Decreasing Physical Restraints and Increasing Staff Perception of Safety in the Emergency Department by Utilizing Behavioral Agitation Risk Score

Andrew Slavetskas, MSN, RN, CEN, TCRN, RN-BC, Mark Medina, MSN, RN, EMT-P, Catherine Czerenda, BSN, RN, CEN, CPEN
Binghamton General Hospital, United Health Services Hospitals

Introduction and Purpose

- ED visits relating to mental health have been increasing over past several decades (1,2), particularly adolescent visits during the COVID-19 pandemic
- Many visits will include an episode of acute psychosis, requiring ED staff intervention
- Use of restraints should be considered a last resort
- A single-item rating is “usually in good agreement with assessment of their corresponding subscale”[1]
- Behavioral Activity Rating Scale (BARS) was developed by pharmaceutical companies to rate effectiveness of medication[2]
- The BARS assessment is a simple, one line tool that gives a quantitative score as to how agitated the patient is at that time.
- Single item behavioral assessment is an "efficient, effective, and discreet" method of communication between members of a care team.[3]
- Our purpose was to implement a single item assessment tool to objectively measure patient agitation with resulting decrease in restraint use
- A risk associated with patients experiencing acute psychosis requiring restraint is the increased risk of associated violence
- When discussing what behavior is tolerable in a hospital and the emergence of zero tolerance policies, the question of what happens when the patient also requires emergent (psychiatric) care is posed[4]
- Workplace violence is a hotly discussed topic in the current literature[5]
- The Joint Commission defines workplace violence (WPV) as an act or threat occurring at the workplace that can include any of the following: verbal, nonverbal, written, or physical aggression; threatening, intimidating, harassing, or humiliating words or actions; bullying; sabotage; sexual harassment; physical assaults; or other behaviors of concern involving staff, licensed practitioners, patients, or visitors.[6]
- According to an August 2022 ACEP survey, 85% of ED physician believe the rate of violence in the ED has increased in the last 5 years, with 45% indicating that it has greatly increased[7.] In that survey 66% of physicians report being assaulted in the last year with one third reporting being assaulted more than once. 98% of assaults were committed by patients.
- A 2018 survey by ENA & ACEP found that 70% of ED nurses have been hit or kicked, 47% of physicians have been assaulted[8]
- A secondary purpose with this intervention was to increase staff perception of safety in the workplace
- The increasing incidence of WPV has prompted the Joint Commission to create new accreditation requirements outlined in the R3 Report[6]
- Part of these new, revised standards from the Joint Commission standards include "developing effective workplace violence prevention systems, including leadership oversight, policies and procedures, reporting systems, data collection and analysis, post-incident strategies, training, and education to decrease workplace violence.”[6]
- According to the Emergency Nurses' Association position statement on Violence and Its Impact on the Emergency Nurse "Emergency nurses have the right to personal safety in the work environment.“[9]

Design Setting

- Urban, general hospital with emergency psychiatric services on site
- Hospital includes multiple inpatient psychiatric and inpatient substance use treatment departments
- In 2022, the emergency department recorded 18600 visits a year, 5600 of those for behavioral health complaints

Method

- Data was collected from June 2022 to November 2022, constituting pre-intervention data.
- BARS assessment education was conducted with staff in December of 2022 and assessment went live in EHR mid December 2022
- Nurse training was conducted via small group, in person sessions lasting approximately 10 minutes each. Training consisted of familiarization of the assessment and new policies and procedures regarding using BARS. Staff signed an attestation of understanding the education.
- Provider training was conducted via email consisting of familiarization and new policies and procedures as well as content available for reference on the provider intranet website.
- BARS assessment is expected to be completed on all adult (>18) patients on arrival to the ED, and repeated every 2 hours for behavioral health complaints during their stay in the ED. The assessment is encouraged to be completed with vital signs every 2 hours, effectively making it an additional vital sign for behavioral health patients.
- Reminders and alerts were built in the EHR to assist staff with compliance.
- For each score on the assessment, there are specific actions recommended to the treatment team to mitigate escalation of the patient.
- The purpose is to recognize and react to agitation as early as possible, before the need for physically restraining the patient is required.
- As our secondary purpose was to increase staff perception of safety in the workplace, a pre-BARS implementation survey was distributed to staff. As we are at the midpoint of our data analysis, we sent out a brief survey at the beginning of March to measure staff perception.
- The initial survey was a survey monkey 10 question format asking a variety of related questions of which 3 were pulled for the midpoint survey.
- The midpoint survey first asked staff to choose an option that best describes how you feel about your work environment: I always feel safe in my work environment, I often feel safe in my work environment, I am evenly split between how often I feel safe and how often I feel unsafe in my work environment, I infrequently feel safe in my work environment, or I rarely feel safe in my work environment
- The midpoint survey second asked staff to choose an option that best describes your thoughts on restraint use in the ED: Restraints are used too frequently, restraints are used with appropriate frequency, or restraints are not used frequently enough.
- The midpoint survey finally asked staff to choose their role in the department with options of nurse, nursing assistant, security, provider, or other, with the request to specify the other role.
- Both the surveys were easily accessible anonymously via QR codes located throughout the department for a 7-day period. The corresponding website was listed underneath the QR code for use by anyone without a smart phone or user preference to use a work computer.

BARS Category	Behavior/Activity	Recommended interventions (ages 18-45)
1	Difficult or unable to rouse	Immediate provider evaluation
2	Asleep, but responds normally to verbal or physical contact	No medication required. No interventions
3	Drowsy, appears sedated	No medication required. No interventions
4	Quiet and awake (normal level of activity)	No medication required. No interventions
5	Signs of overt (physical or verbal) activity, calms down with instruction	Environmental Modification, Redirection, Validation of Feelings, Verbal De-escalation, Diversion, Schedule home medications. Consider PO PRN Anxiolytics +/- Antipsychotics. Consider IM meds if continued agitation
6	Extremely or continuously active, not requiring restraint	PO Antipsychotic + benzodiazepine + Benadryl. Consider IM meds (Antipsychotics + Benadryl +/- Benzodiazepines) Can repeat x2 every 2-3 hours.
7	Violent, requires restraint	Restraints – immediate provider evaluation / If unsuccessful with IMs above – can consider Thorazine IM 50-100 mg q hourly x3. If continued physical aggression, Consider High dose Benzodiazepine sedation/intubation.

Results

- Patients’ age range from 18 to 67 (mean=39, SD=12.1). 66% were male, 34% were female. 36% of patients with a restraint episode arrived during day shift (0700-1459) while 38% and 26% arrived on evening (1500-2259) and night shift (2300-0659) respectively.
- Prior to using the BARS assessment being implemented in the ED, there were 8356 adult (age >= 18) arrivals to the ED, of which 285 of those encounters had at least one episode of physical restraints being used between June 1, 2022 and November 30, 2022.
- After implementation of BARS assessment into the ED workflow, there were 2843 adult arrivals to the ED, of which 87 had at least one episode of physical restraints between January 1, 2023 and March 15, 2023.
- A one-sided Fisher’s exact test was conducted on total visits with at least one episode of restraint use, yielding a p-value of 0.87, a non-significant change.

	Restraints Used	No Restraints Used
Pre-BARS	285	8071
Post-BARS	97	3124

- Restraint use within 1 hour and 2 hours of arrival were also analyzed. When conducting a one-sided Fisher’s test on physical restraint use within 1 hour of arrival, a non-significant change was recognized (p=0.19, CI=[0.0, 1.19], OR=1.14). When analyzing physical restraint use within 2 hours, a significant change was observed between pre-intervention and post-intervention groups (p=0.01, CI=[0.0, 0.85], OR=0.55)

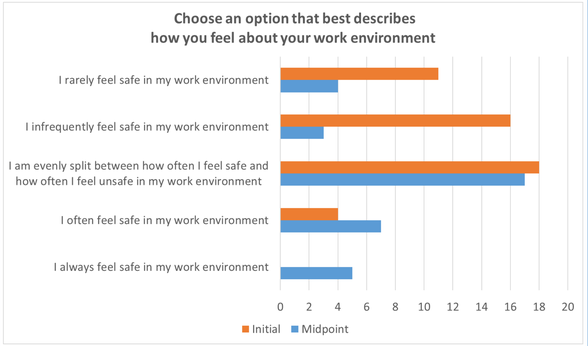
	Restraints First Used Within 1 hour	Restraints First Used After 1 Hour
Pre-BARS	130	155
Post-BARS	50	47

	Restraints First Used Within 2 hours	Restraints First Used After 1 Hour
Pre-BARS	154	131
Post-BARS	66	31

- Visits with single restraint episodes and multiple restraint episodes were compared between patients' pre-intervention and post-intervention. A significant change was observed in the number of patients that were put into physical restraints more than once during their emergency room stay (p<0.01, CI=[0.0, 0.67], OR=0.43).

	Single Restraint Episode During Visit	Multiple Restraint Episodes During Visit
Pre-BARS	147	138
Post-BARS	69	28

- Finally, surveys were conducted with staff to gauge their perception on safety and restraint use within the emergency department.
- We had initial participation of 49 respondents in the initial survey and 36 in the midpoint assessment.



Implications/ Conclusions

- *Restraint Usage:* Our purpose was to implement a single item assessment tool to objectively measure patient agitation with resulting decrease in restraint use. Our results unfortunately did not show a statistically significant difference in the total number of restraints used per patient visits in the time period from January 1, 2023 to March 15, 2023. We remain optimistic that when the full 6 months of data collection is complete, the results will be significant. We will continue to collect this data until June 30, 2023 then repeat our analysis.
- *Workplace Safety Perception:* A secondary purpose with this intervention was to increase staff perception of safety in the workplace. Measured by simple survey, the staff in our emergency department feel similarly to pre-BARS implementation about how often they feel save versus unsafe in the work environment. We plan to resurvey at the end of the 6 month period with the full, initial 10 question survey.
- In conclusion, we believe our data to be incomplete at this time. While we are aware that decreasing restraint use and improving perception of safety at work are both complex and multifaceted problems, we are hopeful that this data will add to the currently evolving body of literature and present solutions for the future as more research is performed.

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