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Patient and family member violent situations in a pediatric hospital: A descriptive study

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Abstract

Purpose: The intent of this study is to report on violent situations involving the pediatric patient and/or the patient's family member in the inpatient hospital setting.

Design and methods: This descriptive study used two independent samples: Behavioral Emergency Response Team (BERT) recipients and surveyed pediatric healthcare staff at a pediatric hospital within a large urban Midwestern academic hospital in the United States.

Results: Per BERT recipients ($N = 26$) and staff survey respondents ($N = 91$), common physical patient behaviors were, respectively, hitting (60%, 77%) and kicking (53%, 82%). Fifteen (75%) patient BERT responses were for violent situations. The most common mental health condition among patients in violent situations was behavior dyscontrol ($n = 8$, 53%), which was absent among calls for non-violent situations ($n = 5$). Seizures, which was the most common medical condition among patients in BERT violent situations ($n = 6$, 40%), was proportionately slightly greater than among non-violent situations ($n = 1$, 20%). Staff who reported experience with violent situations ($n = 64$, 73%) were from general medical units ($n = 48$, 75%), and registered nurses ($n = 53$, 79%).

Conclusions: This study helped illuminate demographic, medical and mental health clues about violent situations with patients and family members on pediatric inpatient hospital units.

Practice implications: Pediatric patients and families may struggle to cope during hospitalization. Healthcare providers' knowledge about co-occurring conditions, stress related to hospitalization and use of BERT as a resource may help prevent violent situations.

Keywords

Pediatric; Patient; Family; Violence; Inpatient; Hospital

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Author statement

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Declaration of Competing Interest

The authors declare that they have no competing interests.

Introduction

The incidence of violent behavior towards healthcare staff is increasing worldwide with 8–38% of healthcare workers reporting physical violence at some point in their career (WHO, 2020). Violence in healthcare settings is reported from each region of the world such that the World Health Organization has developed systematic data collection methods for emergency healthcare settings in the case of physical attacks (WHO, 2020). In terms of inpatient healthcare violence in the United States (U.S.), medically hospitalized children and their family members are an under-represented population in the literature and reported national statistics. Violence particularly by the patient or family member against healthcare staff (Type II) is the most common type of violence in healthcare settings, particularly in hospitals (Occupational Safety and Health Act (OSHA), 2013). The intent of this study is to report on violent situations involving the patient and/or the patient's family member. Both physical and verbal aggressive acts, that did or did not make direct contact with another person, were included in the violent situations under study.

Although there are no available federal data to quantify the prevalence or severity of pediatric patient or family member violent situations in the inpatient medical healthcare setting, several individual studies conducted in the U.S. reported pediatric violence is a concern. A mixed methods analysis of pediatric nurses ($n = 162$) in a hospital setting reported that 82% experienced verbal abuse an average of four times per month (Truman, Goldman, Lehna, Berger, & Topp, 2013). In contrast, a national Emergency Nurses Association cross sectional survey reported that 4% of nurses in pediatric EDs experienced physically violent situations, compared to 9% of nurses in adult EDs (Gacki-Smith et al., 2009). Similarly, a second and more recent longitudinal repeated measures ED survey found that healthcare staff who served both pediatric and adult patients were significantly ($p < .01$) less likely to experience physical threats compared to staff serving adult patients alone (Kowalenko, Gates, Gillespie, Succop, & Mentzel, 2013). Further, 33% of pediatric residents in U.S. training settings reported either verbal abuse or physical assault by patients and/or families (Judy & Veselik, 2009). Finally, not specific to a pediatric population - yet involving family members, ED physicians in Michigan reported via a web-based questionnaire that they experienced 9% of all assaults and 19% of verbal threats from family members (Kowalenko, Walters, Khare, & Compton, 2005). Despite these studies with physicians and ED settings, no published studies specific to pediatric inpatient medical hospital settings were found. Internationally, workplace violence towards healthcare staff in hospital based pediatric medical settings has been reported through an incident database at a rate of 3.24 per 100,000 in Canada and at 69% in China via a stratified staff questionnaire (Kling, Yassi, Smailes, Lovato, & Koehoorn, 2009; Li et al., 2017). Survey respondents from pediatric hospital settings reported workplace violence in Japan as physical aggression (11%), verbal abuse (25%) and sexual harassment (6%) and in Turkey as verbal abuse (97%) in the past 12 months (Fujita et al., 2012; Uzun, 2003). Important medical conditions associated with pediatric patient aggression include neurologic diagnoses (i.e., epilepsy) and endocrine disorders (i.e., hormone dysregulation) (Starzyk et al., 2010), and autism (Gipson et al., 2013; Lance, York, Lee, & Zimmerman, 2014). While healthcare providers who treat patients with these diagnoses may be at higher risk for violent situations, the reasons for and

extent of specific behaviors by patients or family members remains largely unknown due to the lack of published studies on violent situations in medical settings.

Maslow's hierarchy of needs

Maslow's hierarchy of needs (Maslow, 1943) provides the overarching theoretical framework to recognize how universal needs of patients and families are expressed during pediatric hospitalization. Maslow's hierarchy describes five levels of foundational human needs which are met in the general order of greatest need starting with primary physiological needs, then safety, love/belonging, esteem, and self-actualization (Deckers, 2018). All behavior is designed to meet certain basic, normal human needs (Maslow, 1943). Due to the nature of illness and its treatment, a patient's physical needs are inherently not met at Maslow's basic physiological level, thus challenging the attainment of the subsequent interdependent levels (Maslow, 1943). During hospitalization, when physiologic needs are not met, the patient's safety needs at the next level are challenged. In order to meet basic needs during times of stress, the behavior of an individual or family may adapt through frustration or fear (Deckers, 2018) and theoretically may be expressed through aggressive behavior (Alisha, 2018; Janis & Eric, 1999).

Behavioral emergency response teams

The use of Behavioral Emergency Response Teams (BERT) is increasing in the U.S. due to their effectiveness in assisting bedside staff to manage a continuum of verbal and physical behavior in the healthcare setting (Pestka et al., 2012). A BERT response may assist with patient or family members' behavior that impact the ability for healthcare workers to provide care or affect their personal safety (Loucks, Rutledge, Hatch, & Morrison, 2010; Pestka et al., 2012; Zicko, Schroeder, Byers, Taylor, & Spence, 2017). The study site's BERT team is comprised of a Registered Nurse (RN) who received de-escalation training, a security officer, and an on-call Psychiatrist. The BERT team is contacted by any staff member who is worried about patient and/or family member's behaviors, or their impact on functioning of the unit. Depending on behavior severity, the BERT team response may be urgent or consultative in nature. Behaviors could be deemed purposeful or non-purposeful, yet either way still potentially cause harm such as an intentional assault that makes contact with another person or flailing arms and legs (Loucks et al., 2010; Pestka et al., 2012). This manuscript focuses on a range of patient and family member behaviors that may require either an immediate intercession or consultative response from the BERT.

Purpose and aims

The purpose of this study was to gain knowledge of the prevalence and nature of violent situations among patients and families who received a BERT response in pediatric inpatient medical hospital settings. The primary aims of this study were to: 1) describe the characteristics of pediatric patients and family members for whom bedside hospital staff requested a behavioral emergency response; and 2) describe staff self-reported experiences with violent situations.

Methods

Design, subjects and setting

This was a non-comparative descriptive study with two independent convenience samples from a pediatric hospital, which is part of a large urban Midwestern academic hospital. The pediatric hospital consists of an intensive care and two general-medical units, all of which were utilized to encourage comprehensive data and detection of patterns. The two independent samples from these pediatric units were: a) patients and/or their family members who received a BERT response and b) healthcare staff working on the units. The units held a total of 60 beds (general = 44, PICU = 16) with multiple medical and surgical pediatric specialty services. Inclusion criteria for pediatric patients were: received a BERT response, 1–17 years of age, and hospitalized on a pediatric general care or intensive care medical unit. Inclusion criteria for family members were: hospitalization of their child 1–17 years of age on a pediatric general care or intensive care medical unit and who received a BERT response for their own behavior. The multidisciplinary healthcare staff ($n = 325$) who were recruited to complete a survey represented Registered Nurses (RNs) ($n = 235$), Patient Care Assistants (PCAs) ($n = 23$), Social Workers (SWs) ($n = 10$), and Medical Doctors (MDs) including residents and full staff physicians ($n = 57$).

Data collection

This study examined inpatient pediatric and family member violent situations from two primary data sources: 1) an administrative BERT database and related documentation regarding BERT responses in the patient's electronic medical record (EMR), and 2) staff survey responses about experiences and perceptions related to violence in pediatric inpatient medical hospital settings.

Administrative data

The pediatric patient/family member sample was identified from the BERT administrative database. This Excel database contains information about pre-defined behavioral, medical, and situational variables related to a BERT response. For example, if a particular behavior or diagnosis pertained to the BERT response, it was recorded in the Excel spreadsheet as a '1'. This data was obtained from the EMR, specifically the BERT RN and multi-disciplinary care members' documentation for the time period 12 h prior to and following the BERT response. Data were collected for the BERT responses between the time period from January 2015 to June 2016. Violent situations that received BERT responses were delineated by the extent of contact/potential for harm: physical contact with another person, physically flailing arms/legs without contact, and verbal aggression/verbal threats. This delineation is similar to a study conducted in the United Kingdom (Winstanley & Whittington, 2004) which categorized aggression as a) physical assault, b) threatening behavior, and c) verbal abuse. The intention, purposefulness or non-purposefulness of behaviors was not specified in the database nor determined from the EMR documentation.

Staff survey

An initial letter of invitation with a one week reminder were emailed in October 2016 from a central repository, the Research Electronic Data Capture (REDCap) system, to potential staff participants ($N = 325$) to voluntarily complete an electronic survey. Through the REDCap system, data were confidentially recorded and managed (Harris et al., 2009). Via an author created nineteen-item questionnaire (Appendix A), healthcare staff provided demographics and information about experience with violent situations. The original survey was reviewed for face validity by an expert research committee and previously used with healthcare staff of adult medical inpatients. It was adapted to include pediatric and family member questions related to violent situations for this study (Derscheid, Mandrekar, Meyer, & Lohse, 2017). Violence was defined as “aggressive patient actions that do or do not make direct contact with another that includes, but is not limited to, hitting, kicking, biting, spitting, pushing, shoving, sexual touching or throwing objects.” Although the definition of violent situations focused on physical acts, specific information about verbal aggression such as verbal abuse, threats, yelling, and swearing were also solicited. Survey questions asked participants to indicate: whether they experienced violence on their unit, the specific types of violence they experienced, and whether the violence occurred in the past 12 months. Non-respondent data was not collected.

Ethical considerations

In line with ethical conduct of research (World Medical Association, 2001), Institutional Review Board approval was obtained from the hospital where the study was conducted. The BERT response data was used only for cases in which the parent/legal guardian had signed authorization to allow use of the patient’s medical record for research. No family member medical records were accessed. Patient/family BERT response data and healthcare staff respondents’ survey data were assigned unique identifiers to maintain confidentiality. The letter of invitation to staff participants explained that survey response served as consent, responses were confidential, employment status would not be affected by their decision to participate and that withdrawal of consent could occur at any time without penalty. No healthcare staff PHI was requested on the survey.

Data analyses

Descriptive analysis in the form of percentages and ranges was conducted for both sets of data: 1) the BERT response data for pediatric patient and family members’, 2) healthcare staff survey responses about violence experience on their work units. When multiple BERT responses for a single patient/family member occurred, data from only the first response was analyzed in order to eliminate potential bias from repeated BERT response data. Analyses were conducted using version 9.3 of the SAS software package (SAS Institute, 2013).

Results

Pediatric patient and family BERT responses

During the 18-month study period there were 26 BERT responses: 20 for pediatric patients and 6 for family members. Multiple behaviors and medical or mental health conditions were

possible for a single patient or family member during a BERT response. No BERT responses involved both a child and family member. To review, the BERT data was categorized as 1) physical behavior that could harm others (e.g. violent situations) and included a) behavior that made contact with another person, such as hitting, and b) behavior that did not make contact such as flailing arms and legs; or 2) behavior that would not harm others (e.g. non-violent situations) that included self-harm, threats to self, and disruption to the unit. Of pediatric patients who had a BERT response ($n = 20$), a majority demonstrated physical behaviors that could harm others ($n = 15$, 75%). Pediatric patients involved in these violent situations were 6–17 years old (median 13), female ($n = 8$, 53%), white race/ethnicity ($n = 9$, 60%), and on general pediatric units ($n = 13$, 87%). The most common patient physical behaviors involved contact (hitting $n = 9$, 60%, kicking $n = 8$, 53%). Common medical conditions among violent situations were seizure disorders ($n = 6$, 40%), developmental delays ($n = 4$, 27%), and endocrine disorders ($n = 4$, 27%). Mental health conditions among violent situations involved behavioral dyscontrol ($n = 8$, 53%) and attention deficit hyperactivity disorder (ADHD) ($n = 4$, 27%). Yet, among patients with BERT responses for behavior that would not harm others ($n = 5$), when medical and mental health conditions were present, they were proportionately similar to patients involved in violent situations, respectively (ADHD and developmental delay 20%, 27%, autism 20%, 20%, seizures 20%, 40%). Behavioral dyscontrol was not represented at all ($n = 0$) in the nonviolent group.

Family member related BERT responses ($n = 6$) involved mothers ($n = 6$) and other family members ($n = 2$), occurred on general pediatric units ($n = 6$), and equally on all three shifts ($n = 2$). Family members' most common behaviors were blocking care of the child ($n = 4$, 67%) and disruption to the unit ($n = 4$, 67%). Patient and family member demographics, specific behaviors, and medical/mental health conditions related to BERT responses are summarized in Table 1.

Staff survey: Respondent experience with violent situations

The healthcare staff survey response rate was 28% ($N = 91/325$). No participants were eliminated for missing data on a single survey question and all non-missing data was used. Multidisciplinary healthcare staff participants were female ($n = 83$, 94%), 26–35 years of age ($n = 44$, 50%), RNs ($n = 63$, 69%), bedside staff ($n = 54$, 88%), and from general pediatric units ($n = 62$, 71%).

In the past 12 months, 73% ($n = 64$) of all respondents reported at least one violent situation and most incidents occurred on general pediatric units ($n = 48$, 75%). More females than males responded to the survey (94%) and reported experience with violent situations (95%). Although the RN response rate was only 26% ($n = 62$), their discipline represented the majority of respondents who endorsed experience with violent situations in the past 12 months ($n = 53$, 79%). In contrast, physicians' response rate ($n = 13$, 23%) and reported experience with violent situations ($n = 6$, 9%) was lower. All survey respondents' demographic and reported violent situation experience data is found in Table 2.

Staff survey: Experience with patients and family members

Patients—First, violent situations with patients ($n = 56$, 84%) involved physical acts of kicking ($n = 46$, 82%), hitting ($n = 43$, 77%), and flailing of arms/legs and disruption to the unit, equally ($n = 43$, 77%). Acts of verbal aggression were also commonly reported, specifically yelling/swearing ($n = 40$, 71%), and making threats to others and verbal altercation (i.e. fight), equally ($n = 31$, 55%). Staff reported that patient anxiety ($n = 34$, 61%) was the most common co-occurring mental health condition in these situations.

Family members—Staff survey respondents reported physical or verbal violent situations with various family members that ranged from 3% (siblings $n = 2$) to 40% (mothers $n = 27$) on their units. The extent of physical contact for behaviors was not solicited in the survey so results are delineated by presumed and unknown physical contact. The most common reported physical behavior with contact was shoving (mothers $n = 5$, 19%; fathers $n = 3$, 14%). Common reported physical behaviors with unknown contact by mothers and fathers, respectively, were: disruption to the unit ($n = 21$, 78%; $n = 18$, 86%) and blocking care of the child ($n = 16$, 59%; $n = 10$, 48%). Mothers' and fathers' respective verbal behaviors were commonly reported as: yelling/swearing ($n = 25$, 93%; $n = 17$, 81%), and threats to others ($n = 16$, 59%; $n = 14$, 67%). A high percentage of staff involved with violent situations reported mother ($n = 15$, 56%) and father ($n = 7$, 33%) anxiety was a component. Staff survey reported frequencies of specific behaviors by patient and family members' are found in Table 3.

Discussion

The purpose of this study was to gain knowledge of the prevalence and nature of violent situations in pediatric inpatient hospital settings. Due to the lack of U.S. based publications on pediatric violent situations in these medical settings, results from international publications are referenced.

Pediatric patient and family BERT responses

Although the BERT team could be contacted by healthcare staff for any degree of behavior disruption, the initial education prompted staff to contact the BERT for situations of escalating physical aggression. This focus on aggressive behavior is a possible explanation for the higher percentage of pediatric BERT responses for violent situations, especially those that made physical contact, compared to those that did not. Although the BERT database delineated behaviors by whether or not they made physical contact with others, the true intention of these behaviors, even if they appeared purposeful or non-purposeful, could not be definitively determined. Furthermore, behaviors could not be conclusively tied to specific patient diagnoses or presenting problems.

Among the group of patients who received BERT responses for violent situations, there were 16 medical and mental health conditions compared to six conditions for patients with non-violent situations. Yet, when the conditions were present in both the violent and nonviolent groups, the proportions of these conditions were similarly represented in each group. For example, the actual number of patients with medical conditions such as autism and seizure

disorders was greater in the group of patients with violent situations compared to nonviolent; but, the proportion of patients who had these conditions were similar in both groups. Although our study found a similar representation, results from a separate retrospective chart review study predicted impulsive physical aggression among adolescents with co-occurring neurological issues in response to environmental auditory stimuli (Fisher, Ceballos, Matthews, & Fisher, 2011). To note given the descriptive nature of our study it is not possible to establish a statistically significant relationship between neurodevelopmental issues and violent situations. conclusively determine whether seizures contributed to violent situations or if violent behavior among patients with seizure disorders was purposeful.

In our study, many patients involved with violent situations also had the mental health condition behavioral dyscontrol (53%), which is a form of externalizing behavior. A separate mixed methods study confirmed that a majority of pediatric patients who received psychiatric evaluations in ED settings also demonstrated forms of externalizing behaviors with verbal and physical violence (Gillespie, Gates, Miller, & Howard, 2010). Interestingly, the co-occurrence of both externalizing and internalizing behaviors was found among medically hospitalized children with life threatening, compared to non-life threatening, illnesses (Levy, Kronenberger, & Carter, 2008). Likewise, in our study, internalizing behaviors were present among a small portion of patients who received BERT responses for violent situations (e.g. depression, suicidal ideation) and for those involved in non-violent situations (e.g. anxiety).

Staff survey: Demographics with violent situations

In this study, the majority of healthcare staff who reported violent behaviors in the past 12 months on their units (73%) is similar to Chinese hospital workers' reports of either physical or non-physical violence (68.6%) (but greater than staff reports from Japan's pediatric wards (31.5%) (Fujita et al., 2012). In our study, more female staff responded to the survey and also reported more 12-month experiences with violent situations than males. This sharply contrasts with the same Chinese study that reported male medical staff were twice as likely to experience physical violence (Li et al., 2017).

Among all disciplines, RNs represented the largest subgroup of respondents as well as those involved with violent situations in the past 12 months. Although nurses' greater exposure to violent situations is consistent with several others studies (Arnetz et al., 2015; Hahn et al., 2013; Williamson et al., 2013), it contrasts with reports that health aides/patient care assistants are at greater risk in Canada (Kling et al., 2009). Physicians' who reported experience with violence (9%) in our study is less than previous reports of patient/family physical and verbal violence by pediatric residents in training (33%) (Judy & Veselik, 2009).

Staff survey: Experience with patients and family members

Patients—Our multidisciplinary survey respondents reported experiences with violent patient situations (84%) involving physical acts such as hitting (77%) and kicking (82%). This result is higher than much earlier reports of physical violence by RNs in pediatric EDs (9%) (Gacki-Smith et al., 2009). The striking difference may be due to the changing

behavioral presentation of hospitalized children over time and the longer length of stay for patients in hospitals versus ED settings.

Participants reported experience with patient acts of verbal aggression including yelling/swearing (71%) and verbal altercation/threat against another (55%). These results were slightly less than prior RN reports of verbal abuse from patients and families (82%) in a pediatric hospital in Kentucky (Truman et al., 2013). Possible explanations for these varying rates of verbal aggression may relate to changes over time, cultural differences in geographic location, patient/family response to different disciplines, or institutional expectations surrounding acceptability and compliance with event reporting.

Staff reports of patient anxiety related to violent situations in our study was consistent with staff reports of patient anxiety among behaviorally aggressive children who have life-threatening or traumatic medical conditions (Levy et al., 2008). In addition, staff identified acute anxiety as a contributor to verbal and physical violence among pediatric psychiatry patients in a pediatric ED setting (Gillespie et al., 2010).

Family members—In this study, the majority of staff who reported 1–2 violent situations in the past 12 months with family members (63%) is lower than reports from 12 Chinese pediatric hospitals (94.9%) (Li et al., 2017). Higher family member violence rates in China may relate to several factors: lengthy wait times compared to brief physician visits, rising healthcare costs, mistrust of medical staff, and pediatric patients being an only child - all of which may increase stress among Chinese parents (Li et al., 2017; Zhang, Stone, & Zhang, 2017). While this current study did not include an ED population, family member violent situations during pediatric medical/trauma cases in EDs have been identified (Gillespie et al., 2010). It is reasonable then, to anticipate family member violent situations in inpatient medical settings when medical/trauma cases are present.

‘Yelling/swearing’ (93%, 81%), was the most common form of verbal aggression by mothers and fathers, respectively. This result was greater than an earlier report from a general hospital in the United Kingdom (68%) (Winstanley & Whittington, 2004) but comparable to the past 12-month verbal abuse rates (includes threats) reported by pediatric nurses in three Turkish hospitals (96.9%) (Uzun, 2003). High levels of verbal abuse in Turkey may relate to understaffed nurses, a cultural perspective towards women who are largely represented in nursing, and an aggressive, economically stressed society (Uzun, 2003).

Limitations—Data nuances in this non-comparative descriptive study must be taken into consideration. The BERT data and staff survey data could not be matched, directly compared, or associated due to different time frames for the data and the small BERT and survey sample sizes. Therefore, data could not be stratified by general care and PICU which prevented exploration of differences in patient/family member violent situations by unit type. The small sample size also prevented analysis of associations between specific medical or mental health conditions and types of violent situations. In addition, BERT data percentages reported in this study are affected by variation in the small sample size. The small BERT sample size may have been dependent on the following: 1) healthcare staff may

have contacted security rather than the BERT for family related situations, 2) the BERT study sample included only those with a signed consent for medical record research, 3) inclusion of only the first BERT response in cases of multiple responses per patient/family member, and 4) a single BERT response may have affected multiple staff who responded to the survey, resulting in a higher number of staff reporting violence experience compared to the actual number of patient-related BERT responses.

Although the survey was reviewed for face validity by an expert research committee, content validity and reliability were not statistically tested. Behaviors and conditions identified by staff survey were not confirmed by diagnosis or chart review. The survey's question about violent situations used examples of physical acts with varying degrees of physical proximity. This may have led staff respondents to differentially interpret specific questions about 'blocking care of the child', 'flailing arms and legs', or verbal abuse, for example. No other publications that referenced 'blocking care of the child' or 'flailing arms and legs' in pediatric settings were found to compare with results of this study. In addition, the purpose and degree of physical contact with these behaviors were not solicited through the survey.

Results are impacted by low survey participant response rates, particularly among RNs and MDs, despite the fact that they represented the two largest groups of invited disciplines. Survey results may have also been skewed by participant recall bias and self-selection of those with violence exposure. Anonymity of non-respondents meant that comparative demographic data could not be collected.

Due to the retrospective methodology and limited features within the BERT administrative dataset, potential patient variables such as marital status, education, and presence of additional visitors (Tsironi & Koulierakis, 2018) were not available. Perhaps more importantly, patient and family member perspectives and their healthcare experiences are absent from this study. Since the BERT and survey sample sizes were small and because this study was conducted at a single hospital at one point in time, results are not generalizable and must be interpreted with caution.

Practice implications—Information related to violent situations in pediatric practice is a relatively unpublished area and more comprehensive data collection is needed establish whether this is a growing local and national problem. Despite the small sample size of this study, the descriptive findings lead us to some important clinical considerations with pediatric patients and families in potentially violent situations, as described in the following sections.

Maslow's hierarchy and hospitalization—Patients' basic physiological and safety needs are primary, as noted in Maslow's hierarchy (Maslow, 1943). When a patient experiences a medical illness and is hospitalized in an unfamiliar environment, these basic needs are often unmet and the individual may feel unsafe. The patient or family members' ability to effectively communicate may be challenged; and, depending on the individual's stress level, development, or even physical stature, their behavior may become unsafe when attempting to get their needs met. Nurses and healthcare providers have the distinct

opportunity to assess patients' and families' emotional and security needs as well as coping abilities during hospitalization.

A better understanding of parents and family members' healthcare experiences may assist nurses' approach to providing support. For example, although blocking care of the child occurred for unknown reasons, it may pertain to the basic Maslow's hierarchical need to provide safety for the child. This protection may result in guarding or protecting the child from painful procedures, or attempting to address unmet perceived needs of the child (Gillespie et al., 2010). To illustrate, mothers described feeling that the hospital medical staff assumed parents would hold their hospitalized child during painful procedures, without being given the opportunity to say no (Ygge & Arnetz, 2004). Parents also felt that healthcare providers expected them to provide daily care for their child and spend nights in the hospital (Ygge & Arnetz, 2004). But in reality, parents needed support from staff to limit their level of involvement which would allow parents to tend to other responsibilities (Ygge & Arnetz, 2004). Additional potential stressors for parents may include unfamiliarity with hospital work routines, differences in their child's usual appearance and behavior (Dudek-Shriber, 2004; Harper et al., 2013; Ygge & Arnetz, 2004; Ygge, Lindholm, & Arnetz, 2006), and feeling that their child is vulnerable and needs protection (Winstanley & Whittington, 2004).

The BERT in clinical settings—The low volume of the BERT requests to pediatric units during this study's time period indicated an apparent low use of this resource for pediatric patient and/or family member violent situations. This low use provides an opportunity to explore with bedside staff the reasons for under-utilization of the BERT and how it may address patient needs that are expressed in the medical inpatient setting. Whether these expressed behaviors are perceived as purposeful or non-purposeful, disruptive situations must be addressed to assure safety in the hospital. For more urgent needs, a priority page to the BERT provides an excellent resource. To assist patients or families who are struggling to cope but are non-violent, the bedside staff may request a consultation (i.e. pre-BERT), versus an emergency response, from the BERT RN. Through consultation, the BERT RN may assist with identification of strategies to address patients'/families' current needs. Strategies may include active listening, relaxation interventions, and altering environment to decrease stimulation (Pestka et al., 2012). In this study's setting, the BERT RN also provides consultation during routine shift rounds, with a focus on units that have potential or actual disruptive patient/family situations. This extra attention to specific high risk situations may prevent future escalations. The numbers of the BERT consultations, or pre-BERT responses, for pediatric medical units increased by over 50% from the first 6 months in this study period to the last 6 months. This increase in pre- BERT consultations suggests a heightened awareness and utilization of pre-emptive planning for potentially disruptive situations.

Clinical environment—Environmental stimuli in the form of noise and high activity levels have been previously associated with inpatient pediatric violent situations that the BERT responded to (Derscheid, 2017). Environmental stressors may decrease children's capacity to engage in self-restraint during times of illness (Kling et al., 2009), contribute to their impulsivity (Becker & Grilo, 2007; Gillespie et al., 2010), and trigger emotion/

behavior dysregulation among those with neurological issues (Starzyk et al., 2010). Interventions that aim to reduce environmental stressors include closing doors to keep out noise, promptly tending to equipment alarms, limiting the number of visitors to a patient room, and posting quiet corridor signs. These strategies are particularly important during busy periods such as team rounds and scheduled procedures. In this study's location, other interventions to enhance environmental safety included 1:1 staff to patient assignments, enhanced observation levels of patients, and room modifications such as removal of unneeded medical equipment or furnishings. For unit to unit transfers of a potentially aggressive/violent patient, a huddle form is used to structure hand off communication and identify safety interventions that are already in place (Larson et al., 2018).

Staff education and practice enhancements—In this study's setting, pediatric psychiatric and medical nurse leaders and staff partnered to develop education for nurses that focused on management of disruptive behavior situations. The education addressed early recognition of disruptive behaviors, interventions for behavior related to specific patient conditions, staff development of a self-management plan to use during difficult situations, and simulation exercises to practice new de-escalation skills.

Other recommended practice enhancements include consistent face to face touch points during daily rounds and medical procedures for family members with the treatment team. If face to face communication is not possible, families are encouraged to articulate their questions or concerns through regular phone communication with healthcare providers (Ygge, Lindholm, & Arnetz, 2006; Ygge & Arnetz, 2004). Problem-focused interventions and strategies help parents understand their child's medical problems, maintain hope, and decrease distress during hospitalization (Doupnik et al., 2017; Garro, Thurman, Kerwin, & Ducette, 2005; Young Seideman et al., 1997). These practice implications highlight the essential role that nurses and other healthcare providers have in supporting children and families to maintain a sense of safety during a medical hospitalization.

Conclusions

This study helped illuminate demographic, medical, and mental health clues about violent situations with patients and family members on pediatric inpatient hospital units. These results assist with consideration of variables to analyze in future studies of violent situations that utilize larger databases. Compilation of a more complete database from all sources within a given institution will allow a clearer understanding of the scope and nature of staff exposure to violent situations. Future studies may identify significant contributors to pediatric and family related violent situations in the inpatient healthcare setting. The BERT response, as part of a comprehensive violence prevention program, may offer interventions that address these contributors and meet pediatric patient and family member needs during hospitalization.

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Behavioral emergency response team responses: demographics and characteristics of pediatric patients and family members (N^a = 26).

Table 1

Demographic	All Patient (Violent and Nonviolent) Situation BERT Responses (n = 20)			Violent Situation ^b Patient BERT Responses (n = 15)			Nonviolent Situation ^c Patient BERT Responses (n = 5)			Family Member ^d BERT Responses (n=6)		
	Range (5–17)	μ 12	n	Range (6–17)	μ 13	n	Range (5–16)	μ 9	n	Range NA ^e	μ NA ^e	n
Demographic		(%)			(%)			(%)			(%)	
Gender												
Female	9	(45)	8		(53)	2		(40)	7			
Male	11	(55)	7		(47)	3		(60)	1			
Child Ethnicity												
White	13	(65)	9		(60)	5		(100)	NA ^e			
Non - white ^f	7	(35)	6		(40)	0		–				
Location												
General Pediatrics	17	(85)	13		(87)	5		(100)	6			(100)
Intensive Care	3	(15)	2		(13)	–		–	–			–
Shift for BERT call												
Day	7	(35)	5		(33)	2		(40)	2			(33)
Evening	7	(35)	6		(40)	2		(40)	2			(33)
Night	6	(30)	4		(27)	1		(20)	2			(33)
Behavior^g	n	(%)	n	n	(%)	n	n	(%)	n	n	(%)	n
Physical violence (with contact) (n = 11)												
Bite	5	(33)	5		(33)				–			–
Hit	9	(60)	9		(60)				–			–
Kick	8	(53)	8		(53)				–			–
Shove	1	(7)	1		(7)				–			–
Spit	1	(7)	1		(7)				–			–
Physical violence (no contact) (n = 4)												
Flail arms/legs	2	(13)	2		(13)				–			–
Throw object	3	(20)	3		(20)				–			–

	All Patient (Violent and Nonviolent) Situation BERT Responses (<i>n</i> = 20)	Violent Situation ^b Patient BERT Responses (<i>n</i> = 15)	Nonviolent Situation ^c Patient BERT Responses (<i>n</i> = 5)	Family Member ^d BERT Responses (<i>n</i> = 6)
Non-Violent Behavior^h (no contact)(<i>n</i>=18) ⁱ				
Self-harm behavior	1 (5)		1 (5)	
Disruption to the unit	14 (70)	10 (67)	4 (80)	4 (67)
Contact Unknown (<i>n</i> =4)				
Block care of child	-	-	-	4 (67)
Verbal Aggression/Threats (<i>n</i> = 6) ^j				
Verbal altercation	4 (20)	4 (27)		-
Yelling/swearing	4 (20)	4 (27)		1 (17)
Threat against another	2 (10)	2 (13)		-
Threat to self	4 (20)	3 (20)	1 (20)	-
Medical Conditions				
Delirium	1 (7)	1 (%)	N	NA ^e (%)
Developmental delay	5 (25)	4 (27)	1 (20)	
Diabetes	2 (10)	2 (13)	-	
Endocrine disorder	4 (20)	4 (27)	-	
Genetic disorder	2 (10)	2 (13)	-	
Nicotine withdrawal	2 (10)	1 (7)	1 (20)	
Obesity	1 (5)	1 (7)	-	
Seizure disorder	7 (35)	6 (40)	1 (20)	
Mental Health Conditions				
Attention deficit hyperactive disorder	5 (25)	4 (27)	1 (20)	NA ^e
Anxiety	2 (33)	-	2 (33)	NA ^e
Autism	4 (20)	3 (20)	1 (20)	
Behavior dyscontrol	8 (40)	8 (53)	-	
Depression	3 (15)	3 (20)	-	
Oppositional defiant disorder	3 (15)	3 (20)	-	
Personality disorder	1 (5)	1 (7)	-	
Sensory disorder	2 (10)	2 (13)	-	

	All Patient (Violent and Nonviolent) Situation BERT Responses (<i>n</i> = 20)	Violent Situation ^b Patient BERT Responses (<i>n</i> = 15)	Nonviolent Situation ^c Patient BERT Responses (<i>n</i> = 5)	Family Member ^d BERT Responses (<i>n</i> =6)
Suicidal ideation	2 (10)	2 (13)	-	
Contextual Factors	n (%)	n (%)	n (%)	
Leave hospital or urge to leave	1 (5)	1 (7)	-	NA ^e (%)

^aN = Number of BERT events for patients (*n* = 20) and family members combined (*n* = 6).

^bViolent Patients = Physical violence (assault) and physical violence without contact.

^cSome family events involved more than one family member: mothers *n* = 6, father *n* = 1, grandmother *n* = 1.

^dNA = Not available.

^eNon-white = African American, Hispanic, Non – Hispanic, Other.

^fBehaviors not exclusive, individuals may have demonstrated more than one behavior.

^gBehaviors are not exclusive, individuals may have demonstrated more than one behavior.

^hNon- violent behaviors = Behavior that would not harm others; may occur alone in patient non-violent situations (*n*=5), among family members (*n*=4), or *in conjunction with* behavior that could harm others in patient violent situations (*n*=10/15).

ⁱ*n* = 18 (14 patients, 4 family members)

^j*n* = 6 (5 patients, 1 family member)

Table 2

Staff Survey: Demographics and Reported 12- month Violent Situation Involvement on Unit (N = 91).

Demographics	All Respondents n (%)	Violence Involvement Yes n (%)
Gender (<i>N</i> = 88)		(<i>N</i> = 64, 73%)
Male	5 (6)	3 (5)
Female	83 (94)	61 (95)
Age (<i>N</i> = 88)		(<i>N</i> = 64, 73%)
18–25	16 (18)	13 (20)
26–35	44 (50)	29 (46)
36–45	10 (11)	9 (14)
46–55	14 (16)	11 (17)
56–65	4 (5)	2 (3)
Discipline (<i>N</i> = 91)(<i>response rate</i>)		(<i>N</i> = 67, 74%)
RN (62/235 = 26%)	63 (69)	53 (79)
PCA (8/23 = 35%)	8 (9)	4 (6)
SW (7/10 = 70%)	7 (8)	4 (6)
MD (13/57 = 23%)	13 (14)	6 (9)
Role (<i>N</i> = 61)		(<i>N</i> = 51, 84%)
Bedside	54 (88)	45 (88)
Leadership	6 (10)	5 (10)
Other	1 (2)	1 (2)
Unit (<i>N</i> = 88)		(<i>N</i> = 64, 73%)
General	62 (71)	48 (75)
Intensive Care	23 (26)	13 (20)
Other	3 (3)	3 (5)
Years' in Role (<i>N</i> = 88)		(<i>N</i> = 64, 73%)
0–2 years	37 (42)	24 (38)
3–5 years	17 (19)	12 (19)
6–10 years	9 (10)	8 (12)
11–15 years	6 (7)	4 (6)
16–20 years	6 (7)	6 (9)
21+ years	13 (15)	10 (16)

Table 3

Staff Survey: Reported Workplace Violence Situation Related Behavior by Person and Type (N = 91).

	Patient n (% yes)	Mother n (% yes)	Father n (% yes)	Sibling n (% yes)	Grandparent n (% yes)	Other n (% yes)
Patient or Family Exposure (N = 67)	56 (84)	27 (40)	21 (31)	2 (3)	3 (5)	3 (5)
Type of Violent Situation Exposure						
Physical Behavior (Presumed Contact)						
Bite	30 (54)	-	-	-	-	-
Hit	43 (77)	1 (4)	-	-	-	2 (67)
Kick	46 (82)	2 (7)	1 (5)	-	-	2 (67)
Push	27 (48)	3 (11)	-	1 (50)	-	-
Sexual touch/behavior	2 (4)	-	1 (5)	-	-	-
Shove	20 (36)	5 (19)	3 (14)	-	-	-
Spit	30 (54)	1 (4)	-	-	-	-
Physical Behavior (Contact Unknown)						
Disruptive to unit	43 (77)	21 (78)	18 (86)	-	1 (33)	2 (66)
Flail Arms/Legs	43 (77)	2 (7)	1 (5)	-	-	1 (33)
Throw Object	20 (36)	4 (15)	3 (14)	1 (50)	-	1 (33)
Block care of child		16 (59)	10 (48)	1 (50)	1 (33)	-
Verbal Aggression/Threats						
Verbal altercation	31 (55)	15 (56)	11 (52)	1 (50)	-	1 (33)
Yelling/swearing	40 (71)	25 (93)	17 (81)	-	-	2 (66)
Threat against another	31 (55)	16 (59)	14 (67)	1 (50)	-	-
Threat self	30 (54)	5 (19)	3 (14)	-	-	1 (33)
Sexual threat	1 (2)	-	-	-	-	-
Threat to property	16 (29)	6 (22)	7 (33)	1 (50)	1 (50)	1 (33)
Medical and Mental Health Conditions						
Anxiety	34 (61)	15 (56)	7 (33)	-	2 (67)	-
Self-harm	26 (46)	2 (7)	-	-	-	-
Suicidal ideation	29 (52)	2 (7)	-	-	-	-