The Prevalence of Physicians Who Have Been Stalked: A Systematic Review

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It has been suggested that physicians are particularly vulnerable to being stalked. Our goal was to examine the prevalence of physicians who have been stalked and the associated consequences for the victims. We conducted multiple searches of PubMed and PsycINFO for articles in English from 1950 to 2013, using the terms stalker, stalking, aggression, assaults, patient, physician, resident, registrar, intern, and trainee. Reference lists of relevant articles were also searched. We developed and used a five-point evaluation tool for critical appraisal of the articles. We found 12 prevalence studies on the stalking of physicians, of which 8 were national surveys and 4 were focused exclusively on stalking. The studies varied in their methodological quality with common limitations including the lack of a national sample, the lack of construct validity of the survey tool and of the provision of a formal definition of stalking, and low response rates. Prevalence rates ranged from 2 to 25 percent, although one study found a prevalence rate of 68.5 percent. Information on the physical and psychological consequences of having been stalked was also limited. Although a substantial minority of physicians reported having been stalked, there remains a dearth of high-quality studies on the topic.

J Am Acad Psychiatry Law 43:177–82, 2015

> It's dark; I shan't disturb you; I shall just place myself under this street-lamp so you can't see me.
>
> — Søren Kierkegaard, *The Seducer's Diary*[1]

Stalking has been defined as "a constellation of behaviors involving repeated and persistent attempts to impose on another person unwanted communication, contact, or both.[2] Prevalence estimates vary according to deficiencies in the methodology, although a recent large U.S. survey found that around 7 percent of women and 2 percent of men reported having ever been stalked.[3] Although such behavior has been described for centuries, the recognition of stalking as a distinct form of aberrant behavior and as a criminal offense is a recent development that has paralleled changing public attitudes about privacy and gender roles.[4] A series of highly publicized celebrity-stalking cases in recent decades have also brought stalking to the forefront, including the assassination of John Lennon by Mark David Chapman in 1980 and the stalking of actress Jodie Foster and the attempted assassination of President Ronald Reagan by John Hinckley, Jr. in 1981.[4,5] In addition to the potential that victims will be physically harmed, stalking has been associated with psychologically distressing consequences for the victims, including PTSD, depression, and suicidal ideation.[6] It has been suggested that physicians are especially vulnerable to being stalked.[6]

We found only four review articles or commentaries that identified the topic.[7–10] Pathé *et al.*[7] addressed the motives and management of patients who stalk doctors. Manca[8] combined a case report about the stalking of a family practice physician with a literature review. McIvor and Petch[9] and Galeazzi *et al.*[10] discussed the stalking of mental health professionals in general. These reviews did not identify a focused question or provide a critical appraisal of existing studies.[7–10] All are now

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Disclosures of financial or other potential conflicts of interest: None.

somewhat dated, and two focused on mental health professionals alone.[9,10]

As a consequence of these deficits and because of the potential serious emotional and physical consequences to doctors who are stalked, we undertook a formal and systematic review of the literature, with the primary goal of determining the prevalence of physicians who had been stalked, including prevalence rates by specialty. We also set out to evaluate the emotional and physical consequences for physicians of being stalked and to appraise the quality of information pertaining to the prevalence data. By these methods, we aimed to help readers appreciate the public health importance of this problem and to identify areas that warrant further clinical attention and research.

Methods

We selected studies of the stalking of physicians from the larger body of literature about aggression toward physicians, including trainees. Pub Med and PsycINFO were searched from 1950 to the present, by using a combination of terms including stalker, stalking, aggression, assaults, patient, physician, resident, registrar (the United Kingdom and Australasian equivalent of resident), intern, and trainee. To identify additional studies, we searched the bibliographies of the studies found by electronic searching. Our inclusion criteria were any study (for example, those of cross-sectional or longitudinal design) that determined the prevalence of stalking of physicians or trainee physicians in any medical specialty by patients or their family members or other members of the public who were not a patient of the victim. Only studies published in English were included. We excluded studies that examined stalking of other health professionals, such as nurses and psychologists and that did not determine separate prevalence rates for trainees or physicians. We also excluded articles that were purely descriptive and did not provide data. Multiple searches were conducted from April 1, 2012, through August 31, 2013.

We reviewed all selected studies to extract data regarding country of origin, medical specialty, level of training, response rates, and prevalence rates based on the percentage of those who had responded with or without the researchers providing a definition of stalking. In accordance with standards for conducting systematic reviews,[11,12] we also rated each article independently with a quality-appraisal tool. After a search of the literature and consultation with colleagues, we did not find a quality tool appropriate for the purposes of this study. We therefore devised a five-point quality-appraisal tool specific for this review that incorporated points for each of the following: survey of national population; response rate greater than 60 percent; prevalence based on a clear definition of stalking; use of a survey that was piloted or modeled on prior questionnaires and thus had construct validity; and the provision of a formal period for determining prevalence. We rated each question independently for each study and met several times to come to a consensus regarding the scoring of each question.

Results

Our search found 126 articles potentially related to the stalking of physicians. After reading the titles and abstracts and excluding irrelevant articles, we found 37 articles dealing with the stalking of physicians. A review of the reference lists of these 37 articles yielded 2 additional articles, resulting in 39 articles for further review. A more careful review of these full articles identified 18 studies[13–30] that appeared to meet the inclusion criteria. Six of them were excluded[13–17,29]: one was a retrospective chart review of patients that did not assess prevalence of stalking as experienced by victims,[15] four[13,14,16,17] had surveyed other types of health workers and did not determine a separate prevalence rate for physicians, and two[17,29] used a qualitative methodology that did not allow for a determination of prevalence. Two studies[29,31] were second publications using the same data but extending the work of the first publication.

Twelve studies[18–28,30] met the inclusion criteria and were subjected to a formal review and critical appraisal. All 12 used cross-sectional (survey) designs. Nine were conducted nationally,[18,20,22–24,26–28,30] one regionally,[19] and two locally.[21,25] The countries of origin included the United States,[19,23] the United Kingdom,[18,21,28] Ireland,[30] Canada,[25] Australia,[22,26] and New Zealand.[20,22,25,27] Five studies included trainees[18,21,23,28,30] in psychiatry[18,21,28,30] or emergency medicine.[23] One study surveyed physicians across specialties[25]; the remaining 11 surveyed physicians in emergency medicine,[19,23] general or family practice,[26,27] psychiatry,[18,20,21,24,28,30] or plastic surgery.[22] Five studies described the emotional consequences for the victims of the specific behavior of stalking.[20–22,28,30] In one case, the con-

sequences were not assessed directly, but some respondents offered free text comments regarding the negative impact the behavior had on them.[21]

The characteristics of the individual studies and prevalence rates of trainees or physicians who were stalked are provided in Table 1. The response rates for the surveys conducted in these studies ranged from 26 to 85 percent, although in one study,[23] a response rate could not be determined because the number of potential responses was not reported. Seven of the studies provided a definition of stalking.[19–22,25,28,30] These definitions included unwanted or threatening contact[19]; unwanted communications or repeated contacts[20]; inappropriate contact outside the clinical setting, such as by telephone or letter[21]; unwanted intrusions or communications[22,28]; willful, malicious following or harassing behaviors[25]; and threatening, unwanted behavior directed at the target that results in fear or concern.[30] A criterion of persistence of these behaviors was incorporated into each of these definitions.[19–22,25,28,30] Physicians reported having been stalked at prevalence rates that ranged from 1.5 to 25.1 percent,[18,19,21–27,30] although one study reported a rate of 68.5 percent.[20]

Table 2 summarizes the consensus that was achieved in the rating of quality of each of the studies. The most common reason for losing a point was a response rate less than 60 percent. The three highest scoring studies,[19,24,30] which scored four of five possible points on the quality assessment tool, used a survey tool that had construct validity and obtained response rates of more than 60 percent. Gale *et al.*[24] surveyed psychiatrists throughout New Zealand, but a definition of stalking was not provided. Kowalenko *et al.*[19] evaluated workplace violence among emergency physicians in Michigan. Nwachukwu *et al.*[30] surveyed psychiatrists in Ireland but did not use a formal study period. The prevalence of stalking in these studies was 4.6, 3.5, and 25.1 percent, respectively. Only Nwachukwu *et al.* assessed the psychological consequences of stalking and found that it negatively affected respondents' occupational and social lives. Gale *et al.*[24] administered an impact-of-events scale, although it was not related specifically to the trauma of being stalked.

Five studies received three points.[21–23,27,28] Four were national studies that surveyed emergency medicine attendings and residents in the United States,[23] plastic surgeons in Australia and New Zealand,[22] general practitioners in New Zealand,[27] and psychiatrists in the United Kingdom.[28] Of these five, three defined stalking,[21,22,28] and three specified a period for occurrences of stalking,[22,23,28] including a one-year incidence and lifetime prevalence rate.[28] Four of these five studies were hindered by having response rates that were not calculable[23] or were less than 60 percent.[21,22,28] The prevalence rates of stalking in these five studies ranged from 1.5 [23] to 21[21] percent.

Four studies,[18,20,25,26] including three national surveys,[18,20,26] each received only two points. Three were national surveys,[18,20,26] while only two defined stalking,[20,25] only one obtained a response rate of greater than 60 percent,[18] and only one used survey tools that had construct validity.[25] One of these[25] was notable because it was a survey of 3,000 physicians across many specialties in Toronto, Canada. The highest stalking prevalences were found among psychiatrists (26.5%), followed by obstetrician-gynecologists (16.3%) and surgeons (15.9%). No stalking was reported among pediatric and nuclear medicine physicians.

The emotional consequences of stalking were identified as anxiety or fear[20,28,29,31]; difficulty sleeping[20,28]; depressive symptoms, including a loss of enjoyment;[28] feelings of hopelessness and powerlessness; reduced concentration; loss of energy and motivation[20]; anger or aggressive thoughts or urges[20]; alcohol or other substance use[28]; psychiatric symptoms that persisted for one month or longer[22]; and psychological distress, loss of control, and frustration.[31] One study[20] reported that 18 percent of victims were physically harmed, most commonly by being hit or grabbed, although three had been stabbed; however, it did not separate physicians from other mental health workers.

Discussion

We found a heterogeneity of prevalence rates of physicians who had been stalked, with rates ranging from 1.5 to 25.1 percent for 11 of the 12 studies that met our inclusion criteria[18,19,21–28,30] and a statistical outlier rate of 68.5 percent for the 12th study.[20] In the 12 studies,[18–28,30] emergency medicine specialists[19,23] and general practitioners[26,27] reported the lowest prevalence rates of having been stalked (1.5–3.5% and 1.9–3.6%, respectively). Plastic surgeons reported the next lowest rate (4.5%),[22] followed by surgeons (15.9%),[25] and obstetrician-gynecologists (16.3%),[25] The rates for psychiatry

Table 1 Characteristics of Prevalence Studies

Study	Year	Country	Specialty	Level of Training	*N*	Response Rate (%)	Definition of Stalking	Prevalence (%)	Psychological Consequences Reported
Morgan and Porter[18]	1999	UK	Psychiatry	Trainee	100	85	Not given	4.7	No
Kowalenko *et al.*[19]	2005	USA	Emergency medicine	Attending	250	70.8	Unwanted or threatening contact by the patient or someone representing the patient in a persistent manner over time.	3.5	No
Gale C *et al.*[27]	2006	New Zealand	General practice	Attending	2308	52.2	Not given	1.9	No
Hughes *et al.*[20]	2007	New Zealand	Psychiatry	Attending	550	26.5	Unwanted communications or repeated contacts (on more than 10 occasions) persisting for a period of more than 4 weeks and that created fear or anxiety for the clinician.	68.5	Yes
McIvor *et al.*[21]	2008	UK	Psychiatry	Attending, trainee	324	61	Two or more episodes where a psychiatric patient initiated inappropriate contact outside the clinical setting that caused the psychiatrist concern.	20.7	Did not ask, but reported respondents' free text comments
Allnut *et al.*[22]	2009	Australia, New Zealand	Plastic surgery	Attending	190	54.2	A constellation of behaviors which one individual inflicts on another in the form of unwanted intrusions and/or communications . . . on two or more occasions to the extent that they felt fearful.	4.5	Yes
Gale *et al.*[24]	2009	New Zealand	Psychiatry	Attending	308	63.9	Not given	4.6	No
Behnam *et al.*[23]	2011	USA	Emergency medicine	Attending, trainee	N/A	Not determinate	Not given	1.5	No
Abrams and Robinson[25]	2011*	Canada	GP, IM, surgery, Psychiatry, EM, pediatrics, anesthesiology, nuclear medicine, OB/Gyn, other	Attending	3159	37.6	Willful, malicious, and repeated contacts; following; or harassing by a patient, ex-patient or patient's relative, partner, or ex-partner.	14.9	Yes[31]
Abrams and Robinson, Part II[31]	2013*						Same as Abrams and Robinson[25]		
Forrest *et al.*[26]	2011	Australia	General Practice	Attending	3063	26.3	Not given	3.6	No
Whyte *et al.*[28]	2011*	UK	Psychiatry	Attending, trainee	10429	25	At least 10 unwanted intrusions occurring over at least 2 weeks.	2	Yes[28,29]
Maclean *et al.*[29]	2013*						Same as Whyte et al.[28]		
Nwachukwu *et al.*[30]	2012	Ireland	Psychiatry	Attending, trainee	442	62	Repeated [unpleasantly intrusive] acts . . . which create apprehension.	25.1	Yes

*There were two parts, published in separate articles, for the Abrams[25,31] and Whyte.[28,29] studies.

Table 2 Quality Appraisal of Included Studies

Study	National Sample	Construct Validity/Defined by Piloting Experts	Stalking Defined	Formal Study Period Used	Response Rate > 60%	Score (out of 5)
Kowalenko *et al.*[19]	No	Yes	Yes	Yes	Yes	4
Gale *et al.*[24]	Yes	Yes	No	Yes	Yes	4
Nwachukwu *et al.*[30]	Yes	Yes	Yes	No	Yes	4
Gale *et al.*[27]	Yes	Yes	No	Yes	No	3
McIvor *et al.*[20]	No	Yes	Yes	No	Yes	3
Allnut *et al.*[22]	Yes	No	Yes	Yes (past year)	No	3
Behnam *et al.*[23]	Yes	Yes	No	Yes	Not determined	3
Whyte *et al.*[28] Maclean *et al.*[29]	Yes	No	Yes	Yes	No	3
Hughes *et al.*[20]	Yes	No	Yes	No	No	2
Abrams and Robinson[25]; Part II[31]	No	Yes	Yes	No	No	2
Forrest *et al.*[26]	Yes	No	No	Yes	No	2
Morgan and Porter[18]	Yes	No	No	No	Yes	2

attendings or trainees varied considerably, from 2 percent[28] to about 5 percent[18,24] to 20.7, 25.1, 26.5, and 68.5 percent (in Refs. 21, 30, 25, and 20, respectively).

Although these data and a recent commentary[32] suggest that psychiatrists are especially vulnerable to becoming victims of stalking, there are several methodological problems that could contribute to variations in prevalence rates across studies. Although most studies collected national as opposed to local samples,[20,22–24,26–28,30,29] most also had a low or indeterminable response rate[20,22,23,25,27,28] and almost half did not provide a formal definition of stalking.[18,23,24,26,27] The definitions of stalking were otherwise inconsistent across studies,[19–22,25,28,30] including whether patients or others were included as perpetrators and in the number of unwanted contacts needed to meet the criteria. Those studies that defined stalking as perpetrated by patients or their family members[19,21,25] would expectedly report higher rates of stalking should general members of the public also have been included as perpetrators. Moreover, some studies did not specify a period within which the behavior had to occur[18,20,21,25,30] and so might have included events from as far back as medical school, whereas only three specified a limited time during the preceding year.[24,27] All of these factors would be expected to influence findings.

These methodological deficiencies are exemplified by two studies[20,24] of physicians (psychiatrists) from the same country (New Zealand). The study that found the highest rate of physicians who had been stalked[20] had a low response rate (26%), used a definition of stalking that was quite broad, did not specify a period within which the behavior had to have occurred, and scored low on the quality-appraisal tool. The more recent study,[24] which had an adequate response rate and a limited period of interest found a much lower prevalence of those who had been stalked. This latter study, however, did not define stalking.

Only five of the studies reported on the psychologically distressing consequences for victims of stalking,[20–22,28,30] and only one[20] identified the proportion of physicians who had been physically harmed. Significantly, none of the studies involving trainees, who might constitute a group that is especially susceptible to negative psychological consequences because of their junior status, reported on the psychological outcomes for this group alone. Possible directions for future research include an assessment of victims' perspectives of the motivations of their stalkers. Police records of complaints could also be taken into account. Although beyond the scope of this review, a critical evaluation of existing national and state laws in terms of their effectiveness in remedying the problem of stalking would be informative.[33]

There are several limitations to our review, including that we searched for English language articles only. Although we conducted several searches, we did not conduct a search of the gray (unpublished and not easily accessible) literature or assess the possibility of publication bias. We searched the general and psychiatric literature, but did not conduct searches of literature from other medical specialties. As noted above, our scoring system was also limited, and a high score did not necessarily indicate that the

findings on prevalence were valid. Nor did our methodology (or the methodologies of published studies) allow for an understanding of how perceptions of what qualified as stalking may vary between specialties, since even studies that set forth relatively clear definitions left room for various interpretations by respondents.

In conclusion, our findings suggest that an important minority of physicians across many specialties have been stalked, with occasional physical and sometimes very distressing psychological consequences. Stalking is therefore an important public health matter about which physicians should increase their awareness. Our review establishes a clear priority for developing further research on this topic, with well-defined and consistently used definitions of stalking, a broad inclusion of specialties, and attention to determining the psychological and physical consequences for victims.

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