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Scholarly Manuscript: Deficiencies in Memory and Effective Education of De-Escalation Techniques in Mental Health Settings

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Abstract

Objective: To appraise and evaluate evidence recognizing the lack of effective staff education on de-escalation techniques, the impact that this creates on nursing practice, and staff perceptions on de-escalation methods and techniques in acute care inpatient and/or outpatient mental health settings.

Methods: Three databases were searched (CINAHL, PubMed, and PsycINFO) to identify articles/reviews which focused on de-escalation techniques and training. Additionally, five journals were also reviewed to help with the search process. Specific inclusion criteria were used to streamline the search process and to help identify articles/reviews which were primarily focused on the desired objective. Five different articles were identified and appraised using different appraisal tools.

Results: There is an overall lack of evidence displaying the benefits of de-escalation techniques and de-escalation staff trainings due to a lack of proper evaluative methods. Staff perceptions regarding de-escalation techniques also differ from optimal practice. The transference of de-escalation education and training to real-life practice is lacking.

Conclusions: De-escalation staff trainings within acute care mental health inpatient and/or outpatient settings should be properly evaluated to identify potential improvements in memory and retention of de-escalation education. Improving these trainings will lead to increased technique utility during appropriate situations and will potentially lead to better patient outcomes, decrease in injuries and lessened costs.

Keywords: De-escalation, de-escalation education, de-escalation techniques, staff trainings, mental health.

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Introduction

De-escalation techniques and strategies are important interventions within the field of nursing and are vital within the mental health field. De-escalation strategies involve the utility of non-physical, verbal and positional interventions that mitigate instances of aggressive and/or violent behavior displayed by an individual or patient. Some of these strategies can include effective communication, maintenance of a nonjudgmental attitude, acknowledgement of feelings, and others (Halm, 2017). The effective utility of these techniques can help mitigate instances of violence and injuries amongst staff and patients. Unfortunately, while staff working in mental health settings are provided with education and training on de-escalation techniques, many staff fail to incorporate these techniques into their real-life practice and resort to physical interventions to mitigate the behavior. Therefore, it is imperative that staff be effectively trained on these techniques and provided with resources to help encourage retention, which currently seems to be lacking (Price et al., 2015). The purpose of this paper is to analyze and evaluate evidence recognizing the lack of effective staff education on de-escalation techniques, the impact that this creates on nursing practice, and staff perceptions on de-escalation methods and techniques.

Background

Individuals that require support for their psychiatric conditions and/or symptoms seek out mental health settings where they can obtain relief from the symptoms that they may be experiencing. These individuals may experience varying symptoms related to their mental health, including but not limited to hearing voices, having delusions, experiencing paranoia, feeling

depressed, expressing increased anxiety, and many others. In these settings, some individuals have exasperated bouts of symptoms which lead to intense deterioration in their psychiatric conditions. These symptoms can present with aggressive and/or violent behavior and lead to physical interventions used by staff to help in de-escalating the behavior. These physical interventions can include the application of mechanical or chemical restraints which may further agitate the patient, leading to negative psychological and physical outcomes (Godfrey et al., 2014). Additionally, the application of these more involved physical methods along with injuries and associated increased length of stay in the setting can result in high costs as well (Price et al., 2015). Since these patients arrive in these settings to obtain help, it is important to practice non-physical interventions when applicable to help contribute to the treatment of these individuals and to help in preventing further negative outcomes stemming from the use of force-related actions (Ashcraft, Bloss, & Anthony, 2012).

Staff working in mental health settings are provided with initial training and periodic training on de-escalation techniques and strategies. In these training sessions, staff learn by performing in simulated settings and practicing certain methods that can be utilized in real-life situations involving aggressive and/or violent patients (Price et al., 2015). Unfortunately, many staff fail to utilize these techniques during real-life situations involving aggressive and violent behavior and resort back to physical interventions in order to mitigate the behaviors displayed by the patients (Price et al., 2015). While the utility of de-escalation techniques is "recognized nationally as a first-line intervention for [aggressive behavior], findings indicate restrictive practices are frequently used to manage escalations of aggression/agitation in mental health settings" (Price et al., 2018). Since violence and aggression occur frequently in mental health settings and since the injury costs related to these incidents are significant, it is vital to

incorporate non-physical de-escalation techniques into practice to help improve potential

outcomes for both patients and staff (Price et al., 2015). Additionally, there is a lack of evidence

surrounding the long-term effectiveness of de-escalation training programs and educational

materials that are provided to staff and therefore, the benefits and value of these programs cannot

be evaluated effectively. Therefore, even though staff working in mental health settings are

provided with trainings and education to help in learning and remembering these techniques,

they may not recall these methods during pertinent real-life situations, highlighting a discrepancy

in memory and retention of the training and education provided.

Review of the Literature

To help obtain evidence on the issue of de-escalation technique memory and retention, a

search was conducted through multiple databases and journals. First, the search was conducted

through CINAHL (Cumulative Index to Nursing and Allied Health Literature), PubMed, and

PsycINFO. The primary search terms used were "de-escalation", "de-escalation training", "de-

escalation techniques", "de-escalation education", and "violent/aggressive behavior."

Additionally, boolean terms such as "ment*", "viol*", and "deesca*" were also utilized to help

with the search. These terms were also utilized to search within the following journals: The

American Journal of Psychiatry, Journal of Psychiatric Research, British Journal of Psychiatry,

Journal of Psychiatric Services, and Journal of Psychiatric and Mental Health Nursing. The

search was primarily focused on studies involving de-escalation strategies/techniques and staff

education regarding these techniques. These strategies included interventions such as the

application of restraints, maintaining seclusion, administration of medication, non-verbal

interventions, and other alternatives. Individuals admitted into psychiatric facilities (both

inpatient and outpatient) were the primary focus of this search, but data involving de-escalation

interventions outside of psychiatric care was also considered for appraisal. Utilizing the search terms specified, an initial total of 396 preliminary articles were found.

To help isolate studies that were highly pertinent to the issues explored, inclusion criteria were developed and utilized. The target population were staff who were primarily working in psychiatric care facilities and had exposure to violent/aggressive patients. Studies including other disciplines of care not involving mental health were also considered if the studies included elements of de-escalation. The target intervention for inclusion was staff training involving de-escalation strategies, methods in which the training was provided, staff responses to the training, and evaluative measures to help recognize potential benefits of the training. Additionally, studies exploring strategies that were used by staff in situations requiring de-escalation were also identified. All levels of evidence were considered for this review and studies detailing results of the de-escalation staff training were also highlighted. All studies that were not within these criteria were excluded for consideration. From the preliminary 396 articles, the inclusion criteria were used. After curating studies published within the last six years and those that were more pertinent to the topic being explored, five articles were selected and appraised. Two of the studies are systematic reviews (Price et al., 2015; Gaynes et al., 2017), two studies are cross-sectional method studies (Hallett & Dickens, 2015; Kuivalainen et al., 2017), and one study is a clinical evidence literature review (Halm, 2017). Using the John Hopkins Nursing Evidence-Based Practice Appraisal Tool (Dang & Dearholt, 2017), Price et al. (2015) is a level III-B study, Gaynes et al. (2017) is a level II-B study, Hallett & Dickens (2015) is a level III-B study, Kuivalainen et al. (2017) is a level III-B study, and Halm (2017) is a level V-B study.

Price et al. (2015) explored the learning and performance outcomes of mental health staff training in de-escalation techniques and highlighted that de-escalation techniques are

recommended interventions that are assumed to be beneficial in managing violent and/or aggressive behaviors. The researchers conducted a systematic review on 38 different studies/articles to identify the education, training and overall preparation that staff were obtaining in regard to de-escalation techniques. In addition, they were interested in exploring whether this training and preparation positively impacted the performance outcomes of the staff. Overall, a lack of quality evidence was noted in the studies that they appraised and therefore, strong conclusions on the benefit of staff de-escalation training could not be formulated. The researchers highlight utilizing an optimal method to assess outcomes from the training and education that staff receive, such as applying evidence-based interventions and then obtaining and evaluating the data from settings where these interventions were used. With this method, the effectiveness of the training and education can be evaluated and potentially improved. Furthermore, most studies appraised identified that staff preferred to have manuals and materials on de-escalation techniques, potentially as a part of a de-escalation toolkit, to have with them at all times to help reinforce memory and recall of techniques (Price et al., 2015). Limitations of this study include its focus on articles solely involving the adult age and the broad inclusion criteria. These limitations led to articles being included which utilized restraints/seclusion as de-escalation strategies. The strength of this study is its portrayal of the lack of evidence surrounding the efficiency of de-escalation staff training and the call to action for more research. Due to this lack of evidence, the benefits of using these strategies in real-life scenarios have not been adequately measured and evaluated. Therefore, this study highlights the lack of effective de-escalation training and education and creates an increased emphasis on future de-escalation training programs and their evaluation.

Gaynes et al. (2017) performed a systematic review to compare the effectiveness of the strategies that were used to de-escalate and prevent aggressive behaviors among psychiatric patients in acute-care settings. The search was also focused on identifying interventions that were used to reduce seclusion and the use of restraints. A total of 17 controlled studies were identified and the number of participants totaled over 3,628 across all studies. The analysis of the studies showed an overall lack of evidence surrounding strategies that can be utilized to prevent and de-escalate aggressive behavior amongst psychiatric patients. While studies identified the utility of risk assessment and multimodal strategies as potential methods to reduce seclusion and use of restraints, there was a lack of encouraging evidence supporting the methods used within the studies (Gaynes et al., 2017). The study highlighted that while a majority of the studies focused on preventive unit wide programs for their training, they did not specifically focus on aggressive patients. Strengths include exploring and reviewing literature to identify de-escalation techniques and strategies which can be used to de-escalate patients in acute care settings. Additionally, the review also highlights the lack of available evidence on this topic and signifies the need for further research in the future. Limitations included the review's sole focus on adults in acute care settings and left out data from chronic care and psychiatric residential settings, as well as children and adolescents. Additionally, another limitation is that studies solely focused on reducing aggression were identified and studies focused on reducing agitation were not considered. This study further displayed the lack of available evidence on effective de-escalation techniques and highlighted the need for further research and appropriate evaluation on this issue.

Hallett and Dickens (2015) developed and distributed a questionnaire utilizing open-ended questions to staff working in a secure mental health setting associated with de-escalation. There were 72 participants within this study and the questionnaire contained questions exploring

the major themes of de-escalation including communication, tactics, de-escalator qualities, assessment and risk, getting help, and containment measures. After conducting the questionnaires, the researchers identified that half of the participants erroneously identified PRN medication as a de-escalation intervention and approximately fifteen percent of respondents identified seclusion and restraints as appropriate de-escalation interventions to use. Through this study, it was determined that the views of the staff in regard to de-escalation may differ from optimal practice and therefore, may result in the application and utility of more physical and involved methods which can result in negative impacts. The strength of the study is that it provides staff perspectives of de-escalation studies which can be important to help in education and training. Additionally, the study helps clarify themes that should be addressed in de-escalation programs. Limitations of the study are the small sample size and the lack of random sampling. Overall, this study helps highlight themes and beliefs of staff around de-escalation and recognizes that aggressive measures are commonly used. Therefore, it is beneficial to recognize patient views on de-escalation to help design training and education that can help improve utility of appropriate de-escalation techniques.

Kuivalainen et al. (2017) focused on examining the reasons for utilizing seclusion and restraints on patients, as well as any de-escalation techniques which were used to help calm patients down in a Finland hospital. The researchers examined seclusion and restraint forms from a 4-year period between 2009 and 2013 and utilized purposive sampling to ensure that the data was representative of the time period and included a variation of seclusion and restraint episodes. A total of 144 different seclusion and restraint decisions were analyzed and after data analysis, it was determined that the most commonly used de-escalation techniques were one-to-one interactions with the patient and administration of extra medications. Additionally, the most

common reasons for using seclusion and restraints were threatening harmful behavior, direct harmful behavior, indirect harmful behavior, and other behaviors. This study helps highlight the common reasons behind the application of restraints and utility of seclusion and pertinent de-escalation strategies that are being utilized within an inpatient mental health setting. The events within this study can be analyzed to determine where de-escalation technique utility can be improved and ways to prevent unnecessary application of restraints and seclusion. The strength of this study is that it uses an appropriate sample size and time period to assess the interventions used and provides important insight into the approaches used by staff to de-escalate patients. A limitation of this study is that only the first seclusion or restraint episode was included in the study and subsequent episodes for the same patient were not included. Additionally, cases were not randomized at the ward level which would have been useful for generalization. Overall, this study helps highlight that staff should be educated on a broad range of de-escalation techniques instead of reverting to restraint and/or seclusion use from the outset. While restraint and/or seclusion utility is warranted with risk to safety and in severe situations, it is important to train staff in multiple de-escalation areas so they can utilize them in pertinent situations.

Halm (2017) aimed to identify the quality of education that staff receive regarding aggression management in acute care settings outside of psychiatric care and analyzed seven articles to further explore this issue. In this review, Halm (2017) used the Kirkpatrick 4-level evaluation model to evaluate the training received by the staff. This model involves 4 distinct levels to evaluate effectiveness: (1) What the reactions of the staff were from the training, (2) Whether the staff were able to learn from the training, (3) Did the behavior of the staff change due to the training, and (4) Did the training improve clinical outcomes. The review identified that in general, the staff responded positively to the training, gained knowledge/skills and the

confidence to manage the aggressive situations. The review identified different training methods which were conducted in the studies involved, including 45-minute in-service training sessions, twenty-four 50-minute sessions over several days, 4-hour sessions, and 1-day sessions (Halm, 2017). However, the review also signifies a lack of research to evaluate aggression management education. As stated in the review, nurses' attitudes toward the aggressive attitudes did not change and ultimately, this resulted in an emotional response by the nurses (Halm, 2017). A strength of this study is its ability to use the Kirkpatrick 4-level evaluation model to evaluate de-escalation training received by acute care nurses and to identify appropriate transfer of knowledge. However, a lack of evidence showing an improvement of clinical outcomes related to using de-escalation techniques during aggressive situations displays the limited benefit of the training and presents as a limitation of this study. Therefore, future studies should aim to implement effective staff training that can be evaluated using the Kirkpatrick evaluation model and can be used to obtain results showcasing an improvement in clinical outcomes.

Analysis

A lack of research conducted on whether de-escalation training provided to staff is effective was the main theme gleaned from the studies, including whether the techniques are being utilized appropriately and if any measures are being implemented to help evaluate the de-escalation programs (Gaynes et al., 2017; Price et al., 2015). Although some studies included within this review aim to identify appropriate de-escalation strategies and techniques, research prior to the conduction of these studies has been lacking (Gaynes et al., 2017; Price et al., 2015). Many trainings offered to staff occur on an organization wide basis without necessarily focusing on aggressive behaviors and are not being evaluated for effectiveness which illustrates the lack of evidence showing an improvement in clinical outcomes as well as the benefit of these

trainings (Gaynes et al., 2017; Halm, 2017; Price et al., 2015). Furthermore, current evidence

shows that clinicians, administrators, staff and even patients have no real evidence base to seek

guidance on how to prevent and de-escalate aggressive behaviors (Gaynes et al., 2017, Hallett &

Dickens, 2015). Additionally, the views of staff on appropriate de-escalation techniques were

also assessed and found to be different from optimal practice. Due to this lack of evidence, the

benefits of using these strategies in real-life scenarios have not been adequately measured and

evaluated and the views of staff regarding de-escalation may differ from optimal practice (Hallett

& Dickens, 2015). Therefore, this highlights a major gap in knowledge and places an emphasis

exploring how staff can better transfer their de-escalation training into their practice, such as

with the development of a de-escalation toolkit.

Discussion

The utility of de-escalation techniques in practice is an important intervention for patient

care and safety. Utilizing less coercive methods can help prevent the physical and psychological

dangers that are present in coercive containment methods (Lavelle et al., 2016). In addition,

using these techniques properly can reduce injuries for both staff and patients and reduce costs

related to those injuries, while also helping patients seek help earlier in the future and avoid

episodes of agitation (Richmond et al., 2012). Unfortunately, a lack of evidence currently

persists on the benefits of these techniques and as a result, conclusions on which techniques are

effective and beneficial cannot be established. Furthermore, there is also a lack of evidence on

the effectiveness of the staff trainings since the techniques are not being utilized during pertinent

situations. Due to this lack of utility, the effectiveness of the trainings cannot be effectively

determined. By highlighting the lack of evidence on this topic (particularly the lack of effective

staff training), appropriate measures can be instituted and developed to improve the efficiency of

these trainings. Improving the trainings and encouraging methods to employ de-escalation techniques within practice will lead to improved outcomes for both patients and staff (Price et al., 2015). Development of methods which can enhance memory and retention of the de-escalation education is vital in ensuring that these techniques are utilized appropriately during pertinent situations. Ensuring retention of these techniques will allow staff to utilize them properly and as a result, rates of injury and associated costs may potentially be decreased (Price et al., 2015). Finally, effective utilization of these techniques can lead to an improved quality of care and enhanced patient safety. Therefore, improving de-escalation trainings is an important step in ensuring the utility of de-escalation techniques and potentially improving outcomes.

A limitation of this review was the small sample of review articles related to the topic of de-escalation. While the selected review articles provided an extensive review on articles related to de-escalation techniques and education, individual articles relative to this topic were difficult to identify and therefore, only five articles were appraised for this review. In addition, some of the review articles contained data solely from outside of the United States which limits the amount of evidence pertaining to de-escalation technique utility in the United States. Furthermore, while there are studies that are in process or have been conducted to evaluate the effectiveness of a de-escalation program at a specific mental health setting, these studies were not included in this review due to lack of generalization of the evidence. Finally, there was insufficient evidence obtained on techniques currently being utilized in different facilities and due to this, specific technique and education recommendations were unable to be provided within this review.

Clinical Implications

A review of the evidence shows an overall lack of data and support towards the benefits of using de-escalation techniques. This lack of data and support is prevalent since many of the established de-escalation programs and trainings are not being appropriately evaluated for effectiveness. The evidence also shows a lack of utility of de-escalation techniques during real-life scenarios and shows the misconceptions that staff may have surrounding appropriate methods for de-escalation, which together create difficulty for proper evaluation and determination for effectiveness. Without having the ability to assess and evaluate the de-escalation training programs and the techniques themselves, it is difficult to tackle the problem preventing staff from effectively utilizing de-escalation techniques and helps increase the utility of more physical interventions instead.

The clinical implications that are prevalent due to this issue include the increased utility of physical interventions to help control aggressive/violent patient behavior, continuing potentially flawed de-escalation training programs and education methods that may not be improving outcomes, and preventing staff from continuously learning and reinforcing de-escalation techniques and principles. The lack of de-escalation technique utility may also stem from insufficiencies in the way that the trainings are provided. As noted during the integrated review of the evidence, while the trainings are positively received by staff and assist them in gaining knowledge, the skills learned in these trainings are not sufficiently carried over to real-life practice (Halm, 2017). Many of the trainings provided are composed of one or more days during the initial period of the staff's employment. The lapse of time between trainings and educational reinforcements leads to the information regarding de-escalation to become forgotten or not practiced correctly. The evidence stresses the importance of an increased focus on

evaluating de-escalation techniques and trainings (Price et al., 2015). As de-escalation strategies are recognized nationally as a first-line intervention for aggressive behavior, obtaining efficient training and education of these strategies is extremely important to ensure positive staff and patient outcomes and is important in improving clinical outcomes (Price et al., 2018). By gaining insight into how current training is being delivered, proper interventions can be established to help better the trainings to improve memory and retention of this education.

Conclusion

Utility of de-escalation techniques during pertinent situations involving potentially aggressive and/or violent patients can help in improving the outcomes for both patients and staff by reducing potential injuries and costs. The evidence highlights the discrepancies between education and training being provided to staff and the overall utility of the techniques when appropriate. Therefore, by recognizing the lack of technique utility as a result of discrepancies in memory retention or real-life practice, methods to help improve memory and constant reinforcement of de-escalation techniques, such as a de-escalation based toolkit, can help pave the way to improve staff competency and utility of the techniques.

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Appendix A

Evidence Appraisal and Evaluation Table

Purpose of article or review	Design / Method / Conceptual framework	Sample / Setting	Major variables studied (and their definitions)	Measurement of major variables	Data analysis	Study findings	Level of evidence (critical appraisal score) / Worth to practice / Strengths and weaknesses / Feasibility / Conclusion(s) / Recommendation(s) /
APA Reference: Gaynes, B. N., Brown, C. L., Lux, L. J., Brownley, K. A., Van Dorn, R. A., Edlund, M. J., Coker-Schwimmer, E., Weber, R. P., Sheitman, B., Zarzar, T., Viswanathan, M., & Lohr, K. N. (2017). Preventing and De-escalating Aggressive Behavior Among Adult Psychiatric Patients: A Systematic Review of the Evidence. *Journal of Psychiatric Services*, *68*(8), 819–831. https://doi.org/10.1176/appi.ps.201600314							
To compare effectiveness of strategies used to prevent and de-escalate aggressive behaviors among psychiatric patients in acute care settings.	A systematic review involving comparative studies of violence prevention and de-escalation strategies in acute care settings Electronic databases were searched along with manually searched reference lists focused on comparative studies of de-	Articles focused on comparative studies of de-escalation strategies used for adult patients with psychiatric disorders presenting with aggressive behavior Total studies found after initial search: 1,983 After application of selection	IV: Search within electronic databases and reference lists with inclusion/exclusion criteria DV: Studies detailing and comparing de-escalation strategies used for adult patients with psychiatric disorders presenting with aggressive behavior	SOE for primary outcomes were independently graded based on incorporation of five key domains: 1. Study limitations, 2. Consistency, 3. Directness, 4. Precision, 5. Reporting bias	All identified studies were tabulated and compared based on the type of intervention, study design, risk of bias, clinical setting, country, sample size, duration of intervention, intervention and comparison groups, and the patient population.	Overall, there was very limited evidence surrounding strategies for preventing and de-escalating aggressive behavior among psychiatric patients. While risk assessment and multimodal interventions which were	Level II-B **Worth to Practice:** Highlights the lack of research and evidence into effective de-escalation techniques and methods which can be used in psychiatric settings, including inpatient and outpatient and shows the need for further research and implementation of appropriate evaluation methods. **Strengths and Weaknesses:** Strengths include exploring and reviewing literature to identify de-escalation techniques and strategies which can be used to de-escalate patients in acute care settings. Additionally, the review also highlights the lack of available evidence on this topic

Purpose of article or review	Design / Method / Conceptual framework	Sample / Setting	Major variables studied (and their definitions)	Measurement of major variables	Data analysis	Study findings	Level of evidence (critical appraisal score) / Worth to practice / Strengths and weaknesses / Feasibility / Conclusion(s) / Recommendation(s) /
	escalation strategies. Pertinent inclusion and exclusion criteria were developed to determine studies to be included. Two research team members independently reviewed all titles and abstracts against these criteria to identify studies.

No conceptual/theoretical framework is used. | criteria: 39

After application of inclusion/exclusion criteria and eliminating ineligible studies: 17 (13 RCTs, two NRCTs, and two retrospective cohort studies).

Databases searched included MEDLINE (via PubMed), Embase, the Cochrane Library, Academic Search Premier, PsycINFO, and CINAHL (Cumulative | | | Studies with low SOE (the highest SOE grade) were also separated to determine findings and direction of effect. | consistent with the Six Core Strategies principles (including include leadership toward organizational change, use of data to inform practice, workforce development, use of seclusion and restraint prevention tools, consumer roles in inpatient settings, and debriefing techniques) may help lower | and signifies the need for further research in the future. Limitations included the review's sole focus on adults in acute care settings and left out data from chronic care and psychiatric residential settings, as well as children and adolescents. Additionally, another limitation is that studies solely focused on reducing aggression were identified and studies focused on reducing agitation were not considered.

Feasibility and Conclusion: This review further displayed the lack of available evidence on effective de-escalation techniques and highlighted the need for further research and appropriate evaluation on this issue. The study is feasible to be conducted by other researchers in the future.

Recommendations: Evaluate the utility of de-escalation techniques within the studies |

Purpose of article or review	Design / Method / Conceptual framework	Sample / Setting	Major variables studied (and their definitions)	Measurement of major variables	Data analysis	Study findings	Level of evidence (critical appraisal score) / Worth to practice / Strengths and weaknesses / Feasibility / Conclusion(s) / Recommendation(s) /
		Index to Nursing and Allied Health Literature) for studies from January 1, 1991, to February 3, 2016				aggressive behavior and use of restraining methods, more research is needed to understand how best to prevent and de-escalated behavior in acute care settings. .	gleaned from the review and incorporate appropriate techniques found through the search for inclusion within the toolkit. Additionally, conduct further research into appropriate de-escalation techniques that are being utilized at different psychiatric facilities (inpatient and/or outpatient) and evaluate the techniques and strategies to identify significant results. By conducting further research and experimentation, more data and evidence can be generated to determine best techniques. Include in project.

Definition of abbreviations: SOE: Strength of Evidence.

Purpose of Article or Review	Design / Method / Conceptual Framework	Sample / Setting	Major Variables Studied (and their Definitions)	Measurement of Major Variables	Data Analysis	Study Findings	Level of Evidence (Critical Appraisal Score) / Worth to Practice / Strengths and Weaknesses / Feasibility / Conclusion(s) / Recommendation(s) /
APA Reference: Hallett, N., & Dickens, G. L. (2015). De-escalation: A survey of clinical staff in a secure mental health inpatient service. *International Journal of Mental Health Nursing, 24(4)*, 324–333. https://doi.org/10.1111/inm.12136							
To explore the views of a range of clinical staff about de-escalation including their definition regarding de-escalation, interventions that they identify as de-escalation, their, interventions utilized during low level conflict resolution, intervention staff believe constitute de-	Cross-sectional mixed-methods questionnaire survey design incorporating quantitative and qualitative elements. 10-item questionnaire consisting of three different sections: participants' definitions of de-escalation, views about de-escalation, and range of interventions utilized by staff. Data analysis for	N=72 80 staff were provided with questionnaires with 72 responses returned. Study was conducted as St. Andrew's mental health hospital and recruited multiple participants from different wards.	IV: 10-item questionnaire provided to staff DV: Demographic details and views of clinical staff (including communication, tactics, interpersonal skills, assessment/risk, getting help, and containment measures) on de-escalation and responses to vignettes showing aggressive behavior.	Demographic details were isolated and presented for the participating clinical staff. Free-response sections were analyzed using thematic analysis to identify common themes and de-escalation interventions that were used.	Each section of the questionnaire was analyzed separately, with the first two sections (participants' definitions of de-escalation and views about de-escalation) transcribed separately into Microsoft Excel and different codes were used to identify words and phrases within the data set to help formulate	The views of clinical staff about de-escalation may differ from optimal practice, as half of the staff interviewed identified PRN medications as a de-escalation intervention and 15% wrongly stated that seclusion, restraints, and	Level III-B **Worth to practice:** Identifies staff perceptions of de-escalation techniques and interventions which they currently use which can be used to provide proper education and training on appropriate de-escalation methods in the future. **Strengths and Weaknesses:** The strength of the study is that it provides staff perspectives of de-escalation studies which can be important to help in education and training. Additionally, the study helps clarify themes that should be addressed in de-escalation programs. Limitations of the study are the small sample size and the lack of random sampling.

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escalation, and interventions that staff believe are most effective.	each of the survey sections was conducted and thematic analysis of free-response sections was also performed. No conceptual framework is used.				higher level themes. The third section (range of interventions utilized by staff)	emergency IM medications were de-escalation interventions. These interventions were also found to be the most commonly used.	**Feasibility and Conclusion:** Study helps highlight themes and beliefs of staff around de-escalation and recognizes that aggressive measures are commonly used. Therefore, it is beneficial to recognize patient views on de-escalation to help design training and education that can help improve utility of appropriate de-escalation techniques. **Recommendation:** Study should be conducted in the United States at various mental health facilities throughout the country with larger sample sizes. Include in project.

Definition of abbreviations: IM: Intramuscular; PRN: Pro Re Nata (as needed)

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APA Reference: Halm, M. (2017). Aggression management education for acute care nurses: What's the evidence? *American Journal of Critical Care*, 26(6), 504–508. https://doi.org/10.4037/ajcc2017984							
To explore studies which identified methods to help address workplace violence and to determine different educational methods which were used to help manage aggression.	Literature review CINAHL and MEDLINE databases were searched using key words such as violence, hospital violence, acute care, nurses, aggression management, and de-escalation education. No conceptual framework is used.	Seven original research papers were retrieved from the search. Two systematic reviews, one integrative review, three pre-post studies, and one qualitative study were retrieved from the search.	IV: Database search to identify aggression management education. DV: Effectiveness and benefits of aggression management education highlighted in within the different studies.	Each study was reviewed for the type of study as well as the main findings from each study.	The main findings of the seven studies were highlighted and each study's design and sample were described along with the cognitive, affective, and skill-based aspects of the educational sessions provided within the seven studies. Additionally, the clinical outcomes as well as the level of evidence were	Benefits of the education related to aggression management were described via the Kirkpatrick 4-level evaluation model and nurses were found to respond favorable by gaining knowledge, skills, and confidence to manage aggressive situations more effectively.	Level V-B **Worth to practice:** Recognizes different training methods and strategies which can be used to help provide aggression management education for nurses. **Strengths and Weaknesses:** A strength of this study is its ability to use the Kirkpatrick 4-level evaluation model to evaluate de-escalation training received by acute care nurses and to identify appropriate transfer of knowledge. However, a lack of evidence showing an improvement of clinical outcomes related to using de-escalation techniques during aggressive situations displays the limited benefit of the training and presents as a limitation of this study.

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					highlighted.		**Feasibility and Conclusion:** Study helps highlight important elements of aggression management education and the methods in which the education is provided to help encourage future utility of similar methods in providing education. Replication of the study is feasible. **Recommendation:** Additional research should be conducted to evaluate aggression management education with acute care nurses. Include in project

Definition of abbreviations: none

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APA Reference: Kuivalainen, S., Vehviläinen, J. K., Louheranta, O., Putkonen, A., Repo, T. E., & Tiihonen, J. (2017). De-escalation techniques used, and reasons for seclusion and restraint, in a forensic psychiatric hospital. *International Journal of Mental Health Nursing, 26(5)*, 513–524. https://doi.org/10.1111/inm.12389							
Examining the reasons for utilizing seclusion and restraint, as well as any de-escalation techniques which were used to help calm patients down in a Finland hospital.	Cross-sectional, retrospective, descriptive study. Seclusion and restraint forms from a 4-year period between 2009 and 2013 were investigated. Purposive sampling was utilized to ensure data were representative and included a variation of seclusion and restraint episodes from different units and patient	N=144 seclusion/restraint decisions Study was conducted within the Niuvanniemi state mental hospital in Finland.	IV: Investigation of seclusion or restraint episodes DV: Reasons for using seclusion or restraints and which de-escalation techniques, if any, were used to help.	Qualitative analysis was conducted on the seclusion and restraint forms to determine the de-escalation techniques that were used and the reasons for the seclusion and restraint along with the gender of patients involved and reason for inpatient admission.	Seclusion and restraint episodes were analyzed using descriptive statistics and X^2 test performed using SPSS Statistics version 20. Qualitative content analysis was used to investigate the de-escalation techniques in the narrative descriptions of the form. Analysis was furthered and four categories were	The most commonly used de-escalation techniques were one-to-one interactions with the patient and administration of extra medications. Additionally, the most common reasons for seclusion and restraint were threatening harmful behavior, direct harmful behavior,	Level III-B **Worth to practice:** Highlights the common reasons behind the application of restraints and utility of seclusion and pertinent de-escalation strategies that are being utilized within an impatient mental health setting. These events can be analyzed to determine where de-escalation technique utility can be improved and ways to prevent unnecessary application of restraints and seclusion. **Strengths and Weaknesses:** The strength of this study is that it uses an appropriate sample size and time period to assess the interventions used and provides important insight into the approaches used by staff to de-escalate patients. Limitations of this study are that only the first seclusion or restraint episode

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	groups. No conceptual framework was used.				established to determine most common reasons for restraints and seclusion	indirect harmful behavior, and other behaviors.	was included in the study. Additionally, cases were not randomized at the ward level which would have been useful for generalization. **Feasibility and Conclusion:** Study helps highlight that staff should be educated on a broad range of de-escalation techniques instead of reverting restraint and/or seclusion use from the outset. While restraint and/or seclusion utility is warranted with risk to safety and in severe situations, it is important to train staff in multiple de-escalation areas so they can utilize them in pertinent situations. This study can be replicated at mental health hospitals and facilities. **Recommendation:** Study findings should be used to help educate during toolkit training. Include in project.

Definition of abbreviations: None

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APA Reference: Price, O., Baker, J., Bee, P., & Lovell, K. (2015). Learning and performance outcomes of mental health staff training in de-escalation techniques for the management of violence and aggression. *British Journal of Psychiatry, 206(6)*, 447-455. https://doi.org/10.1192/bjp.bp.114.1445767.							
To determine the learning, performance, and clinical safety outcomes of de-escalation techniques training provided to mental health staff.	Systematic review Search terms were developed involving mental health and de-escalation techniques and were used to search electronic databases. Inclusion and exclusion criteria were developed and utilized along with eligibility screening. No conceptual framework is used.	Studies on de-escalation training involving healthcare staff working with adult populations (aged 18 to 65 years) in mental health settings (no specific setting mentioned) Total studies found after initial search: 12,885 After screening by title: 10,174 After screening by abstract:1,247	IV: Trainings conducted on de-escalation techniques for managing violence and aggression DV: Mental health staff learning and performance outcomes as a result of the de-escalation trainings provided	Quality Assessment Tool for Quantitative Studies: Identifies selection bias, study design, confounder variables, blinding, data collection methods, study withdrawals/dropouts, validity and reliability in quantitative studies. COREQ: Identifies research team and reflexivity, study design and data analysis/reporting of qualitative studies.	All quantitative data were tabulated according to key training outcomes (including cognitive, affective, skills-based, clinical, and organizational outcomes. Cohen's d was calculated for all studies that were reporting data appropriately. Formal qualitative data analysis was not performed due to insufficient	Overall, there was insufficient evidence which consistently demonstrated improvements in cognitive, affective, and skill-based outcomes and transfer to enhanced job performance for de-escalation techniques. Through the available evidence, it	Level III-B **Worth to Practice:** Highlights the lack of effective de-escalation training and education and places emphasis on future de-escalation training programs and their evaluation. **Strengths and Weaknesses:** Strengths include exploring and reviewing literature to assess the effectiveness and transferability of de-escalation trainings and their benefit to real-life practice. Additionally, the review highlights the lack of general evidence available on this issue and brings to light the need for more research on this topic. Limitations include not reviewing and evaluating studies involving the adolescent and geriatric population and potential bias towards unqualified and student nurse populations based

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		After screening by availability of full text: 67 After application of inclusion/exclusion criteria: 38 (including quantitative and qualitative studies).			qualitative data and instead, common themes were extrapolated from these studies.	was found that the strongest impact of de-escalation training was on knowledge and improving confidence in performing techniques. However, the evidence also shows that these attributes are not particularly helpful in managing actual aggressive behaviors and attitude modification	on the very limited data available on this issue. **Feasibility and Conclusion:** This review provided valuable insight into the lack of evidence available on the effectiveness of de-escalation trainings and their effect on learning and performance outcomes. It is feasible to conduct this study again to identify additional studies and effectiveness in the future. **Recommendations:** Evidence-based interventions measuring de-escalation performance and transfer to real life practice should be instituted. Additionally, measures used to evaluate de-escalation trainings should also be implemented. Include in project.

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						s did not contribute to effective de-escalation technique utility either.	

Definition of abbreviations: IV: Independent Variable; DV: Dependent Variable; COREQ: COnsolidated criteria of REporting Qualitative research