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Violence and unsafety in a major Italian hospital: experience and perceptions of health care workers

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Parole chiave
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Summary
Background: *Workers' experience of violence and perceived unsafety can have a profound impact on job satisfaction, job performance, and workers' decision to leave.* **Objectives:** *The aim of the study was to assess the prevalence of physical and non-physical violence among hospital workers, explore the complaints and reactions of victims, assess the relationship between violence and psychosocial/work factors and analyze the levels of perceived unsafety.* **Methods:** *A cross-sectional study was conducted, via a structured self-administered questionnaire given to all the employees of a major hospital in Italy. Cronbach's alpha coefficient was used to assess the internal consistency of the questionnaire. A logistic regression model was used for data analysis.* **Results:** *903 questionnaires out of 1853 (48.7%) were correctly returned; 11.5% had experience of physical violence and 40.2% had been victims of verbal violence in the previous 12 months. The most common consequences were fear, anger, frustration, and anxiety. Verbal violence was influenced by age, role, department, night/holiday shift work and experience in the current ward. Experiences of physical violence were related to gender, role, and department; 469 responders (51.9%) reported feelings of unsafety, which were related to their professional role, department, shift work, experience of physical or psychological violence, having seen episodes of violence and having received specific training.* **Conclusions:** *Our findings suggest that several factors are associated with workplace violence in health care settings and some of these also influenced the levels of perceived unsafety.*

Riassunto
«Violenza e insicurezza in un grande ospedale italiano: esperienza e percezioni dei lavoratori». **Introduzione:** *La violenza sul luogo di lavoro rappresenta un fenomeno sempre più diffuso nel contesto sanitario; la percezione di insicurezza dell'operatore può inficiare soddisfazione e performance lavorativa influenzando l'abbandono dell'attività lavorativa.* **Obiettivi:** *valutare la prevalenza della violenza a danno dei lavoratori ospedalieri esplorando conseguenze, comportamenti delle vittime e la relazione con fattori sociodemografici ed organizzativi; analizzare*

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l'insicurezza percepita dal lavoratore rispetto alla propria incolumità personale. **Metodi***: studio trasversale; è stato creato un questionario e proposto a tutti i lavoratori di un grande ospedale italiano; è stata calcolata la consistenza interna dello strumento (alfa di Cronbach); i dati sono stati analizzati attraverso il calcolo dell'Odds Ratio e la regressione logistica multipla.* **Risultati:** *903 questionari sono stati correttamente compilati (su 1853); in riferimento agli ultimi 12 mesi l'11.5% del campione ha subito violenze fisiche e il 40.2% violenze verbali; le conseguenze maggiormente riportate sono paura, rabbia, frustazione e ansia. Le esperienze di violenze verbali sono correlate a: età, ruolo, dipartimento, lavoro con turni notturni/festivi, anni di esperienza nell'attuale reparto; le esperienze di violenza fisica sono correlate a: sesso, ruolo e dipartimento. 469 lavoratori (51.9%) riferiscono di sentirsi insicuri. La percezione di insicurezza è correlata a: ruolo, dipartimento, turnistica, precedenti esperienze di vittimizzazione (sia diretta che indiretta), formazione ricevuta.* **Conclusioni:** *I risultati suggeriscono che, all'interno del panorama sanitario, diversi fattori sono associati alla violenza sul luogo di lavoro; molti di questi influenzano inoltre la sicurezza percepita dal lavoratore.*

Introduction

Violence against health-care workers is a common problem in many countries (16, 19, 22, 26, 29). The National Institute for Occupational Safety and Health (NIOSH) defines violence as "any aggressive act, such as hostile verbal or physical actions, including, but not limited to, threats, spitting and derogatory comments" (38). Annual rates of physical aggressions against health-care workers range from 3.1 to 71% (1, 13, 14, 18, 24, 25, 28, 39, 41); the incidence of non-physical aggressions varies from 28% to 90% (2, 14, 18, 25, 33, 43) which makes it difficult to compare the studies. Such discrepancies are due to the specificity of some medical tasks (e.g., in psychiatry and in emergency departments) as well as to differences between the characteristics of health care professions, since higher rates of violence are reported among physicians and inpatient nurses than in auxiliary and technical personnel (9, 32). A tendency to under-report (3, 6, 27, 36) must also be taken into account, which is probably influenced by social or cultural factors (7, 40).

Experience of violence can lead to psychosocial consequences, decreases in job performance and job satisfaction, increased employee turnover, and low levels of patient satisfaction (4, 15, 17, 20). However, some studies pointed out a cyclic relationship between occupational stress and violence, thus suggesting that aggression is "a small telltale sign of a situation that is gradually deteriorating" (35). Some authors also suggested that when healthcare workers feel unhappy, stressed and dissatisfied they may be more vulnerable to workplace violence: workers with job strain have a significant risk of undergoing aggression (10, 12, 35, 43). In 2007, the Italian Ministry of Health published a Recommendation calling for prevention of violence in health care facilities (21). However, no studies are currently available regarding the outcomes of such recommendations; further research is therefore needed in this field.

The perception of a safe environment is an important factor of job satisfaction, job performance and worker turnover (23). Many studies have investigated people's perceptions of safety, which is a multidimensional phenomenon consisting of fear and concern about crime (11, 37, 42) but little is known from the literature (5) regarding the levels of unsafety perceived by workers in health care settings in terms of feelings related to personal safety (e.g. physical assaults, verbal aggressions, or potentially harmful situations). This topic has only been studied by a single paper, which pointed out the presence of fear in 20% of workers in different settings, including health care (30).

The study presented in this paper aimed to assess the prevalence of physical and non-physical violence among workers of a major general hospital in Northern Italy, to explore the complaints and reactions of the victims, assess the relationship between violence and psychosocial/work factors, and analyze the unsafety perceived by workers.

Subjects and Methods

A cross-sectional study was conducted through the administration of a structured questionnaire to all the employees of the San Paolo teaching hospital, in the North of Italy. This general hospital has 605 beds, 86 of which are dedicated to day hospital or day surgery activities. The activities are both medical and surgical, and include psychiatry, pediatrics, an intensive care unit and an emergency department.

The inclusion criterion for participating in this survey was having at least one year of experience, regardless of the professional role (whether it was related to health care, or not). Overall, the eligible participants were 2008.

The questionnaire was anonymous, self-administered, and based on another questionnaire used by the Italian National Institute for Statistics (ISTAT) in a previously published survey. In 2007, ISTAT conducted a survey regarding the feeling of unsafety perceived by the general population in places of everyday life; we adapted the questionnaire used for that survey and obtained a tool comprising 69 multiple-choice questions, prepared in accordance with the available literature on violence in health care settings. Our questionnaire included three sections: section 1 (12 items) investigated socio-demographic and work characteristics, section 2 (49 items) investigated personal experiences of violence, and section 3 (8 items, table 1) included questions about perception of unsafety. In section 3, one dichotomous question asked directly if the responder felt insecure at work or not; the remaining seven were used to detail such information (e.g. security regarding theft or other similar events).

The results of this survey are presented according to the structure of the three sections of the questionnaire.

In order to reach all the eligible participants, we sent the questionnaire to all corporate e-mail addresses, using the SurveyMonkey™ software.

We analyzed the experiences of psychological and physical violence in the previous 12 months, as well as the perception of unsafety expressed by the respondents, taking into account their gender, experience in the current hospital and unit, shift work during nights and/or holidays, unit/hospital area, and professional role. Perceived unsafety was also studied in relation to front office training, perceived effects of the safety policies adopted by the hospital, surveillance carried out by security personnel, episodes of violence seen in the previous 12 months, experience of physical or psychological violence, theft, perceptions regarding areas of degradation in the hospital, poor illumination, vandalism and intrusions.

Table 1 - The questionnaire - section 2

Perception of in security
1. Perception of personal security at workplace, in general
2. Perception of personal security at workplace, in presence of patients, visitors, intruders, and colleagues respectively
3. Perceived adequacy of safety policies and frequency of vigilance
4. Hospital structure perceived as unsafe
5. Ward structure perceived as unsafe
6. Areas of degradation, vandalism, poor illumination
7. Carrying self-defence devices
8. Desire to avoid some areas/persons

Data were collected anonymously. Descriptive statistics were used to describe the nature and the characteristics of workplace violence and the perceptions of unsafety. Cronbach's alpha coefficient was used to assess internal consistency of the questionnaire. Three logistic regression models were used for assessing associations between every single dependent dichotomous variable (perception of unsafety, having been a victim of verbal aggressions, and having been a victim of physical assault respectively) and multiple predictors (all the above mentioned variables). Hosmer-Lemeshow's test was used to assess goodness-of-fit of the models. For all analyses, the significance level was set at 0.05. Analysis was conducted with STATA® for Windows. The survey was conducted according to the principles of the Declaration of Helsinki and current Italian legislation regarding data privacy. According to local regulations, no approval from the Ethical Committee was necessary; the hospital management approved the study.

Results

Out of 1853 questionnaires sent, 915 were collected (exclusively through the software), 12 were blank for the majority of the questions and were excluded from the analysis. Therefore, the analysis was conducted on the remaining 903 questionnaires (48.7%). Cronbach's alpha was 0.89, thus showing good internal consistency of the questionnaire. No data were available regarding the workers who did not return the questionnaire because the survey was anonymous.

Five hundred and eighty females and 323 males returned the questionnaire, aged 18 to 29 (n=47), 30 to 41 (n=296), 42 to 53 (n=377) or over 53 (n=183); 55 respondents had less than two years of experience in the surveyed hospital, 181 had 2 to 7, 262 had 8 to 14, and 403 had 15 or more. Two responders did not specify their experience.

As regards professional role, 336 were nurses, 195 medical doctors, 109 administrative employees, 52 auxiliaries and 47 physiotherapists; the remaining 164 included laboratory technicians, workmen, midwives, professional educators, auxiliary personnel, biologists, head nurses, or did not specify. Medical wards included 187 respondents, surgical 127, psychiatry 95, paediatrics 84, emergency room 83; the remaining 327 were working in laboratory/radiology services, management or education, correctional medical ward, clinical psychology, intensive care unit, or other unspecified areas; 816 were full-time workers; overall, 358 were shift workers (nights included), and 385 worked during Sundays and holidays. One hundred and twenty-two had attended training courses regarding safety; 642 had not, but were interested, while 90 had not and were not interested; 49 could not remember.

Episodes of violence

Five hundred and thirty-four people (59.1%) reported episodes of violence in their working life; 595 (65.9%) had seen episodes of violence during the previous 12 months in the hospital, 104 (11.5%) had suffered physical violence and 363 (40.2%) had been victims of verbal violence. Among the victims of verbal violence, the most common consequences were fear (n=170), anger (n=70), frustration (n=35), anxiety (n=32) and other unspecified consequences (n=1).

Three people did not answer the question; 53 reported no consequences. The victims of physical aggressions reported fear (n=59), anger (n=11), physical consequences not requiring medical assistance (n=8), anxiety (n=8) and frustration (n=6); 12 reported no consequences; 202 (22.4%) brought self-defence devices to work.

Verbal and physical aggressions were highly under-reported (83.5% and 75.0% respectively). The most common perpetrators were patients (75.0% verbal aggressions, 58.0% physical) or visitors (23.1% verbal, 27.6% physical). In a minority of cases, the assailant was a colleague (1.9% verbal, 8.5% physical). There was a significant difference between the number of verbal aggressions in the previous 12 months between personnel aged over 54 and the others (p=0.029) while no significant differences were detected between males and females (p=0.311). Verbal violence was not related to experience in the current hospital (p=0.051) but was influenced by role, department, night /holiday shift work, and experience in the ward, as shown in table 2.

Physical violence was related to gender, role, and department (table 3). No significant association was found with night shifts, age, holiday shift and experience in the current ward or hospital (p>0.05 for all variables).

The goodness-of-fit of the logistic models was satisfactory for both verbal and physical violence (Hosmer-Lemeshow test: p=0.38 and p=0.41 respectively).

Perceived unsafety

Four hundred and sixty-nine responders (51.9%) reported feelings of unsafety (367 health care workers, 53.4%, and 102 non-health care workers 47.2%). It should be noted that 529 declared they felt unsafe with patients (58.6%), 471 with visitors (52.1%), 206 (22.8%) with intruders, and 98 with their colleagues (10.9%). Perception of unsafety was related to role, department, shift work, working on holidays, having seen vandalism, personal

Table 2 - Variables related to verbal violence: logistic regression

Variables	P	n. episodes (%)	Adjusted OR [95% CI]
Age (years)	0.029	Aged >53: 50 (27.3) ≤53: 313 (43.5)	0.5 [0.2-0.8]
Role	<0.001	Doctors, nurses, auxiliaries: 280 (48.0) Others: 83 (25.9)	2.3 [1.6-3.3]
Department	<0.001	Psychiatry and ER: 108 (60.7) Other wards 255 (21.4)	6.8 [4.2-11.1]
Night shift	<0.001	Night worker 176 (49.2) Others 187 (34.3)	1.7 [1.3-2.4]
Working on holidays	<0.001	Holiday worker 186 (48.3) Others 177 (34.2)]	1.5 [1.1-2.1
Experience in the ward (years)	<0.001	>14 years 84 (20.7) ≤14 years 179 (35.9)	0.5 [0.3-0.9]

Table 3 - Variables related to physical violence: logistic regression

Variables	p	n. episodes (%)	Adjusted OR [95% CI]
Gender	0.011	Males 49 (15.2), Females 55 (9.5)	1.6 [1.1-2.5]
Role	0.030	Doctors, nurses, auxiliaries 81 (13.9), Others 23 (7.2)	1.9 [1.2-3.3]
Department	<0.001	Psychiatry and ER: 45 (25.3), Other wards 59 (8.1)	5.1 [3.4-8.9]

experience of violence or theft and perceived possibility of encountering intruders in the hospital (table 4). The model showed satisfactory goodness-of-fit (Hosmer-Lemeshow test: p=0.25). Gender, age, and working experience in the current ward or hospital, were not significantly related to unsafety (p>0.05 for all variables).

Fifty-one percent perceived the safety policies adopted by the hospital as "completely ineffective" (n= 463). The security staff was seen "often enough" in the hospital by 251 respondents, while 652 deemed the frequency of their inspections as insufficient. Perceiving the number of inspections carried out by the security staff as appropriate was a protective factor against unsafety (OR= 0.3, 95%CI=[0.2-0.4], p<0.001).

Training seemed to foster safety: 76.2% of those who had attended courses felt safe (43% among others, OR=4.2, 95%CI=[2.6-6.7], p<0.001).

38.9% reported feelings of unsafety in psychiatric units, 97.7% in the emergency room. The percentage of psychiatry nurses who had attended courses was higher (55.4% vs 2.3%). Working in psychiatric units and having attended courses was a protective factor against unsafety (OR=0.15, 95%CI=[0.06-0.39], p<0.001).

Discussion

Professional role and department, especially the emergency room and psychiatry, were important predictors of workplace violence, which is often under-reported and considered as "part of the job". Role, department, and shift work in contact with patients and their relatives were related to unsafety, which affected more than half of the respondents. In the emergency room these results can be explained by taking into account the particular characteristics of such patients, as well as the high number of admissions, the lack of personnel and the number of stressful situations; 65.9% reported

Table 4 - Perceived unsafety: logistic regression

Variable	p	% feeling unsafe	Adjusted OR [95% CI]
Role	0.010	MD/RN/aids 55.4% Others 45.6%	1.4 [1.2;1.8]
Department	<0.001	Psychiatry 38.9% Others 53.8%	0.5 [0.2;0.8]
Night shifts	<0.001	YES 55.6% NO 36.6%	2.0 [1.3;2.6]
Working on holidays	<0.001	YES 55.4% NO 38.2%	2.1 [1.4;2.5]
Having seen episodes of violence	<0.001	YES 72.2% NO 12.6%	16.2 [11.1;24.3]
Having suffered psychological violence	<0.001	YES 83.2 NO 30.9%	10.1 [8.0;15.7]
Having suffered physical violence	<0.001	YES 72.1 NO 49.3	2.2 [1.5;4.1]
Having been robbed	<0.001	YES 72.3 NO 49.7	2.2 [1.2;4.0]
Having seen vandalism	<0.001	YES 57.8 NO 39.5	1.9 [1.2;2.5]
Hospital perceived as unsafe: intrusions	<0.001	YES 55.7 NO 33.6	2.1 [1.3;3.3]
Ward perceived as unsafe: intrusions	0.01	YES 62.2 NO 29.8	2.9 [2.5;4.9]

they had witnessed episodes of violence, a percentage that is greater than the rate of victimization; this finding, which is apparently in contrast with the literature, could be explained by arguing that this answer might be easier than admitting to have been victims of direct violence. This is just a hypothesis, but goes in the direction of under-reporting pointed out by many studies.

Strong emotional involvement, together with the complexity of diagnostic, therapeutic and nursing procedures, was typical in emergency contexts. In particular, episodes of verbal violence were significantly present in both night and holiday shift work; this could be related to reduced staffing during such periods. The association of violence with psychosocial variables suggests the need for far-reaching changes in health care organization, including decision-making procedures, work climate and support, and relationships between workers. Fighting violence requires strong commitment by both workers and management. In the present study, the prevalence of workplace violence, both physical and verbal, over one year was similar to the data reported in the literature, in particular if compared with other studies in the Italian context (8, 33-35); it should be noted that it is difficult to compare the results because the researchers did not clearly define and explain violence and used different methods of data collection and analysis. Furthermore, the studies were conducted in contexts with different characteristics.

In some cases, violence in clinical settings is perpetrated by other health-care workers, and this form of violence is closely related to psychosocial variables. In our study, this occurred in a minority of cases which, however, appears to be relevant from

a practical point of view. When the assailant was a colleague, assaults were mainly physical (1.9% verbal, 8.5% physical). In our study, only 10.9% of the responders felt unsafe with their colleagues; however, since bullying is often accompanied by verbal violence, aggressions among workers might have been much more underreported than other types of violence. Methods such as the development of personal safety skills and de-escalation techniques, or institutional policies and environmental design, might be useful to prevent this kind of behaviour.

The finding regarding workers carrying self-defence devices should be interpreted considering that they might well be simple things like a pepper spray, maybe kept by female shift workers in their bags when walking through parking areas late at night . This hypothesis cannot be confirmed at the moment, since the questionnaire did not include this information; we believe it deserves further investigation.

The perception of a safe environment is crucial to both individual and social well-being; it is also an important component of job satisfaction, job performance and workforce retention. This study points out the impact of many elements of the health care setting on perceived safety. Factors associated with such perception include experiences of victimization, both direct and indirect, training, the perception of a safe hospital structure, and the frequency of checks by security staff, with respect to possible acts of vandalism and intrusions. As regards the interaction between workers and the public or patients, the highest levels of unsafety were associated with the presence of patients and their relatives. However, a considerable number of workers reported unsafety in the presence of strangers and co-workers as well. Such f perceptions were stronger in the emergency room than in psychiatry, although both units were prone to any form of violence. However, it should be considered that psychiatry workers often deal with a group of patients who are known to some extent. An important role might also be played by the training they have in de-escalation skills, which can be useful to manage verbal aggressions. Psychiatry workers also appeared to be more tolerant towards aggressive behaviour, which they often related to the clinical conditions of the patients.

In our study, data regarding the role of the chief medical officer, or head of other professions, were not available; this precludes the examination of certain variables as possible confounders. For instance, persons aged over 54 suffered fewer episodes of violence than others; however, this might also be a consequence of their professional role (e.g., coordinators). This aspect deserves further investigation.

The literature stresses the important role of the hospital management in creating a safety climate and safety culture (5). The findings of the present study were submitted to the hospital management, which had actively supported the investigation.

The feeling of unsafety deriving from violence is a well-known phenomenon and has been studied in depth in the international literature. The international crime victims survey has been assessing this phenomenon since 1992, as has the Italian national institute for statistics (ISTAT). However, the available data regard such feeling i from a general viewpoint, while the present study adds specific information regarding the health care setting.

While most studies on workplace violence are limited to health care workers, our study regards all kind of jobs in the hospital, thus making the results more representative of the Italian health care setting. This investigation was limited to a single facility, so the results do not necessarily reflect the entire Italian situation; however, our findings agree with the literature and no evidence currently suggests that the situation might be substantially different in other hospitals. Notwithstanding these limitations, our study shows that the problem is real and suggests that prevention is essential. The results highlighted several important characteristics of workplace violence and perceived unsafety in the health care setting, which could be useful for planning actions. In particular, shift workers and health care personnel require special attention, as they are the most exposed to episodes of violence. The use of interdisciplinary multi-level prevention programmes, that have proven effective according to preliminary data in the literature (31) deserves further investigation. In our sample, many respondents advocated training programmes on safety in the workplace; this option, too, deserves further studies.

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