

Frequency and consequences of violence in community pharmacies in Ireland

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Background	Violence in community pharmacies in Ireland is thought to be common but underreported. The frequency and consequences of violence has not been studied previously.
Aims	To establish the frequency and nature of violence in community pharmacies over 12 months, and to investigate the impact of violence on employees and possible consequence for the industry.
Methods	A two-part survey was distributed to community pharmacies in Ireland in 2011 ($n = 200$). The first part related to pharmacy demographics, the frequency of various violent events (verbal abuse, threats etc.), the respondents' worry regarding violence and its impact on their co-workers. The second part concerned individual employees' subjective response to a violent event, using the Impact of Event Scale-Revised (IES-R).
Results	Fifty-seven per cent of the pharmacies responded, with 77% reporting some violent event (verbal or physical), over the past year. Eighteen per cent reported physical assault, and 63% were worried about workplace violence. There was no association between late night opening hours or pharmacy size and violence frequency. Positive statistically significant correlations were present between all types of violence and absenteeism and employee fear levels. An IES-R score could be calculated for 75 respondents; the median IES-R score was 8 with 19% reporting clinically significant scores.
Conclusions	Violence is common in Irish community pharmacies and impacts on employees and the industry.
Key words	Absence; health services; mental health; occupational; perceived work stressors; productivity.

Introduction

'Violence' may be defined as incidents of verbal abuse, threats and physical assaults, or an assault with a weapon [1]. It is a well-recognized occupational hazard [2] that has physical, emotional and behavioural consequences for recipients [3]. Worrying about workplace violence can also cause health problems [3] as can witnessing violence perpetrated against a co-worker [4]. In addition to the direct effects of occupational violence to the individual (e.g. trauma, psychological upset, financial cost of medical intervention), there is also a considerable secondary cost to the employer (e.g. absenteeism, lowered morale, negative impact on productivity, increased insurance costs, and compensation pay outs) [1,2,4–6].

The reported frequency of violence is increasing in the health care sector [7,8]. Within the European Union, health care is one of the workplaces in which violence is

most commonly encountered [6]. In contrast to other health care settings [5,7,9–11], the level of violence experienced in the pharmacy sector is not well documented.

Pharmacies in Ireland are the only establishments legally entitled to dispense prescription-only medication. The network in Ireland is extensive, with approximately one outlet per 3000 population. The majority of registered pharmacies in Ireland are community based, and these are a relatively heterogeneous group with mostly single rather than in chain ownership [12]. In 2005, almost 10 000 people were employed in community pharmacies in Ireland, including pharmacists, counter assistants, pharmacy technicians and other staff [12]. As well as a retail function, the typical community pharmacy provides an advisory service on minor health problems and is responsible for the dispensing of and advising on both prescription and over-the-counter medicines. In addition, some pharmacies elect to be part of the national

Methadone Treatment Programme in which they take responsibility for dispensing Methadone to patients whose addictions are stable and who are participating in the programme. This requires supervision of treatment and provision of counselling and educational services for patients where necessary.

The Irish Pharmacy Union records reported violent incidents, and as reporting is voluntary, there is unlikely to be an accurate reflection of the actual incidence of violence. The precise details of reports are confidential but include thefts and violent assaults.

Violence in community pharmacies in Ireland has not been studied previously. The aim of this study was therefore to establish the frequency and patterns of violent incidents, investigate the perceived impact of this violence on the employees in the sector and explore the effect on the industry as a whole.

Methods

All pharmacies in Ireland were identified via the regulatory body (Pharmaceutical Society of Ireland) in September 2010 ($n = 1717$). Ninety-five per cent ($n = 1639$) were community-based pharmacies. These were stratified into five groups based on the population size according to the most recent census of the town or city in which they were located (i.e. villages (<1500 residents), small towns (<5000), mid-sized towns (<20 000), large towns (<30 000) and cities (>30 000)) [13]. This classification has been used in other studies examining services in community pharmacies in Ireland [14]. A proportionate sample was randomly chosen from each of the five groups. In total, 200 pharmacies were selected. As no previous studies of this kind could be identified, a sample size that would reliably demonstrate statistically significant results could not be predetermined.

In October 2011, a questionnaire was sent to each of the selected pharmacies, with a stamped addressed envelope. Each questionnaire contained a code that could only be interpreted by the lead investigator; this allowed two reminders to be sent over the following 6 weeks. The questionnaire was divided into two sections: the first section was to be completed by the owner or manager of the pharmacy and explored pharmacy-related information such as baseline demographics (i.e. the number of employees employed in the pharmacy [as a measure of pharmacy size], does the pharmacy operate 'late opening' hours, participation in the Methadone Treatment Programme), and frequency of violent incidents over the previous 12 months (sub-divided into verbal abuse, physical assault, threats and incidents involving the use of a weapon) with six options ('never', 'once', 'more than once but less than monthly', 'monthly', 'weekly' and 'daily'). Respondents were also asked to rank the extent of their worry about workplace violence and its perceived impact on several variables (i.e. employee

turnover, absenteeism, employee fear levels, productivity and staff morale) on a Likert scale from 1 to 5; where 1 represented 'not at all' and 5 represented 'a lot'. Where dichotomous values were required, '1' represented that there was no concern (e.g. not worried) and '2–5' indicated some concern was expressed.

The second part of the questionnaire was designed to be completed by the victims of violence and sought information to assess the personal impact of a violent act experienced within the previous 12 months (i.e. the respondent was asked to complete the 22-item Impact of Events Scale (IES-R)). The 22-item Impact of Events Scale-Revised (IES-R) is a validated scale [15] that is designed to consider symptoms associated with hyperarousal, intrusion and avoidance [15]. It has been widely used to assess the subjective impact of violence and stressful life events [16,17].

All staff members who had experienced violent acts in work were invited to complete this section.

Prior to distribution of the questionnaire, support was obtained from the representative body (Irish Pharmacy Union) and the study was publicized in their newsletter. As an incentive to respond, a donation was made to a well-known national children's charity for each pharmacy that participated. Participation was voluntary and confidential. Ethical approval for the study was granted by the Research Ethics Committee of Tallaght Hospital, Dublin.

Data from returned questionnaires were analysed using SPSS version 19. Where incomplete questionnaires were returned, values were recorded as missing, and analysis was conducted by pairwise exclusion of cases. Standard descriptive statistical analyses were used in relation to the basic pharmacy demographics, the reported frequency and type of violent incidents and results of the IES-R (i.e. frequency, median, range, etc). There is no agreed value for a 'normal' score for the IES-R, although a cut-off score of 33 is accepted as indicating the development of subjective stress [15].

The Fisher's Exact Test (FET) and Kruskal-Wallis tests were used to test associations between reported violence and the pharmacy demographics such as size (using staff numbers as a proxy), location, opening hours, methadone prescribing and reported violence and the IES-R score. Where the result of Kruskal-Wallis test was statistically significant, Jonckheere-Terpstra's test was used to examine whether there was a significant trend in the data. Correlations between violent events and the impact on pharmacy employees were calculated using Kendall's tau-b test. To account for multiple comparisons, Bonferroni adjustment was applied where associations between variables were examined.

Results

A total of 113/200 pharmacies participated in the study, representing a response rate of 57%. Responses were

Table 1. Characteristics of participating pharmacies ($n = 113/200$)

	<i>n</i> (%)
Late night opening	29 (26)
Dispense methadone	37 (33)
Number of employees	6 (1–50) ^a

^aMedian (range).

received from a representative sample from each of the five categories described above, with no difference observed in the response rate from each category.

Twenty-six per cent of pharmacies operated late night opening (Table 1), and the number of employees per pharmacy varied from 1 to 50 (median = 6). Thirty-three per cent of participating pharmacies dispensed methadone.

Violent events occurred in 77% of pharmacies in the year prior to the study (Table 2). The frequency of events varied but was reported to occur at least weekly in 21% of outlets. At least one episode of verbal abuse occurred in 77% of pharmacies in the previous year; threats to staff were reported from one in three outlets (35%). Staff were physically assaulted in over one in six establishments (18%).

Most (63%) of respondents were worried about violence in their pharmacy (Table 3), 26% believed that violence had impacted on staff productivity, and 34% thought that there had been an impact on staff morale; 11% believed that violence in their pharmacy had impacted on staff absenteeism.

No association was found between the number of employees ($H = 4.8$, $df = 5$ NS) or late night opening hours (FET = 2.2 NS) and frequency of violent incidents. There was a significant association between pharmacy location and reporting of violent events (FET 32.3, $P < 0.05$), as 40% of pharmacies in cities reported either weekly or daily episodes of violence compared with 0% of large towns and 14% of villages. After application of Bonferroni adjustment, there was no association between methadone dispensation and any type of violence reported.

Highly statistically significant correlations were found between the reported degree of worry regarding

workplace violence and the frequency of verbal abuse ($\tau = 0.4$, $P < 0.001$) and of threats ($\tau = 0.5$, $P < 0.001$) (Table 4). There were also positive correlations between verbal abuse, threats and physical assaults and the respondents' perception of the impact of violence on absenteeism, turnover ($P < 0.001$), fear levels ($P < 0.001$), productivity ($P < 0.001$) and staff morale ($P < 0.001$). Strong correlations were noted between threats and reported fear levels ($\tau = 0.6$, $P < 0.001$), impact on productivity ($\tau = 0.5$, $P < 0.001$) and staff morale ($\tau = 0.5$, $P < 0.001$). Similar strong correlations were noted between more frequent verbal abuse and reported fear levels ($\tau = 0.5$, $P < 0.001$) and perceived impact on morale ($\tau = 0.5$, $P < 0.001$).

A copy of section 2 of the questionnaire was returned from 95 employees. These 95 employees were working in 90 (81%) of the 113/200 pharmacies that took part in the study (i.e. more than one employee in some pharmacies completed and returned a copy of section 2 of the questionnaire); of these an IES-R score could be calculated in 75 (66% of the total number of respondents or 38% of all the pharmacies approached).

The median IES-R was 8 (range 0–58), and mean was 15.75. Clinically significant IES-R scores (≥ 33) were reported by 14 respondents (19%). A significant association was demonstrated between all types of violence and the IES-R scores ($P < 0.01$ for physical assault, $P < 0.001$ for all other types of violence) (Table 5). A significant trend ($P < 0.001$) existed in all cases between increasing frequency of violence and an increase in the recorded IES-R score.

Discussion

This study shows that violent events are common in community pharmacies in Ireland with 77% of respondents reporting some violent incident within the past year. Twenty-one per cent reported a violent event on at least a weekly basis. Sixty-three per cent of employees reported being worried about violence, and staff working in the sector believed this has an impact on absenteeism, turnover, productivity and staff morale.

Table 2. Frequency of violent incidents in community pharmacies

Frequency of events in the past 12 months	Total, <i>n</i> (%)	Once, <i>n</i> (%)	More than once, less than monthly, <i>n</i> (%)	Monthly, <i>n</i> (%)	Weekly, <i>n</i> (%)	Daily, <i>n</i> (%)
Any event	86 (77)	16 (14)	38 (34)	9 (8)	19 (17)	4 (4)
Verbal abuse	85 (77)	15 (14)	38 (34)	9 (8)	19 (17)	4 (4)
Threats	38 (35)	19 (17)	13 (12)	4 (4)	2 (2)	–
Physical assault	20 (18)	10 (9)	8 (7)	–	2 (2)	–
Incident with a weapon	14 (13)	9 (8)	4 (4)	1 (1)	–	–

Table 3. Number and frequency of respondents who are worried about violence in their workplace, and who perceive that violence is impacting on their colleagues (by increasing absenteeism, turnover, etc.)

	<i>n</i> (%)
Worried about violence in the pharmacy	68 (63)
Perception that violence impacts on:	
Staff absenteeism	12 (11)
Turnover	21 (20)
Staff fear levels	42 (39)
Productivity	28 (26)
Morale	37 (34)

In the UK, approximately 1.5% of the working population experiences a work-related violent event annually [18]. Within the European Union 4% of workers report experiencing third party physical violence, while 6% report being threatened [6]. Similar overall rates of violence experienced by workers in the workplace in Ireland are not available.

Health care is recognized as a unique sector with regards to violence [5], as service users may have underlying medical conditions leading to confusion, which may cause increased aggression [1]. Over a 6 year period, 19% of all insurance claims in the Irish health service sector were due to assaults [1]. In the UK, 0.6% of health professionals reported having been assaulted and 2.9% reported being threatened [3]. In an American study, 13% of nurses reported experiencing physical violence and 38% non-physical violence in the preceding year [19]. The lack of a standard definition and underreporting of events by employees may explain some of this variation [20]. Nevertheless, the results of this study are higher than those reported elsewhere and indicate that a significant problem exists.

Many variables predispose to workplace violence, including handling money, working with the public and lone working [2]. One would expect that workers in larger pharmacies, with more employees, would be less at risk of violence and that peer support would attenuate its impact. However, we found no such association. The reasons for this are unclear.

Anecdotally, it has been suggested that methadone dispensing is a risk factor for violence in the community pharmacies. Again, our results did not demonstrate a significant association.

Estimating the cost of workplace violence is a complex task, involving costs associated with absenteeism, reduced productivity, recruitment costs and compensation as a minimum [20]. In this study, 26% of respondents reported that violence impacted negatively on productivity, while 11% noted an impact on absenteeism. Within the community pharmacy sector, this is likely to have consequences for the levels of care that staff provide to customers [4]. While we are not able to measure this in monetary terms, it is likely that this has considerable direct and indirect cost implications for the industry.

Those who have suffered violence in work tend to fear it more than those who have not experienced it previously [10]. In our study, there was an association between increasing frequency of violence and increasing worry about violence. Experiencing any type of violence was associated with increasing concern regarding the impact of violence on co-workers. There were stronger correlations between non-physical violence (e.g. threats) and the perceived impact of violence on co-workers than between physical violence (including incidents involving a weapon) and the reported impact on co-workers. The reason for this is beyond the scope of this study, although it is acknowledged elsewhere that the 'psychological consequences can be even more serious than physical wounds' [6]. In an American study, 38% of trainee doctors who had experienced verbal abuse reported

Table 4. Correlations between the frequency of violent incidents and worry regarding violence and the perceived impact of worry on pharmacy employees, with adjusted *P*-values

	Respondent's own worry τ (<i>n</i>) adj. <i>P</i> -value	Respondent's perception of degree of impact on co-workers (strong correlations in bold)				
		τ (<i>n</i>) adj. <i>P</i> -value	Absenteeism	Staff turnover	Fear levels	Productivity
Frequency of verbal abuse	0.4 (106)***	0.3 (106)***	0.3 (106)***	0.5 (106)***	0.4 (106)***	0.5 (106)***
Threats	0.5 (105)***	0.3 (106)***	0.4 (106)***	0.6 (106)***	0.5 (106)***	0.5 (106)***
Physical assault	0.3 (106)*	0.3 (107)*	0.4 (107)***	0.3 (107)***	0.4 (107)***	0.3 (107)***
Incident involving a weapon	0.2 (105) NS	0.4 (106)***	0.2 (106) NS	0.4 (106)***	0.2 (106) NS	0.2 (106) NS

Bonferroni adjustment to account for multiple comparisons; Kendall's tau, τ (*n*).

P-value significance after Bonferroni adjustment: NS, not significant, $P \geq 0.05$; * $P < 0.05$, ** $P < 0.01$, *** $P < 0.001$.

Adjusted *P*-value = $P \times 24$ (Bonferroni adjustment).

Table 5. The association between the total IES-R (with Jonckheere–Tempstra’s test for trend significance) and the frequency of violence in pharmacies (with Bonferroni adjustment)

	Kruskal–Wallis test (total IES-R score)	Jonckheere– Tempstra’s test (one-tailed)
Type of violence		
Verbal abuse	28.6 (5)***	1505.5***
Threats	24.4 (4)***	1356.0***
Physical assault	12.9 (3)**	805.5***
Incident involving a weapon	17.9 (2)***	863.5***

Kruskal–Wallis test: H (df), adjusted *P*-values.

Jonckheere–Tempstra’s test: *J*-score, *P*-values.

P-value significance after Bonferroni adjustment: NS, not significant, $P \geq 0.05$;

** $P < 0.01$; *** $P < 0.001$.

Adjusted *P*-value = $P \times 4$ (Bonferroni adjustment).

that violence had impacted on their ability to do their work compared with 17% of those who suffered physical abuse [9]. The authors suggested that the effects of verbal abuse can persist. This may provide an explanation for our findings.

One in five (19%) of all participants in this study reported clinically significant IES-R scores. Although the response rate to this section 2 was lower, the IES-R is a validated scale used by clinical and research professionals examining reactions to a traumatic event [15]. Despite instructions to the contrary, participants may have considered several stressful incidents when responding; the IES was not designed to measure the outcome from multiple events [21]. Indeed, there was an association between the IES-R scores and the frequency of violent events over the previous 12 months, with a positive trend in the data. However, it is likely that those who have experienced violence were more likely to complete this section, and as such, these results reflect the views of those concerned about workplace violence. This, in itself, is a considerable number.

This is the first study of this type in Ireland, examining the incidence and impact of violence in community pharmacies. We acknowledge that there are limitations to our study. As only 57% of pharmacies responded, this meant that data from only 7% of pharmacies in Ireland were included in the analysis. However, participants were randomly selected from all pharmacies in Ireland, following stratification for location. The study was well publicized in advance and a good response rate of 57% was achieved (in keeping with similarly conducted studies) [5,7,9]. Overall, we received a response from a representative sample from each category, although it is not clear why some pharmacies did not respond. It is also possible that those who experienced occupationally related violence were more motivated to respond and,

as such, are overrepresented in the results. Alternatively, non-response to a survey of this type may be due to avoidance symptoms that can be experienced following stressful life events [11]. The questionnaire required the respondent to indicate how frequent various types of violence had been experienced in the pharmacy over the previous year (i.e. retrospective reflection), which may also result in bias. Also, we are not able to directly measure the impact of violence on the industry. Overall, however, we believe that this study provides an overview of difficulties faced by workers in the industry and their perceptions of the frequency of violence they experience or witness.

In conclusion, violence is frequent in community pharmacies in Ireland. This violence impacts on employees with one in five reporting a clinically significant IES-R score. Pharmacy employees believe that violence impacts on their co-workers, and reported indirect effects include increased absenteeism, turnover, poor morale and reduced productivity.

Key points

- Violence is common in community pharmacies in Ireland.
- Employees in community pharmacies believe that violence impacts on productivity, absenteeism and turnover.
- The frequency of violence may have an impact on employees’ subjective experience of violent events.

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Conflicts of interest

None declared.

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