A Systematic Review of the Prevalence of Patient Assaults Against Residents

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Abstract

Objectives The purpose of this study is to systematically review the literature on the prevalence of patient assaults against residents in all specialties, and to identify curricula that address this issue.

Methods The authors searched published English-language literature using PubMed and Scopus databases using key terms including "patient," "assaults," "threats," "violence," "aggression," and "residents." A separate search to identify curricula used the same terms in combination with key words including "curriculum," "didactics," and "course." Bibliographies of studies found by electronic searches were also searched manually.

Results Fifteen studies met the inclusion criteria. Of these, 7 were conducted on psychiatry residents alone, 6 assessed assaults on residents in nonpsychiatric specialties, and 2 reported cross-specialty data. The prevalence of assaults was defined as the percentage of residents who have experienced at least one assault. The prevalence of physical assaults on residents was 38% in surgery, 26% in emergency medicine, 16% to 40% in internal medicine, 5% to 9% in pediatrics, and 25% to 64% in psychiatry. All studies were cross-sectional; none collected data prospectively. Definitions of assault were heterogeneous or not specified. Few of the assaults were reported to clinical supervisors or training directors, and no programs had a formal reporting process. Approximately 21% to 79% of psychiatry residents and 30% of residents in other specialties had received some training on how to manage violent patients. We found no descriptions of formal curricula for managing the possibility of patient violence against residents or for preparing for the aftermath.

Conclusions Although the data are limited, assaults by patients are commonly experienced by residents in training. There is a paucity of information and curricula that pertain to reducing the prevalence of these incidents and to addressing potential psychologic consequences, especially in nonpsychiatric specialties.

Introduction

Coping with violence or assault by patients is among the most difficult adversities that residents in psychiatry and other specialties face,[1] and violence in health care settings appears to be increasing.[2] Common psychologic consequences of being physically attacked by a patient include anger, symptoms of depression and posttraumatic stress disorder, diminished eagerness to work, and thoughts about dropping out.[3] Threats, intimidation, and assaults on residents undermine morale, interfere with the ability to learn, and can result in dissatisfaction with the training experience.[3] Strong emotional responses evoked by patient aggression, including residents' feelings of powerlessness, can present a challenge to educators and program directors. An insufficient understanding of the prevalence of assaults and the deeply personal and highly sensitive nature of the topic may constitute barriers to adequately preparing for and comprehensively responding to aggression by patients.

To address these concerns, and because we could find no previously published reviews, we conducted a systematic review to identify all relevant studies reporting on the prevalence of patient assaults on residents in any specialty. In addition, we searched for studies on curricula designed to assist residents in preparing them for the possibility of patient aggression and in managing the aftermath.

Methods

Studies were identified by searching the PubMed and Scopus databases. These databases were searched using combinations of terms including "patient," "assaults," "threats," "violence," "aggression," and "residents." In addition, a separate search was conducted to identify relevant curricula using the same terms in combination with key words including "curriculum," "didactics," and "course." To identify additional studies, we searched the

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bibliographies of those studies found by electronic searches. The authors were personally aware of a relevant paper that was in press and included it in the review.[4] Our inclusion criteria were any study that described the prevalence of assaults by patients or their family members against residents in any specialty. Only studies published in English were included. We excluded articles where assaults on residents by patients could not be separated from assaults by staff members,[3] and studies that reported on the prevalence of threats of assaults rather than actual assaults.[5] We also excluded articles that were descriptive alone and did not provide data. The search was conducted between September 13, 2010, and January 20, 2012.

The authors reviewed all selected studies to extract data regarding response rates, prevalence of assaults, and whether definitions of assault, period of reporting, or psychologic consequences were identified. The prevalence of assaults was defined as the percentage of residents who had experienced at least one assault. Any disagreements were resolved by consensus of all authors. Although search terms included "threats," "violence," and "aggression," in order to increase the sensitivity of the search process, we focused on assaults based on the understanding that other forms of aggression are difficult to capture adequately in survey methodologies. We present the data on nonpsychiatric specialties separate from the data on psychiatry. When studies presented the prevalence of assaults across several specialties without delineating the prevalence for each individual specialty, we presented these results for all specialties combined.

Results

We found 15 studies that reported on the prevalence of patient assaults against residents.[4,6–19] A total of 6 studies included nonpsychiatric specialties,[8–13] and 7 studies were conducted on psychiatry residents alone.[4,14–19] In 2 other studies,[6,7] the prevalence of assaults in nonpsychiatric specialties could be separated from the psychiatric specialties, and therefore these data are handled separately below. A total of 9 studies were conducted in the United States,[4,6,11–14,16,17,19] 3 in Canada,[8,9,15] 1 in the United Kingdom,[10] 1 in New Zealand,[6] and 1 in Belgium.[18] A total of 5 studies surveyed a national sample,[4,10,15,18,19] 8 were multisite studies,[4,8,9,11–13,16,17] and 3 were single-site studies.[6,7,14]

Nonpsychiatric Specialties

Our review included 8 studies of assault in nonpsychiatric specialties, including internal medicine, surgery, emergency medicine, pediatrics, anesthesia, and obstetrics-gynecology (TABLE 1). The response rate for the surveys conducted in these studies varied between 28% and 100%. Four of the studies provided a definition of assaults, including "spat on,"[7] "rough handling,"[8] hitting,[7,8] pushing,[7,8] being "physically struck,"[12] and "an attack with violence by physical means or an attempt to do bodily violence or injury."[6] A total of 7 studies specified the period of reporting,[6–10,12,13] which was most commonly over the course of residency training, whereas 1 study asked if respondents had "ever" been assaulted, thus potentially including experiences as medical students as well.[11] The prevalence of assaults in those studies where individual data could be determined was 38% in surgery,[11] 26% in emergency medicine,[12] 16% to 40% in internal medicine,[6,9] and 5% to 9% in pediatrics.[10,13]

The percentage of residents who reported assaults to authorities or program directors ranged from 1% to 13%.[10,12,13] One of the most common reasons for not reporting was lack of a centralized reporting process.[10] In addition, some residents felt that reporting would not accomplish anything, felt that it was more trouble than it was worth, or thought that they should "suck it up" and accept abuse as part of the job.[12,13]

Common psychologic consequences of being assaulted included anger, fear, anxiety, posttraumatic stress disorder symptoms, guilt, self-blame, and shame.[13] One study measured psychologic consequences based on the Impact of Event Scale, a self-report measure used to assess current subjective distress for any life event.[7] According to Horowitz et al,[20] the reliability of the Impact of Event Scale was high ($r = 0.86$), and the internal consistencies were 0.78 and 0.82 for the intrusion and avoidance subscales, respectively. The one study that used the Impact of Event Scale found that the overall score for the most distressing event was 7.7 on a range of 0 to 40, indicating that symptoms were subclinical.[7,20] Only 2% of residents were offered formal counseling after being assaulted by a patient.[7,10] One study indicated that although many institutions have mechanisms in place to address issues of abuse, residents are often unaware of support services.[12]

A commonly identified need was to provide formal training to address patient assaults in residency. Approximately 30% of residents, however, reported that they had received some training on how to deal with violent patients.[7,12,13] Training was viewed as adequate only by a minority,[7] and suggestions were made to add refresher courses to understand the impact of assaults, the importance of debriefing, recognizing risks, and methods for de-escalation.[7] No formal curricula for managing the possibility of patient violence or preparing for the aftermath of an assault were described.

Psychiatric Studies

A total of 9 studies contained data pertaining to psychiatry residents, 7 studies were stand alone, and 2 studies included data for psychiatry residents and residents in other

TABLE 1 **Characteristics of Studies of Patient Assaults Against Residents in Specialties Other Than Psychiatry**

Source, y	Specialty	Methodology	N	n (%)	Prevalence of Assaults, %	Definitions Provided	Period of Reporting Identified	Psychologic Consequence Reported
Milstein, 1987[6]	IM	Cross-sectional	117	70 (60)	16	Yes	Yes	No
Coverdale et al, 2001[7]	IM, Ob-Gyn, Surgery	Cross-sectional	108	85 (78)	24	Yes	Yes	Yes
Cook et al, 1996[8]	Anesthesia FM, IM, Ob-Gyn, Pediatrics	Cross-sectional	225	186 (83)	19.6	Yes	Yes	Yes
VanIneveld et al, 1996[9]	IM	Cross-sectional	644	543 (84)	40	No	Yes	No
Macklin, 2001[10]	Pediatrics	Cross-sectional	75	75 (100)	5.3	No	Yes	No
Barlow and Rizzo, 1997[11]	Surgery	Cross-sectional	206[a]	475 (28)	38	No	No	No
Li et al, 2010[12]	EM	Cross-sectional	380	196 (52)	25	Yes	Yes	No
Judy and Veselik, 2009[13]	Pediatrics	Cross-sectional	1211	541 (45)	9	No	Yes	Yes

Abbreviations: EM, emergency medicine; FM, family medicine; IM, internal medicine; Ob-Gyn, obstetrics-gynecology.

[a] Surveys were sent to surgical residents at 206 teaching facilities in the United States.

specialties (TABLE 2). The response rate varied from 20% to 100%. Of the 6 studies that provided definitions of assault, these definitions of assault included "physical contact,"[4,7,14] "an attack with violence by physical means,"[6] "stabbing, biting, or blows to the head,"[16] or being "slapped, punched, spat on, grabbed, wrestled to the ground, or pinned to the floor."[18] Six studies specified the period of reporting, which was over the course of residency training.[6,7,14,16–18] The prevalence of assaults ranged from 25% to 64%.

In the 4 psychiatry studies that described reporting behavior, approximately 60% to 70% of residents who were assaulted by patients formally reported the incident, most commonly to a supervisor.[4,7,15,19] About half of psychiatry residents felt that patient assaults were underreported.[15] Reasons that residents gave for not reporting included feeling that the incident was not severe enough, that it was an inherent part of their job, that they would be blamed for the assault, that reporting the assault would reflect negatively on their competence, and that trying to change the situation would be futile.[4,15,19]

Two studies reported the psychologic consequences of being threatened or assaulted by patients. In both studies, the Impact of Event Scale was used to measure the subjective distress caused by the incident.[4,7] Overall scores for psychiatry residents were significantly higher than the scores for all other groups.[7] Furthermore, one-third of residents overall received supportive counseling, but most viewed the support they received as inadequate.[15]

The percentage of psychiatry residents who had received formal training on managing violent patients ranged from 21% to 79%, although only a minority felt that their training was adequate.[4,16–18] Several psychiatric studies identified what should be included in curricula to address patient assaults. Recommendations for curricula included developing didactics on seclusion and restraint techniques, environmental safety, and medical legal issues. They also recommended that a centralized and clear reporting process for residents should be made mandatory and immediate debriefing should be available in order to help residents access their feelings related to assault and provide support.[4,15–19] One study specifically emphasized the importance of educating residents that being assaulted is not a part of the job.[19]

Discussion

There was a heterogeneity of assault rates within and between specialties. The prevalence of assaults by patients against psychiatry residents ranged from 25% to 64%. The prevalence of assaults by patients against residents in medicine, surgery, and internal medicine ranged from 26% to 40%, and the prevalence of assaults against residents in pediatrics was 5% to 9%. Of note, we found no data on prevalence rates specific to obstetrics-gynecology and family practice, and there was a paucity of studies concerning prevalence rates in all nonpsychiatric specialties.

There were a number of limitations to the studies. All of the studies were cross-sectional and none attempted to

TABLE 2 **Characteristics of Studies of Patient Assaults Against Residents in Psychiatry**

Source, y	Methodology	N	n (%)	Prevalence of Assaults, %	Definitions Provided	Period of Reporting Identified	Psychologic Consequences Reported
Dvir et al[4]	Cross-sectional	519	204 (39)	25	Yes	No	Yes
Ruben et al, 1980[14]	Cross-sectional	31	31 (100)	48	Yes	Yes	No
Milstein, 1987[6]	Cross-sectional	33	28 (85)	39	Yes	Yes	No
Chaimowitz and Moscovitch, 1991[15]	Cross-sectional	211	136 (64.5)	40.2	No	No	No
Fink et al, 1991[16]	Cross-sectional	333	155 (46)	41	Yes	Yes	No
Black et al, 1994[17]	Cross-sectional	47	47 (100)	56	No	Yes	No
Coverdale et al, 2001[7]	Cross-sectional	52	50 (96)	64	Yes	Yes	Yes
Pieters et al, 2005[18]	Cross-sectional	164	99 (60)	56	Yes	Yes	No
Schwartz and Park, 1999[19]	Cross-sectional	2553	517 (20)	36	No	No	No

collect data prospectively. Nearly all of the reporting periods were over the duration of training, limiting the validity of recall for more distant events. In addition, there was a lack of shared formal definitions of assault. Most studies had acceptable response rates, and most also were multisite or national studies. These results together underscore a need to develop the research on patient violence and aggression, especially in nonpsychiatric settings.

The data provided on the psychologic consequences of assaults were also limited. Only 2 studies used a formal tool for this purpose.[4,7] None of the studies evaluated days lost from work, depressive symptoms, or other possible distressing emotional consequences. Furthermore, none of the studies evaluated attitudes toward managing patients in these settings as a consequence of the assault or avoidance behaviors. This review did not study the prevalence of nonassaultive types of aggression toward residents, which may occur just as frequently and can also result in distressing psychologic consequences.[7]

We did not find any formal curricula or model programs to address patient assaults, although in some cases recommendations were provided for what should be included. The American Psychiatric Association task force has provided a didactic outline for residency training on managing patient violence.[19,21] The recommended training topics include warning signs of violence, evaluation of violent patients, use of verbal, mechanical, and pharmacologic interventions, and the psychodynamics of aggression.[19,21] We suggest that this education should occur early in training, and that it should include information on the prevalence of patient assaults and their adverse psychologic consequences. Because few residents reported incidents of patient assaults, attitudinal and institutional barriers should be identified and addressed.[6]

Conclusions

Our review found that assaults by patients are commonly experienced by residents in training in most specialties, except for pediatrics. Psychiatry trainees are the most likely to experience an assault during training. Currently, there is a paucity of information regarding the effects of assaults, useful reporting systems, and effective curricula to help residents manage patient assaults.

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