2**]

1. Becoming aware of situational changes and considering alternatives

RT often reflected situational changes occurring well before administration, making a clear starting point difficult to identify. High levels of agitation and aggression, such as property damage prompting RT, were documented as individual responses to disagreement with the grounds for admission. Ethnic minorities were generally admitted only a few days before RT, often following non-adherence to treatment or agreements with authorities, behavioural changes and documented criminal recidivism, including multiple recent police contacts. Police-assisted admissions were noted in several cases. The majority population exhibited similar patterns but were usually admitted for longer periods prior to the first administration of RT.

Clinical presentations at admission varied. Some individuals appeared calm, while others had complex needs or substance use issues. Several expressed dissatisfactions, requested immediate discharge or sought to file complaints. All ethnic minorities were assessed as medically impaired and mostly unwilling to resume treatment; nevertheless, medication was prescribed, often based on prior prescriptions. Among the majority population, some individuals had adhered to treatment plans until admission. Overall, acceptance of the situation was more common among the majority population, whereas dissatisfaction was more evident among ethnic minorities.

1.1 Escalating distress and behaviour

Despite heterogeneous initial presentations, documentation revealed a recurring pattern of escalating distress leading up to RT, driven by individual behaviour. Escalation could occur suddenly or evolve over time. Among the majority population, escalation was often observable several days in advance, whereas for ethnic minorities, it typically emerged only hours before RT. Common behaviours included sleep deprivation, irritability, fearfulness and uncooperativeness. Escalation also sometimes involved psychotic statements, provocations and threats toward staff or others, such as arson. Self-harm was documented only among the majority population. Communication difficulties were noted in a few cases involving ethnic minorities.

These situational changes led staff initiating preventive, non-pharmacological measures, such as quiet, low-stimulation environments, verbal de-escalation, risk assessment and spatial distancing. Escalation triggers often included refusals of requests following daily activities, including medical reviews. Rapid response teams were occasionally called to support treatment plans and alarm were activated to increase staffing. No systematic differences in staff measures were documented between ethnic groups; however, staff frustration was more often documented toward the majority population, occasionally reducing de-escalation effectiveness. Proactive planning, including suicide risk and substance withdrawal screening and advance statements, was also documented more frequently for the majority population.

2. Negotiating voluntary medication

Negotiation of voluntary medication was an ongoing process addressing both acute behavioural management and general treatment. Non-adherence was a common reason for escalation, described commonly among ethnic minorities as a lack of service engagement and involvement, and among the majority population as recent refusal or lack of perceived effect. Medication was offered either orally or intramuscularly, with staff encouraging calm, collaborative

acceptance. Some individuals requested medication early in escalation, often for specific drugs, though consent was occasionally withdrawn later. The majority population were generally more accepting of medication during the negotiation period, often viewing it as a step toward discharge; however, documentation of negotiations was generally limited, particularly for ethnic minorities.

At times, staff assessed that severe agitation necessitated RT, often-prompting alarm activation or contact with medical staff, if not already present, to (re-)establish a treatment plan. While no systematic differences were recorded between ethnic groups, proactive planning, such as acute medication strategies, was more frequently documented for the majority population. RT decisions were reported as collaborative and considered individual conditions, as well as prior medication experiences in few cases, which occasionally limited treatment options, particularly for ethnic minorities. Although advanced statements were more often obtained and risk assessment strategies frequently recorded for the majority population, their influence on management of situations was limitedly documented for either group.

3. Administering RT

RT was most often administered in the afternoon or evening for ethnic minorities, whereas timing for the majority population was less consistent, with morning and night administrations also common. Staff offered some individuals a choice of administration route, aware that RT would be recorded as involuntary regardless of route, preserving the right to complain. In a few cases, particularly among the majority population, RT was administered via injection due to non-cooperation with oral administration. RT was frequently accompanied by restraint following staff assessments of agitation and risk, with some individuals from the majority population having already been restrained for hours at administration. However, RT was also sometimes administered calmly, even when individuals were verbally abusive or intended to file complaints.

Police often assisted with dialogue and restraint in cases involving history of violence. Their presence sometimes facilitated cooperation, with no systematic differences between ethnic groups. Behaviour during RT varied widely, ranging from mood shifts, fighting, spitting, or shouting (often directed at police when present) to disengagement, avoiding eye contact and passively accepting the administration involuntarily. Staff provided verbal and written information about RT and individual rights. In addition to police presence, staffing during RT was often increased through personnel responding to alarms. Documentation more frequently characterised RT among ethnic minorities as severe, although some of the most violent case descriptions involved the majority population.

4. Being on the other side

The post-RT period typically began immediately after administration. Only a few cases involving ethnic minorities were formally debriefed, with minimal indication of intent to file complaints. Similar patterns were reported for the majority population, although some individuals expressed guilt, shame or frustration, often without documented staff response. Contact with patient advisors was rare recorded but slightly more common among the majority population, typically involving those who had also been restrained and mainly relating to restraint. Some individuals were largely

unresponsive to RT, particularly if still restrained, with attention often focused on restraint duration. Documented behaviours across ethnic groups included mood shift, ambivalence about medication, repeated activity requests and nickname use. Staff primarily prioritised immediate safety while balancing individual needs and procedural requirements, focusing on maintaining calm, providing care, offering voluntary medication and encouraging treatment continuation until release.

In some cases, additional restraint was required shortly after RT due to insufficient medication effect or heightened anger, including threats or dissatisfaction toward staff or others, particularly among some individuals from the majority population. Staff employed de-escalation strategies like those used earlier, including non-pharmacological measures, risk assessment, additional medication, increased staffing or rotating primary contact staff, while continually assessing the need for further situation management. Repeated RT following initial administration occurred across ethnic groups in several cases. Although this was often documented among ethnic minorities, some of the highest recurrence rates were reported among the majority population, where repeated RT was sometimes documented to minimise restraint duration. Other individuals coped with the post-RT period by withdrawing, isolating, or attempting to calm down or sleep.

Discussion

This study explored how staff clinical decision-making regarding RT use was documented and appeared to unfold in adult forensic mental health inpatient settings, with particular attention to potential ethnic disparities. Overall patterns of RT use, including medication type, administration route and co-occurring restraint, were broadly similar across ethnic groups. However, equality in such recorded outcomes did not equate to equality in process. Important differences were identified in the temporal unfolding of situations, negotiation and planning processes and the documentation of distress, severity and risk. Ethnic disparities thus appeared to emerge through cumulative, process-oriented variations in institutional trajectories, highlighting the importance of examining RT within the broader context of forensic services.

Applying and adapting the four-component framework proposed by Pedersen et al. (2023), our analysis demonstrates that clinical decision-making surrounding RT is not linear but iterative and cyclical. Staff frequently moved back and forth between becoming aware of situational changes, considering alternatives and negotiating voluntary medication. The frequent occurrence of repeated RT illustrates how cycles of restrictive practices may be sustained over time rather than resolving acute disturbed behaviours definitively. These findings align with previous research describing similar self-reinforcing patterns in which multiple restrictive practices are applied repeatedly or concurrently (Baker et al., 2021, Müller et al., 2023, Pedersen et al., 2022a). In our study, this pattern was also reported in relation to restraint. Importantly, incorporating a sub-component capturing escalating distress and behaviour refines the framework by acknowledging that clinical decision-making regarding RT use may be shaped by gradual or sudden escalation, providing a more accurate representation of the complexity of RT use in forensic services, as suggested by others (Völlm and Nedopil, 2016).

Escalation leading to RT was often recognised later among ethnic minorities, typically hours rather than days before administration, compared with the majority population. This compressed recognition window may reduce staff

opportunities for, for instance, measures such as de-escalation (Patel et al., 2018), thereby positioning ethnic minorities on a faster, more acute process towards RT. Documentation of voluntary medication negotiation and proactive planning, including risk assessment and advance statements, also appeared less visible for ethnic minorities. These patterns suggest that ethnic disparities may not stem from single decision points but instead accumulate across multiple, interconnected institutional impact points within forensic services, shaping the timing, visibility and options available to different ethnic groups in clinical decision-making regarding RT (Pedersen et al., 2023).

Several interacting explanations may contribute to these patterns. Thus, potential explanations include cultural differences in service engagement, involvement and communication, as evident in some cases. However, ethnic disparities may not be reduced to such factors alone. Additionally, as demonstrated by others, staff-related factors, such as limited cultural understanding and assumptions regarding adherence or perceived risk, may also contribute to ethnic disparities (Smith and Mohan, 2024, Collazos et al., 2021, Brooks et al., 2025). The presence of institutional racism in mental health services is likely involved as well (Williams and Etkins, 2021, Macpherson, 1999, Craig et al., 2025). Consistent with prior research showing lower-quality adult mental health care for ethnic minorities compared with majority populations worldwide (Ajnakina et al., 2020, Pedersen et al., 2022a, Brooks et al., 2025, Pedersen et al., 2025b), our findings provide qualitative insight into how such disparities may become embedded in routine processes.

RT use was only minimally debriefed across ethnic groups, despite evidence that debriefing may mitigate emotional impact and fear following restrictive practices (Mangaoil et al., 2020, Patel et al., 2018, Riahi et al., 2020, McKenna et al., 2024). This is concerning given the legal requirement for staff to offer debriefing in the research context (McKenna et al., 2024, Ministry of the Interior and Health, 2024), as well as recommendations in leading international guidelines (National Institute for Health and Care Excellence, 2015, Council of Europe, 2017). Limited documentation may partly reflect the short case window (± three days) or ongoing restrictive practice use post-RT, during which individuals may not have been considered ready for debriefing. However, expressions of guilt, shame or frustration were documented only among some individuals from the majority population, with staff responses rarely recorded, while similar expressions were absent in documentation for ethnic minorities.

This absence may not indicate a lack of emotional response among individuals but rather differences in recognition, documentation practices or recording of behavioural presentation, potentially reinforcing disparities in post-RT support and limiting opportunities for reflection, relational repair and informing future clinical-decision-making surrounding RT (Pedersen et al., 2023, Patel et al., 2018). Contact with patient advisors further suggested that RT was seldom addressed post-use, particularly when restraint had been applied. These findings indicate that debriefing should be conceptualised beyond legislative compliance (McKenna et al., 2024) and more consistently embedded in policy, guidance and staff training, as recommended by Mangaoil et al. (2020). Importantly, our findings also highlight the need to explore why post-RT expressions and documentation differ by ethnicity and how these disparities can be addressed in practice. The identified ethnic disparities may represent processes through which inequalities persist, not only in practice exposure but also in subsequent support.

Implications for future research

Future research should examine larger, multi-site samples to confirm these findings and explore intersectional factors, including gender, diagnosis, substance use and social determinants, that may influence RT use between ethnic groups (Flanagin et al., 2021, Pedersen et al., 2025b, Smith and Mohan, 2024). Research evaluating interventions aimed at reducing RT reliance and their impact on ethnic disparities are also needed (Baker et al., 2021). Additionally, examining into post-RT outcomes, such as patient experience, trauma, treatment adherence and physical health (Paton et al., 2019, National Institute for Health and Care Excellence, 2015, Council of Europe, 2017), would provide a more comprehensive understanding of the implications of restrictive practices like RT.

Limitations

This study has several limitations. Although the multiple-case framework enabled analysis within and between cases (Baxter and Jack, 2008), the number of cases included may limit the breadth of perspectives captured. Therefore, due to the constraints of the available dataset, nuances in clinical decision-making related to ethnicity in adult forensic mental health inpatient settings may remain unexplored. Notably, ethnicity was categorised solely by country of birth (ethnic minorities vs. the majority population), which may have obscured important within-group differences. For individuals with repeated RT use, only the first available case was included in line with the multiple-case framework (Baxter and Jack, 2008); however, this may have limited insights into escalation patterns or further potential ethnic disparities in repeated use. The research team, although including members with forensic clinical experience, had no prior clinical contact with the individuals. This outsider perspective reduced potential bias but may have limited access to implicit contextual knowledge (Buongiorno et al., 2025). The retrospective use of registration forms and electronic health records restricted analysis to formally documented reasoning, omitting unrecorded factors influencing RT decisions. Despite a rigorous analytic approach and team-based discussions to enhance trustworthiness and credibility, interpretation is inevitably shaped by the perspectives and decisions made during the analysis. Finally, findings reflect a Danish legal and institutional context and may not generalise to other countries or non-forensic settings.

Conclusions

In conclusion, this study revealed that ethnicity may influence staff clinical decision-making regarding RT in adult forensic mental health inpatient settings, with disparities emerging through cumulative, process-oriented variations in practice. Incorporating escalating distress and behaviour and highlighting iterative, cyclical patterns in clinical decision-making refines understanding of RT use in forensic services. Further research is needed to examine and nuance how ethnicity intersects with other factors influencing RT use and support equitable, rights-based care that minimises RT reliance.

Relevance for clinical practice

Efforts to address ethnic disparities in RT should focus not only on reducing overall use but also on limiting repeated use and improving processes surrounding RT. Early-stage assessment, communication and de-escalation appear crucial.

Forensic services should prioritise recognising early warning signs of escalating distress and behaviour in ethnic minorities (Fluttert et al., 2008), using structured risk assessment, proactive planning and through documentation to ensure equitable timing of measures, recognising that staff familiarity may be shorter than with the majority population. Enhancing documentation of negotiation, refusal and reasoning across ethic groups may strengthen transparency, support individual autonomy (Birkeland et al., 2024) and reduce RT reliance. Consistent with prior research on RT use (Pedersen et al., 2025b, Pedersen et al., 2025a), staff training should focus on cultural competence and, importantly, cultural safety (McGough et al., 2022) to mitigate cumulative, process-oriented disparities in institutional trajectories.

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Table 1. Characteristics of included individuals

	In total (N=19)	Ethnic minorities (n=7)	Ethnic majorities (n=12)
Age at sentencing, median (IQR)	30 (24-38)	27 (23-32)	34 (27-39)
Gender, n (%)			
Female	5 (26)	..	..
Male	14 (74)	..	..
History of substance use, n (%)			
Alcohol	6 (32)	3 (43)	3 (25)
Cannabis	11 (58)	4 (57)	7 (58)
Other	8 (42)	..	..
No or unknown	6 (32)	..	..
Forensic measure for mandatory treatment, n (%)	19 (100)	7 (100)	12 (100)
Types of offence(s), n (%)			
Assaults against public officials	9 (47)	..	..
Other violent offences and threats	10 (53)	5 (71)	5 (42)
Other criminal offences	8 (42)	4 (57)	4 (33)
Other	5 (26)	..	..
History of convictions, n (%)			
Ordinary sentence	9 (47)	..	..
Forensic measure	4 (21)	..	..
No	6 (32)	..	..
Criminal code, n (%)			
Para16	16 (84)	7 (100)	9 (75)
Para 69	3 (16)	0 (0)	3 (25)
Time limitation of sentencing, n (%)			
Yes	8 (42)	..	..
No	11 (58)	..	..
Sentence without expulsion, n (%)	19 (100)	7 (100)	12 (100)
Living situation, n (%)			
Own residence	13 (68)	..	..
Residential care or homeless	6 (32)	..	..
Civil status single or unknown, n (%)	19 (100)	7 (100)	12 (100)
Income source, n (%)			
Pension or disability pension	13 (68)	4 (57)	9 (75)
Other transfer income or unknown	6 (32)	3 (43)	3 (25)
Psychopharmacological treatment, n (%)			
Antipsychotics	15 (79)	..	..
Benzodiazepines	3 (16)	0 (0)	3 (25)
Other	5 (26)	0 (0)	5 (42)
No	4 (21)	..	..

IQR; interquartile range. Ethnic minorities: Individuals born abroad; Ethnic majorities: Individuals born in Denmark. Para 16: legally not responsible due to severe mental disorder; Para 69: less severe impairments, courts may impose forensic measures instead of punishment. Variables were obtained from registration forms for the Danish Forensic Mental Health Database, completed around the time of sentencing. For individuals with more than one registration form available, the one completed closest prior to the selected rapid tranquillisation use was employed. Grouping of variables and blank fields was done to protect the anonymity of included individuals. Percentages do not always total 100% as individuals may appear more than once. Values were rounded to nearest whole number.

Table 2. Characteristics of rapid tranquillisation (RT) use

	In total (N=19)	Ethnic minorities (n=7)	Ethnic majorities (n=12)
Age at RT use, median (IQR)	34 (27-41)	34 (26-38)	36 (38-43)
RT medication, n (%)			
Antipsychotics or benzodiazepines	9 (47)	3 (43)	5 (50)
Combination	10 (53)	4 (57)	5 (50)
Administration route, n (%)			
Oral	9 (47)	3 (43)	6 (50)
Intramuscular	11 (58)	4 (57)	7 (58)
Concurrent manual or mechanical restraint, n (%)			
Yes	10 (53)	3 (43)	7 (58)
No or unknown	9 (47)	4 (57)	5 (42)
Reference to previous RT effect, n (%)			
Yes	4 (21)	..	..
No	15 (79)	..	..
RT use without reference to advance statement, n (%)	19 (100)	7 (100)	12 (100)
Number of RT use during the study period, median (IQR)	3 (1-7)	2 (2-7)	3 (1-7)

IQR; interquartile range. Ethnic minorities: Individuals born abroad; Ethnic majorities: Individuals born in Denmark. Variables were obtained from electronic health records around the time of RT use. Grouping of variables and blank fields was done to protect the anonymity of included individuals. Percentages do not always total 100% as individuals may appear more than once. Values were rounded to nearest whole number.

List of figures