

# Emergency department staff experiences of the Bröset Violence Checklist

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## Abstract

**Aim:** Work-related violence is a significant problem in healthcare settings and emergency departments are one of the highest at-risk locations. There have been significant challenges in identifying successful risk-mitigation strategies to reduce the incidence and impact of work-related violence in this setting. This research explores the perspectives of clinical staff who routinely use violence risk assessment to provide recommendations for improvements.

**Design:** This qualitative research used interviews of staff who routinely use of the Bröset Violence Checklist in an emergency department. The study was conducted in April 2022.

**Method:** Interview transcripts were subjected to Thematic Analysis to explore participants' clinical experiences and judgements about the utility of the Bröset Violence Checklist.

**Results:** Eleven staff participated in semi-structured interviews. Participants described themes about the benefits of routine violence risk assessment and the influence of the subjective opinion of the scorer with respect to the emergency department patient cohort. Four categories of violence risk factors were identified: historical, clinical, behavioural and situational. Situational risks were considered important for tailoring the tool for context-specificity. Limitations of the BVC were identified, with recommendations for context-specific indicators.

**Conclusion:** Routine violence risk assessment using the Bröset Violence Checklist was deemed useful for emergency departments, however, it has limitations.

**Impact:** This study's findings offer potential solutions to reduce violence affecting front-line workers and practical processes that organizations can apply to increase staff safety.

**Implications:** The findings produced recommendations for future research and development to enhance utility of the Bröset Violence Checklist.

**Reporting Method:** EQUATOR guidelines were adhered to and COREQ was used.

**Patient or Public Contribution:** No patient or public contribution was involved in this study.

## KEYWORDS

emergency nursing and medicine, risk assessment, staff safety, workplace violence

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## 1 | INTRODUCTION

Work-related violence (WRV) is a significant problem in health-care settings. WRV is abuse, threats or assaults in the workplace and includes a broad range of actions and behaviours that can risk workers' health and safety (Worksafe Victoria, 2020). WRV is pervasive worldwide, with reported increasing rates over time (Nikathil et al., 2018). The impact of exposure to WRV is significant on both emotional and financial fronts. It contributes to stress, sick leave, turnover and burn out and impacts the quality of care to patients and their families (Cabilan & Johnston, 2019; Lau et al., 2004). Therefore, early detection of risk of violence in emergency departments is essential to ameliorating its impact on staff and consumers.

Emergency departments are recognized as one of the highest risk locations for violence in hospital settings (Pich et al., 2017). Studies report WRV incidents and prevalence as high as 90% and a daily risk for ED staff (Cabilan & Johnston, 2019). A review of the literature of violence mitigation strategies in the ED's has shown significant gaps in the early identification of risk and an overreliance on traditional reactive management of violence in the form of coercive strategies such as restraint and medication (Lau et al., 2004; Lee, 2001). Common interventions have primarily focussed on using security personnel, environmental controls and training (Drummond et al., 1989). Staff training in aggression management provides education on how workers can interact with patients displaying physical and verbal aggression. These strategies are often reactive and typically initiated after a violent incident has become a problem (Gacki-Smith et al., 2009). Few studies have evaluated the effectiveness of novel violence prevention strategies and a framework of practical interventions for guiding evidence-based practice in healthcare environments (Lau et al., 2004; Taylor & Rew, 2011).

Most research on violence prevention in the past decades has primarily focussed on psychiatric settings and the development and testing of violence risk assessment instruments (Ghosh et al., 2019). Yet, research on how such instruments could be translated and applied into acute hospital settings is rare. Despite the ED's being the highest risk location for violence to occur in healthcare settings, tools and frameworks developed to assess violence risk have so far shown limited evidence of effectiveness and a lack of empirical validation (Cabilan et al., 2020). Interventions should identify at-risk patients early to pre-empt and implement precautions before a violent incident occurs (Cabilan et al., 2022). Several ED-specific instruments and frameworks have been developed over time to improve risk mitigation strategies in this setting. The following is an overview of these approaches to risk assessment.

### 1.1 | Risk assessment frameworks

The STAMP framework represents behaviours that are deemed indicative of risk: Staring, eye contact; Tone and volume of voice; Anxiety; Mumbling; and Pacing. STAMP is a well-known ED violence risk identification framework (Chapman et al., 2009; Luck et al., 2007).

STAMP was developed based on experiences of nursing staff through reported structured interviews and observed behaviours (Luck et al., 2007). STAMP provides a prompt for staff to be alert to these behaviours and predict if an episode of violence is likely to occur. The original version was modified to include four additional factors: Emotions, Disease process, Assertive/non-assertive behaviour and Resources (STAMPEDAR; Chapman et al., 2009). Nonetheless, the STAMP is not a structured and empirically validated instrument.

The Violence Assessment Tool was developed for use in the ED setting (Wilkes et al., 2010). Using a Delphi research method, experts identified 17 risk factors to assist staff identify potential violence. This framework was similarly designed to provide a cognitive prompt to alert staff to the risk of violence. Since development, empirical validation of this tool has been limited to establish the effectiveness and efficiency of the tool.

The Violence Risk Screening Decision Support (VRSDS; Daniel, 2015) includes the integration of a risk screening process during triage in the emergency department into routine practice to identify patients at risk of violent behaviour. This assessment was based on the clinical judgement of nurses working in triage regarding the presence or absence of several risk factors (e.g. history of violence, behavioural cues). An alert was consequently added to the electronic patient file to flag this risk. Consequently, there was an overall reduction in time staff engaged in emergency responses; however, there was also an increase in the use of coercive practices overall which warranted further research (Daniel, 2015). Overall, the VRSDS provided only a one-off assessment at point of entry to alert staff to possible risk rather than a routine application of regular violence risk screening.

Recently, research has focussed on the development of evidenced-based actuarial ED-violence risk assessment instruments such as the Queensland Occupational Violence Patient Risk Assessment Tool (QOVPRAO; Cabilan et al., 2022) and the ABRAT-ED (Kim et al., 2022) to improve violence risk prediction specific to this environment. At this stage, however, there are limited results about the benefits of these tools in reducing the incidence of violence.

### 1.2 | The Bröset Violence Checklist in ED

This research is focused on the Bröset Violence Checklist (BVC; Almvik et al., 2000). The BVC is one the most studied, cited and evaluated short-term violence risk assessments instrument used in psychiatric settings to predict violence within 8–24 h (Ghosh et al., 2019). The BVC includes six risk factors: confusion, irritability, boisterousness, verbal threats, physical threats and attacks on objects. The checklist uses the presence or absence of these factors to predict the potential for violence within the subsequent 24 h. A score of 0 translates to low risk, 1–2 to moderate risk and a score between 3 and 6 to very high risk (maximum score).

The introduction of the BVC as part of routine ED observations was first studied in the research by Senz et al. (2019, 2020), which is the only research in the literature that implemented the

BVC as a routine hospital observation completed by nursing staff in ED. It was delivered and co-located with a management matrix of intervention strategies for different disciplines to assist with anticipating and reducing risks of violence. Unlike the 8-h observation interval applied to the BVC, all patients were screened by nursing staff on arrival and regularly thereafter, at the same time as the requirement to monitor vital signs such as blood pressure (e.g. half-hourly and hourly). As the scores were aligned with an intervention and escalation plan for medical, nursing and security staff, pre and post-implementation results showed a statistically significant reduction in reactive security responses (relative risk 0.75, 95% CI=0.62–0.89) and a statistically significant shift to proactive management through early detection and intervention (relative risk: 2.22, 95% CI=1.85–2.66).

Senz et al. (2020) argued that the success of the BVC's implementation was its alignment to existing clinical processes and risk mitigation strategies of routine practice. However, their research did not address users' experience of using the BVC in practice and, moreover, explore their recommendations for improving its utility. User experiences are important perspectives for understanding the BVC's shortcomings and potential for application in other settings.

### 1.3 | This research

This research aimed to extend the findings of Senz et al. (2019, 2020) by investigating the experiences of nursing and medical staff accustomed to using BVC in daily practice in an emergency department. With user's experience as the focus of the research, this study deployed a qualitative research approach involving interviews to obtain reports of their first-hand appraisal of the BVC. Their insights add knowledge to understanding which risk factors may enhance ED violence risk assessment. Furthermore, this user-experience approach to the BVC's application may provide informative recommendations for improvements to its design and alternative applications.

## 2 | METHOD

### 2.1 | Study setting and recruitment

Email invitations were sent to all clinical staff in the emergency departments. Eleven clinical staff indicated interest to participate and were subsequently interviewed by the researcher. Participation criteria required they had experience using the BVC for at least 2 weeks. The time using the BVC in their clinical practice ranged from 2 weeks to 5 years, with most respondents having used it for approximately 4 years.

This study was conducted in April 2022 at two major metropolitan emergency departments in Melbourne, Australia, which routinely implemented the BVC into routine practice following research and development for its initial implementation (Senz et al., 2019, 2020). In 2022, the location where the research was conducted at Hospital

1 had 35,000 adult admissions, and the Hospital 2, 69,000. At these sites, a 'planned code grey' is a security response defined to be when there is potential for violence to occur and a 'code grey' is when a situation is at a crisis point or has escalated and requires immediate assistance. In 2022, Hospital 1's ED had a total of 1122 planned code grey events, 140 code grey events and 343 duress alarms activated. At Hospital 2, 2322 planned code grey events, 169 code grey events and 868 duress alarms were activated in 2022. Apart from the application of routine violence risk assessment and security responses, emergency department staff have access to personal duress alarms, CCTV and staff training in the prevention and management of occupational violence and aggression which if offered face-to-face and online.

### 2.2 | Materials

In Hospitals 1 and 2, the BVC is locally referred to as the 'Behaviours of Concern (BOC) Chart'. Following the findings of Senz et al. (2019, 2020), minor amendments were made to the original BVC for its application in the hospitals that participated in this research. The prompts 'S' for sleeping and 'W' for worried were added to the instrument to account for periods when the patient cannot be assessed (as they are asleep at the time of scoring) and to be able to record a subjective concern based on clinical judgement when a patient may not be scoring on any of the six items of the checklist. If this is the case, the 'W' would translate to the equivalent of a score of 1 (moderate risk) and would follow the same escalation and intervention protocol.

### 2.3 | Data collection

The interviews used semi-structured questions to gain insights into the benefits and limitations of the BVC, factors that could be added or removed to improve risk prediction, feedback on administration intervals and the addition of ED-specific prompts. The questions and prompts are shown in Table 1. Interviews were audio-recorded for subsequent professional transcription and data analysis. Interviews were pre-arranged for mutually convenient times. Interviews lasted approximately 45 min. Participants' demographics, years working in ED, length of time using the BVC and whether they had been exposed to violence in ED were recorded. Transcripts were not returned to the participants for comments and corrections.

### 2.4 | Ethics

The interviews and analysis were conducted by the principal investigator (PI), who was employed in the occupational health and safety unit at Western Health. The PI's work role did not involve direct supervision or direct work with the participants. Weekly project supervision meetings were held with the project supervisors whereby the PI reported on data collection, interpretation and debriefed on the interview process. The research was approved by the

TABLE 1 Interview questions.

*Overall experience of the Bröset Violence Checklist (BVC), locally known as the BOC Chart*

1. Can you tell me about your experience of using the BOC chart? (either from a medical or nursing perspective)

## Prompts:

- What are the benefits?
- What are the disadvantages?
- What are things you like about the chart?
- What are things you dislike about the chart?

*Additional prompts*

2. The prompts 'S' (sleeping) and 'W' (worried) have been added to the BOC chart. S is for recording when the patient is sleeping (instead of a zero), and W accounts for clinical judgement (the nurse can increase the score to 1 even if items add up to 0). What do you think of these prompts?

## Prompts:

- Have you used them before? If so, which one do you use more frequently?
  - Do you find these changes useful? If yes, why? If not, why not?
  - If you do not use these prompts (e.g. W for worried) why not?
3. Would you add any other prompts or make any changes to how the chart is currently administered (every hour for all patients) and how observations and scores are recorded?

*Perceptions of the items*

4. Can you tell me which of the items of the BOC chart you think are more useful in predicting violence in ED? (go through each of the six items). Why?
5. Can you tell me which items are less useful in predicting violence in ED? Why?
6. Are there any items you tend to observe and record more frequently than others?

## Prompts:

- Go through each of the items (e.g. confusion), what do you think of the item 'confusion', and irritability, and boisterous, etc. and their relationship to predicting violence?
- What is your general impression of the six items for predicting violence in ED?

*Missing Items*

7. Do you think any items may be missing from the checklist that could also be useful in predicting violence in the ED context?

## Prompts:

- What items could be missing and why?

*Situational risks/triggers*

8. Are there any common situations that in your opinion trigger violence in ED? What are they?

## Prompts:

- What are common situations that trigger for violence in ED and why?

Human Research Ethics Committee of the University of Southern Queensland (HREC no. H22REA093F1) and the Western Health Office for Research as 'low risk'.

## 2.5 | Data analysis

Thematic Analyses (Braun & Clarke, 2006) was used to analyse the interview transcripts. This process involved six steps: (1)

familiarization with the data; (2) generation of initial codes; (3) search for themes; (4) cyclical review; (5) discussion and consensus; and (6) inclusion of raw quotes to assist with the credibility of the findings. The process of Thematic Analysis was principally conducted by the first author, who also conducted the interviews. The first step consisted of reading, re-reading and note-taking of the transcripts data to assist with familiarizing the researcher with the material. The second, involved the organization of data by using codes to extrapolate meaning in a systemic way. The third step entailed the exploration of main patterns within the data that were of particular interest and more significant. The codes were then organized into broader themes which related back to the research question. In the fourth part of the process, a review took place to change or modify the themes previously identified. At this stage, there were checks to ensure the themes were accurately supported by the data. The fifth step encompassed the final refinement of the key themes identified and the identification of any sub-themes that emerged. The last step included the final write-up where raw quotes from the themes were used in a way to support the results of the analysis undertaken.

## 2.6 | Rigour and reflexivity

The six steps of the Thematic Analysis were enacted by the first author. The research team met on a weekly basis to discuss the process and outcomes of the thematic analyses, share competing perspectives and resolve differences of interpretation. Members of the research team are qualified health practitioners registered with the Australian Health Practitioners Registration Authority.

## 3 | FINDINGS

### 3.1 | Participant characteristics

They were eight (female) nursing staff and three (male) medical staff. The age of participants ranged from 27 to 65 years, and their experience working in ED ranged from 7 months to 35 years. All participants reported histories of being exposed to violence in ED. Participant demographics and experience has been shown in Table 2.

### 3.2 | Key themes

Participants reported the following themes about the experience of using BVC in daily practice within the ED: (a) improving behaviour monitoring in ED, (b) benefits of communication of risk and concern, (c) patient cohort and the influence of subjective opinion of scorer, (d) application to context and situational risk and (e) recommendations for new indicators. Except for the generally positive feedback of the irritability risk factor, there were differences of opinion about

TABLE 2 Participant demographics.

Participant	Sex	Discipline	Age	Years of experience in ED	Years of experience in a clinical role	Years of experience using the BVC	Subjected to violence or aggression?
1	Female	Nursing	35	3	4	4	Yes
2	Female	Nursing	33	7	8	4	Yes
3	Female	Nursing	38	1	5	4	Yes
4	Female	Nursing	54	34	37	5	Yes
5	Female	Nursing	27	5	5	14 months	Yes
6	Female	Nursing	27	5	7	4	Yes
7	Female	Nursing	41	4	16	2 weeks	Yes
8	Female	Nursing	28	6	6	4	Yes
9	Male	Medical	50	15	25	5	Yes
10	Male	Medical	30	3	5	3	Yes
11	Male	Medical	64	25	35	4	Yes

Abbreviation: BVC, Bröset Violence Checklist.

the majority of the BVC items. Recommendations were also made for additional items to be included in the checklist.

### 3.3 | Improving behaviour monitoring in ED

All participants reported benefits of introducing the BVC to prevent violence through early identification and intervention. Participants praised the BVC, describing it as an important new process incorporating behaviour assessment into traditionally health-focused systems. The implementation of the tool was also reported to have enabled upskilling of staff to assess and recognize mental health deterioration as such monitoring is not part of standard patient care observations in acute healthcare settings. Participants noted that routine administration of the tool allowed them to interpret next steps effectively and serve as a prompt to initiative interventions which are co-located in a management matrix as highlighted in the following comments.

P(10): It tends to be an early warning tool or a warning towards someone who is escalating, either in their behaviours, what they are saying or how they are acting. It gives us an opportunity to, I suppose, reduce the chance that things are going to escalate.

P(6): I use BOC (BVC) every day, and I think it's a great tool to identify any behavioural issues for every individual patient, whether they are mental health patients or just any patient, even if they are old, and they have got dementia. I find it's a really good tool just to guide if they are about to escalate.

Integrating and standardizing the BVC to be part of health observations (e.g. a vital sign) was found to be beneficial as a routine job requirement.

P(5): I think it's very easy to do a quick BOC score while you are doing the rest of the vitals. It's not really a big deal.

Frequency and repetition of observations were also reported favourably and recognized to be important as it assisted staff to observe behavioural patterns and trends over time and act accordingly.

P(11): Having it to be part of your normal observations reinforces its importance, I think. Also, it actually gives us the information to be able to take care when we need to take preventative measures.

### 3.4 | Improved communication of concern and risk

The objective rating of BVC was reported to be beneficial because it introduced an objective indicator of risk reliably rated by observers, predominantly nurses. Hitherto subjective appraisals of risk, albeit clinically substantiated, varied according to observations and reports. Having a consistent terminology and rating system better enabled nurses to communicate their concerns with one another and with medical staff.

P(5): I very much like that it gives a quantifiable score that you can as a nurse take to a doctor and say 'Look, this is what they are right now'. This says we need to do something. This is what I need from you. It creates a clear line that we need to act now, which I think has prevented a lot more incidences than I am used to in my previous hospital.

Participants noted that the objective scoring gave more confidence to junior staff to voice their concerns.

P(2): I think that would be the biggest benefit is that it's given the junior staff a voice to document behaviour and escalate it to the doctors and not be intimidated to go and escalate. I guess previously, you'd be concerned about those behaviours, they might frighten you as a junior nurse or whatever, but being able to be like 'No, this is scoring this number, I'm going to go and escalate that'. That would be the biggest benefit I think I've seen to it.

The modification of the BVC to include additional prompts of 'S' (for sleeping) and 'W' (for worried) were considered valuable by participants. These prompts were added to assess periods of no risk such as when the patient is asleep, and to incorporate the use of clinical judgement in actuarial risk assessment.

P(8): I think S is definitely a good inclusion because as you said people were just writing 0, 0, 0 for when they were asleep. It would look like they'd gone from 0 to 4 rather than a slow increase in their behaviour. You can say sleeping when they are asleep. I think that's definitely useful rather than just putting a 0.

P(1): I think that's a really good addition. I think it's excellent addition because sometimes you might have a patient who's not confused, who, what you said before, like a look; they are looking at you. You're like 'you know what? I know you're going to go off'. You do have that angry stare or quite sharp in their responses and you know that they are going to be a problem later. I think the worried (prompt) is actually a very good one.

The sleeping prompt was reported to be more commonly applied than the 'W', which appeared to be less used in day-to-day practice. Reports indicated senior staff were more likely and confident to use the W prompt and escalate using clinical judgement than the junior nursing workforce.

### 3.5 | Application to context and situational risk

Participants identified two contextual limitations regarding the BVC's prediction of escalating behaviour and inadequate collection of mental status data. The participants described a limitation of the BVC in that it was not able to predict the behaviour of patients who very quickly escalated without warning. While awareness of history of violence was reported to be beneficial in these situations, staff may not be fully appraised of a given patients' history of violence prior to the current admission.

P(11): Then all of the sudden, bang, something happens. It's those ones, I do not think I'm not aware of

anything that you might be able to do to prevent that unless it's happened before and it's in their history. The nursing staff are really very aware of putting alerts onto the computer system and checking them as well. We do have customers like that, I'm afraid.

P(9): What I have noticed is that those patients that suddenly snap and change of a moment it's completely unpredictable and then the tool is not useful in that setting, really. It may be there are lots of factors that could be influencing their behaviour. Often it's, they could go from a score of 0 to max in 30seconds and you would not be able to predict things.

The participants also reported certain behaviours, circumstances of admission or mental health conditions not to be currently captured in the BVC. Patients admitted under the provisions of the Victorian Mental Health Act 2014, were described as being denied liberties such as going outside the ED. For example, one participant stated, 'P(2): The biggest trigger I think would be wanting to go for a cigarette' while another advised, 'P(4): Some of our patients are like birds in a cage'. These imposed restraints are likely predisposing conditions for reactive behaviour. Patients may also be required to undertake intrusive clinical interventions (e.g. blood tests) as part of assessment and medications to help manage the risk of violence. These factors were reported to influence violent responses.

P(5): So if they are refusing oral medications and we have decided we have to move on to intramuscular, yes. If they are not willing to stay still and comply, and then we are saying it's duty of care. Then given that there's a sharp involved, we need to keep a limb still so that we can safely give them medication without injuring them and without any of us getting injured.

P(5): We're saying this is going happen. Take the tablets or have a needle and they say, no, we say, okay, we are going to give you the needle anyway.

Participants provided detailed information on the influence of ED-specific risks such as a high stimulus environment (e.g. noise) and system issues as one participant indicated that P(4): 'a big trigger is our environment'. It was noted that accounting for these environmental and system factors was critical for reducing a patient's propensity for violence. Also, identifying the causes of the behaviour (e.g. irritability) was reported to be important and often associated with basic needs not being met, access to toilets, boredom and privacy.

P(1): ... half the time patients are hungry, and they need to go to the bloody toilet. They've been waiting and they are bored because we do not offer any entertainment or distractions.

The majority of respondents also provided meaningful feedback on the significant impact of long wait times and delayed access to mental health beds had on ED patients. This is demonstrated in the following comment on the perceived biggest predictor of violence:

P(2): I just thought of another one that seems to be like a big predictor, but it's like the length of stay. I think the longer people are here. Lately, we have had people here for days, 75 hours, and they are literally stuck in a tiny square cubicle. There's no TV, there are no activities. There's no nothing. They want to go for cigarettes. I think that's a huge predictor of it.

Staff described patients as anxious, scared and terrified during their ED stay due to their perceived health emergencies and pain. Confined spaces and the grouping of patients were found to be challenging, in that when one patient escalates, others often follow.

P(4): They are all together, cohorted together, and so, one of them goes off, and then they all go off. You find it's like a domino effect.

Staff reported using interventions such as sedation and restraints to assist patients in coping with these conditions, especially for extended periods, and to maximize their own safety. However, this also added to the stresses of the environment.

P(4): You've got to realize that those people are in crisis. They will fight because they believe that you are harming them or going to harm them.

Furthermore, concerns were raised about the escalating trajectory of the six risk factors identified in the BVC. The last two items of the BVC in particular, (physical threats, and attacking objects) were overwhelmingly reported to be more useful for intervention rather than prevention. Staff perceived these to be more obvious signs where violence is expected, and plans would already be put in place to anticipate and manage the impending risk such as a 'code grey' which instigates a response from security. Others reported that these meet the definition of violence and are not useful in predicting it.

P(9): If someone is physically threatening, then you are not going to be writing it down, you need to be doing something about it.

P(8): Well, that's already past predicting violence. It is actually being violent. Do you know what I mean? Whether it's actually physically hurting or just physically threatening. I think it's already gone past the point of predicting violence. They're already at that point.

P(3): They're already violent if they are kicking something and throwing things around, that's already violence.

### 3.6 | Patient cohort and influence of subjective opinion of scorer

Patients' confusion was reported to be the most scored but least actioned item. Subjective opinion was noted to influence the scoring of this risk factor compared to others. Given the subjectivity of assessing confusion, there seems to be some variation in responses and a need for greater clarity of shared conceptualization. For example, patients with dementia were less likely to score on this item due to a perception that they pose a lower risk. Therefore, corresponding interventions were also reported to be less likely to be adhered to by staff. The term 'pleasantly confused' was used to describe the presentation of an elderly patient with dementia who has a positive mood and corresponding affect. It was suggested that using an informal diagnostic term could assist with enhancing agreed terminology to ensure better communication and understanding among clinicians.

P(6): That's what I've noticed, that they usually circle zero because they just assume that they are just an old, confused patient. They do not have any mental or psychological problems that can escalate. I've been trying to tell people even if they are not a mental health patient, and they are an elderly, or someone that's a GCS 14 confused, that can mean that they are still confused and they can escalate at any time, so you should be aware of the safety concerns. I feel that the confused section, because it just says, 'Confused', that's it, I feel like it should be a little bit more broader in terms of i.e. dementia, or so and so.

P(6): What I've noticed for the confused section, regardless, this is what I've noticed from just looking back at other nurses' documentation on the BOC chart is that they have an elderly patient who is confused, but they do not tick that as confused because they are old, but they do not understand that an old patient or a demented patient can actually cause behavioural disturbances to yourself, like physical aggression or verbal aggression as well.

The indicator 'Boisterous' was regarded as an ambiguous item. For example, patients' ethnic background can influence what level of voice and volume are normal for an individual from a particular culture. Also, some staff reported that the term does not necessarily describe a negative attitude or behaviour. Some staff reported not understanding the meaning of the word.

TABLE 3 List of risk factors derived from individual staff interviews.

Clinical condition	Behavioural	Historical	Situational
1. Cognitive impairment (e.g. dementia, delirium, disability and ABI)	4. Shouting demanding (to replace boisterous)	11. History of violence	13. Imposed restrictions
2. Psychotic symptoms (e.g. hallucinations, paranoia)	5. Verbal abuse/hostility (to replace verbal threats)	12. Criminal history	14. Imposed interventions
3. Drug and alcohol influence	6. Staring		
	7. Agitation/restlessness		
	8. Anxiousness		
	9. Glaring		
	10. Distracting pain		

P(1): Boisterous to me is a little bit confusing. Is that just somebody who's boisterous as in they are boisterous happy or boisterous as in boisterous annoying? Like for me, that word is a little bit confusing because it can be defined a little bit—there's that ambiguity in the definition. I do not know. Also, yes, I think it's one of my least useful because I do not really understand the word though. It's a bit ambiguous. What does boisterous even mean? Is that somebody who's just really happy or is it somebody who's just the quite loud voice? Like a booming voice?

Staff also reported the influence of applying the tool to different patient cohorts. In particular, they identified two different types of patients. The first, is the patient under the influence of drugs and alcohol or mental health patient; the second, is the confused patient who has a known cognitive impairment (e.g. dementia).

### 3.7 | Recommendations for new indicators

Participants expressed that higher risk patients often present with clinical conditions such as psychotic symptoms (e.g. paranoia, hallucinations), confusion (dementia or delirium) or are under the influence of drugs and alcohol. The clinical experiences and feedback about the BVC indicate that the current checklist may not capture all these clinical conditions or mental states. According to the BVC, confusion refers to a person being disorientated to time, person and place. However, P(8) stated that, 'a lot of mental health patients will know where they are, what day it is, they're not necessarily going to score 1 on confused'. Participants reported patients affected by drugs or alcohol and those experiencing a behavioural disturbance also often being orientated to their surroundings. It was recommended that a specific category be added to account for these clinical conditions, such as drug and alcohol influence and psychotic symptoms.

P(8): I could go and get drunk tonight, and I would still know what day it is and what year'. I might not be confused, but I'm drunk, I'm still less likely to think things through as I normally would. I may be able to control my behaviour even though I'm not confused I know what's going on but I'm just more impulsive', I guess.

Additional ED-specific risk factors and revised terminology for existent items were recommended. Historical factors were also considered necessary, such as a history of violence, criminal history and behavioural indicators such as staring, glaring, anxiety, restlessness and pain. Some staff also reported neurodiversity to be missing in the tool (e.g. autism spectrum disorder), disability and acquired brain injury. Generally, the feedback supported that several clinical risk factors needed to be included including situation-specific risks such as imposed restrictions and interventions.

From the interview feedback, 14 items were derived to form a new list of risk factors including replacement of terminology for existent items (Table 3).

## 4 | DISCUSSION

This research aimed to investigate the experiences of nursing and medical staff accustomed to using BVC in routine practice in an emergency department to better understand their insights about the application of violence risk assessment in this setting and provide recommendations for improvement. Overall, participants overwhelmingly reported the benefits of using a violence risk instrument as part of routine practice to identify and pre-empt potential escalation due to improved communication between staff and better awareness of behaviour over time. However, several other observations were made that would improve the application of the tool including addressing environmental triggers for escalating violence, and usefulness, wording and description of some items.

As the BVC is co-located with a management matrix for different disciplines, staff reported using an objective score was useful to confirm their concerns with medical staff and facilitate early interventions. The addition of a process to prompt and combine the use of unstructured clinical judgement (W for worried) was found to be advantageous.

Research supports that using clinical experience can be beneficial when risk may not be detected using an actuarial tool alone. For example, certain behaviours such as a flushed face, eye dilation, clenching of the jaw and flared nostrils (Berg et al., 2000; Murray & Thomson, 2010) are among the indicators of violence that an actuarial tool may not identify. It is argued that clinicians can also assess emotional states during their observations (Murray & Thomson, 2010).



Overwhelmingly, participants reported environmental and system factors play a significant role in the escalation of behaviour. Workers particularly noted the importance of targeting system factors to improve patient conditions, such as excessive length of stay and the environment (e.g. noise, lights and boredom). The literature strongly supports the association between delayed access to mental health services and the physical healthcare environment to increase the risk of violent events (Kleissl-Muir et al., 2018; Knott et al., 2005).

Staff recommended several changes to the BVC to improve its alignment with ED presentations in terms of terminology and risk factors. Different descriptors were suggested to enhance user understanding of some items (e.g. shouting and demanding to replace boisterous). Using a specific diagnosis such as dementia or delirium (under the category of cognitive impairment) was also recommended to replace 'confusion', to remove subjectivity and improve compliance with the instrument caused by perceptions of low risk in specific populations (e.g. elderly). This is supported by research showing trends of underreporting due to the perception that violence in these patient groups is unintentional (Ferns, 2005).

Drug and alcohol influence and psychotic symptoms were regarded as important additional categories. This is supported by a retrospective study which found 68.8% of violence in ED was perpetrated by patients under the influence of drugs and alcohol (Nikathil et al., 2018). This patient presentation was also found to be associated with nearly one of two episodes of violence in ED. A psychiatric disorder was also found to be a common diagnosis of patient-initiated violence (Nikathil et al., 2017).

The last items of the BVC were reported to be primarily used to prompt a security response rather than a predictive cue. This is consistent with the literature proposing these items be replaced with factors more likely to be amenable to early intervention and prevention (Cabilan et al., 2022; Ogloff & Daffern, 2006). It was suggested that the items be replaced with verbal abuse/hostility to screen for earlier indicators of aggression.

Staff reported a patient's violence history is a strong predictor of future violence. This is consistent with the ED literature in which historical risk factors were considered important for the prediction of violence (Cabilan & Johnston, 2019; Kim et al., 2022). In addition, situational risks such as patient restrictions applied in this setting and imposed clinical interventions (e.g. medication) were reported to play a significant role in instigating escalation. In a recent study, patient behaviour, patient care and situational events were found to be the root causes of violence in healthcare. Of these, demanding to leave, care requiring physical proximity with the patient and cognitive impairment were found to be the three primary causes of patient aggression. This study argued that recognizing the interplay between these specific factors and situations was important in developing measures to prevent violence in hospitals (Arnetz et al., 2015). Denying requests is closely aligned with blocking goal-orientated activities, which are well associated with instigating aggression (Berkowitz, 1989). It is proposed that the greater the

number or degree of frustrations an individual experiences during their stay in the ED, the more aggressively inclined patients are likely to become towards front-line workers (Kleissl-Muir et al., 2018). For this reason, the study recognized that violence risk factors in ED should be categorized into four distinct categories: situational (e.g. imposed restrictions and interventions), clinical (e.g. drug and alcohol, cognitive impairment), historical (e.g. history of violence) and behavioural (e.g. irritability).

Lastly, additional behavioural indicators such as staring, glaring, anxiety, restlessness and pain were also recommended. These risk factors are consistent with frameworks such as STAMP, developed from ED observations (Luck et al., 2007). Pain and discomfort caused by physical procedures were also identified to be associated with violent behaviour towards staff (Arnetz et al., 2015).

These research findings highlight the need for the development and validation of a fit-for-purpose instrument which encapsulates the unique patient cohort and situational risks that exist in emergency departments. A further study will be conducted to identify which of these indicators are most useful at predicting violence, taking into consideration the need for a tool to be quickly and easily completed by ED staff. Having an ED-specific routine risk assessment connected to interventions can increase the accuracy of identifying high-risk patients and provide a window of opportunity for applying proactive measures (Senz et al., 2020). Such a framework can potentially strengthen risk mitigation schemes in ED's to improve staff and patient safety. Research clearly demonstrates that clinicians want a tool linked to intervention strategies rather than solely for data collection (Cabilan et al., 2020). Unfortunately, even recent research on the development of ED-validated risk assessment tools has primarily concentrated on prediction alone (Cabilan et al., 2022; Kim et al., 2022) and neglected the primary objective of risk assessment being to reduce harm (Maguire et al., 2019). The next phase of this research will be to test this new checklist with corresponding interventions to determine which risk factors can best measure the likelihood of violence and, most importantly, increase proactive interventions and reduce injury.

#### 4.1 | Limitations and future research

Qualitative research can be subject to cognitive bias (Buetow, 2019; Cabilan et al., 2020); however, the researchers attempted to minimize this as much as possible. The study's data were obtained from staff who had routinely used the BVC for some time; their familiarity with the tool may have influenced their awareness of and sensitivity to the risk of violence. At the same time, it provided a rare opportunity to interview a unique cohort of workers in a healthcare environment who have advanced knowledge and experience in violence risk assessment. Such an information can provide a renewed perspective in this field of research. Future research into the BVC should explore its utility in other clinical settings and gather evidence of its predictive validity.

## 5 | CONCLUSION

The findings of this study reveal that using a routine violence risk assessment can be beneficial for staff working in emergency departments in terms of monitoring behaviour and improving collaboration and consensus of risk potential. Subjective opinion was reported to influence the scoring of the instrument when applied to specific cohort of patients that were perceived by staff to represent a lower risk. In addition to clinical and behavioural prompts, situational and historical risk factors were reported to be integral for optimal risk assessment and recommendations were made to reword current items and add new indicators. In a subsequent study, further work will be undertaken to inform a list of items from these four categories to identify a constellation of risk factors for the purpose of developing an ED-specific violence risk assessment instrument.

### CONFLICT OF INTEREST STATEMENT

The authors have no conflicts of interest to declare.

### PEER REVIEW

The peer review history for this article is available at <https://www.webofscience.com/api/gateway/wos/peer-review/10.1111/jan.15961>.

### DATA AVAILABILITY STATEMENT

Data available upon request to corresponding author.

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