

Aggression Towards Health Care Workers in Spain:

A Multi-facility Study to Evaluate the Distribution of a Growing Violence Among Professionals, Health Facilities and Departments

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In recent years instances of aggression by patients towards health workers have become more frequent. In Spain, no scientific studies have been performed so far on this question. We analyzed questionnaires on workplace aggression from a stratified sample of 1826 health professionals at 3 hospitals and 22 rural and urban Primary Care facilities located in the Northeast and East of Spain. We found 11% of health workers had been a victim of physical aggression, 5% on more than one occasion, while 64% had been exposed to threatening behaviour, intimidation or insults. About 34% had suffered threats and intimidation on at least one occasion and 23.8% repeatedly. Over 35% had been subjected to insults on at least one occasion, and 24.3% repeatedly. In general the incidence was higher in large hospitals, with very high levels in services such as Accident and Emergency and Psychiatry. *Key words:* aggressions, violence, health care workers, Spain.

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Despite the high quality of care provided in the Spanish National Health System, and established systems for handling patient complaints,^{1,2} an increase in patient aggression toward health care workers has been observed in recent years. The most severe cases frequently appear in the media and the topic has been the subject of debate both professionally and institutionally. However, scientific studies have not been available in Spain until now. A similar increase has been reported in other highly developed countries.^{3,4} Studies carried out in Canada,⁵ New Zealand,⁶ Australia,⁷ and the United States,⁸ have shown that doctors and nurses are at high risk. Their risk has been compared to that faced by police and other law enforcement bodies.⁵ In the United States, over half the reported instances of aggression at work are towards health workers, who are at a 16 times

higher risk compared to other social workers.⁸ A variety of measures have been adopted in various European countries (Sweden, Belgium, Holland and Italy) to protect health care workers against patient aggression.⁹⁻¹² For example, in 2002 the United Kingdom (UK) set up a "Zero tolerance campaign" in its National Health Service in response to the increasing levels of aggression in this sector.^{13,14}

Although this phenomenon has been the subject of research work over recent years, its true scope is still unknown, since all data are based almost exclusively on reported incidents.^{4,7} Bearing in mind that health workers are likely to report only the most serious cases, the figures do not show the true extent or severity of the problem.⁷

Furthermore, until recently, most relevant studies have been carried out at psychiatric institutions and facilities, and very few studies have dealt with violence in other types of facilities, services and divisions.¹⁵⁻¹⁷ Given the peculiarities and characteristics of the phenomenon of violence in this sector, it is not appropriate to generalize results. The few studies which have taken into account all hospital divisions have all shown that the highest levels of violence occur in Accident and Emergency Departments (A&Es),¹⁸ although some studies have shown of high rates of violence in other areas as well.^{19,20}

Most of the studies have been carried out exclusively on some section of the health care staff, particularly nurses,²¹⁻²³ even though there is evidence that nurses are not the only health workers affected by violence.^{17,20} Since the nursing profession is made up mainly of women, it has also been presumed that female workers are those most affected by violence.^{22,23} Two of the questions this study specifically addresses include whether nurses are more likely to suffer aggressions than other professionals, and if women experience more violent episodes than men.

Finally, many of the studies that have been carried out fail to conceptually delimit the different types of violence, and often do not differentiate between physical aggression, threatening behaviour and verbal aggression.^{4,20} For all these reasons, comparisons of

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TABLE 1 Violent Behaviors Investigated

Aggressions	Definition
Physical aggression	Intentional behavior with the use of physical force, producing physical, sexual, or psychological damage: kicking, slapping, stabbing, pushing and pulling, biting and pinching.
Verbal threats or threatening behaviour	The promise of using physical strength or power, which produces the fear of physical, sexual, psychological damage or other negative consequences.
Insults or slander.	Verbal behaviour which humiliates, degrades or shows lack of respect.

studies from different authors and countries are extremely difficult. However, comparisons are desirable for a better characterization of this phenomenon from transcultural, social and economic perspectives.

In Spain, no scientific studies have been performed so far on this question. Nevertheless, it has become a priority to ascertain the main features of its extent and distribution as a prerequisite to designing and assessing the impact of any intervention.

This study aimed to characterize this phenomenon and to address the lack of information in Spain and its consequences for the victims' health.

The study was focused solely on that violence which the California Occupational Safety and Health Administration (CalOSHA) classifies as Type II (exercised by customers, users or patients), excluding other types of aggressions which might coexist in the work environment.²⁴

METHODS

This was a retrospective study, using self-reporting, for the purpose of researching experiences of aggression and violence over the preceding twelve months. The study was performed in 3 hospitals of different sizes and 22 rural and urban Primary Care facilities located in two regions in the Northeast and East of Spain.

Participant Recruitment

The survey only included permanent staff working continuously in the same post for at least one year. The questionnaires were distributed in informative sessions carried out with groups of between 20 and 30 people, who were provided with information about the study and details of how to answer and hand in the survey using the boxes located in each of the hospitals or healthcare facilities. The surveys were collected over a 1–2 week period. In all 7,550 questionnaires were distributed.

Instruments

The health workers completed a booklet containing two questionnaires. A Demographic Data Record asked for with personal, family and workplace information. An Aggression questionnaire asked participants to rate

their experience of various forms of aggression. Only workplace aggression, as defined by CalOsha (i.e. aggression exercised by customers, users or patients, excluding aggression not related to the workplace and aggression by work colleagues or superiors) was included in the survey.²⁴ For each type of aggression, a definition was provided. The definitions, adopted from various international organizations,⁴ had previous been used by other authors. For example, Winstanley and Whittington included definitions for physical aggression, verbal threats, threatening behaviour and verbal abuse (Table 2).²⁰ Participants were asked to indicate whether they had experienced each type of violence in the previous 12 months (regardless of the type or the resulting lesion), using a Likert-type scale (0 = never; 1 = never, but has been witness to it happening to others; 2 = on one occasion; 3 = on two or more occasions; 4 = on more than five occasions).

For positive responses, respondents were asked for information on the characteristics of the aggression (punches, kicks, hair-pulling, etc.) and the aggressor (patient, accompanying person), whether the respondent had received specific training with regard to this problem, and whether s/he felt that s/he had the support of the health service administration.

An initial pilot study carried out with 211 health service workers showed that no problems with regard to the formulation of the questions and the descriptions of each type of aggression.²⁵

The questionnaires did not contain any details which could identify the worker and, once collected, were kept in such a manner that only the research team could have access to them, thus ensuring total confidentiality. Informed consent was given by every participant prior to their inclusion in the study and the authorization of the Local Ethics Committee was obtained for every center studied.

RESULTS

Of the 7,550 questionnaires distributed, 2137 responses were received, and 1,826 were used. Forty-three questionnaires were excluded because they were incomplete. An additional 268 were excluded from analysis in order to ensure that the number of responses was proportionate to staff numbers at the

TABLE 2 Number of Participants and Percent of Workforce Represented, by Facility Type and Post (n=1826)

	Nurses	Doctors	Managers	Administration	Patient Attendants	Others	Total Participants
Large hospital	361 (20.0%)	256 (21.5%)	4 (13.0%)	68 (27.4%)	27 (0.6%)	87 (25.7%)	803 (19.9%)
Medium-sized hospital	169 (19.9%)	91 (19.4%)	14 (53.8%)	22 (12.5%)	16 (10.4%)	31 (6.4%)	343 (17.4%)
Small hospital	157 (52.7%)	50 (35.7%)	2 (11.7%)	14 (14.6%)	6 (3.3%)	11 (37.9%)	240 (31.6%)
Rural Primary Care	41 (7.6%)	56 (11.7%)	3 (33.3%)	10 (22.8%)	0 (0.0%)	0 (0.0%)	110 (8.9%)
Urban Primary Care	150 (80.2%)	150 (67.3%)	0 (0.0%)	30 (75.0%)	0 (0.0%)	0 (0.0%)	330 (55.4%)
Total	878	603	23	144	49	129	1826 (21.2%)

various institutions. These exclusions were made based on order of questionnaire submission; the questionnaires submitted latest were excluded first.

Of the 1826 respondents, 1386 worked in a hospital setting. For purposes of analysis, all units of the hospitals were grouped in five categories:

- 1) Accidents and Emergencies
- 2) Surgical units
- 3) Clinical or Medical units
- 4) Psychiatric
- 5) Central Services (laboratories, administration and patient attendance, etc)

The sample is representative according to numbers employed in the various hospital units.

Response rates and numbers of participants by facility type and position are shown in Table 2.

The proportion of respondents by profession was: 33.5% doctors, 47.5% nursing professionals, 7.9% administration staff, 1.7% managers, 2.8% patient attendants, 6.6% technical staff and other professions. The majority of participants were in the ranges of 31-40 and 41-50 years of age. The average age of participants was 41.84 years (SD±8.427); 64.2% were women and 35.8% men.

Eleven percent of respondents had been a victim of physical aggression, 5% on more than one occasion, whilst 64% had been exposed to threatening behaviour, intimidation or insults. 34.4% had suffered threats and intimidation on at least one occasion and 23.8% repeatedly, whilst 36.6% had been subjected to insults on at least one occasion and 24.3% repeatedly.

In general the incidence was higher in large hospitals (Table 3), with very high levels in services such as A&E and Psychiatry, with the incidences respectively of 48% and 26.9% for aggression, 82.1% and 64.1% for insults, and 87.2% and 58.6% for threats (Table 4).

Statistically significant differences were found between large and small hospitals with respect to physical aggression and threats (see Table 3). With regard to physical aggression, no statistically significant differences were found between large and medium-sized hospitals and primary care facilities located in urban areas. Neither were there statistically significant differences between small hospitals and rural primary care facilities. Levels of physical aggression were lower at rural primary care centers than urban ones. However, statistically significant differences were found between small hospitals and rural primary care facilities (9.5% and 11.3%), and between large hospitals and urban primary care facilities (21.9% and 17.4%). Physical violence seems to be associated with the size and complexity of the facility and its location.

No statistically significant differences were found between the different types of care with regard to insults. Statistically significant differences were found only with regard to threats between small hospitals (with a lower incidence of threats: 43.2%) and the other facility types.

Physical Aggression

No statistically significant association was observed between physical aggression and the victim's gender ($\chi^2 = 3.498$; $p = 0.610$), or professional category ($\chi^2 = 8.295$; $p = 0.141$). As has been said, this form of violence was associated more with type of facility and hospital division (see Tables 3, 4, and 5).

Non-physical Violence

With regards to non-physical violence, statistically significant differences were found between the different services for insults. Likewise, there were differences between facilities in terms of threats, with greater

TABLE 3 Number of Hospital-based Participants and Percent of Workforce Represented, by Hospital Division (N=1,386)

	A and E	Surgical	Medical	Psychiatry	Central
Large hospital	123 (29.9%)	169 (26.0%)	361 (32.7%)	73 (32.0%)	87 (25.1%)
Medium-sized hospital	54 (24.4%)	84 (27.2%)	125 (21.5%)	19 (31.1%)	65 (39.9%)
Small hospital	41 (37.9%)	55 (36.9%)	88 (39.8%)	21 (58.3%)	35 (42.6%)

TABLE 4 Distribution of incidents of Aggressions, by Facility Type (N= 1,826).

Center	Large Hospital	Medium-sized Hospital	Small Hospital	Urban Primary Health Centers	Rural Primary Health Centers	χ^2	Significance
Physical aggression	21.9%	21.7%	9.5%	17.4%	11.3%	26.435	p<0.001
Insults	58.2%	56.3%	49.7%	59.5%	58.5%	0.087	p=0.100
Threats	55.7%	56.3%	43.2%	57.0%	58.5%	0.120	p=0.003

occurrence in large hospitals. Once again, A&E (70.5% of people threatened) and surgical and psychiatry divisions (52.6% and 51.6% respectively) were shown to have greater levels of occurrence than other services. Men experienced significantly more threats than women ($\chi^2 = 7.977$; $p=0.005$), and doctors and people in managerial posts received significantly more threats than other professional workers ($\chi^2 = 22.678$; $p= 0.001$) (Tables 3 and 4).

A logistic regression analysis confirmed that physical aggression occurred more frequently in the larger facilities, especially in A&E and Psychiatry, while threats were more frequent in surgery and A&E. Working in A&E was predictive of the three types of aggression: physical: ($p<0.001$; OR, 4.734), insults ($p<0.001$; OR, 3.316) and threats ($p<0.001$; OR, 3.728).

Working in psychiatry was predictive of physical aggression ($p = 0.001$; OR, 2.881) and of insults ($p = 0.001$; OR, 1.884), while working in the area of surgery was predictive of both forms of verbal violence: threats ($p = 0.002$; OR, 1.586) and insults ($p = 0.004$; OR,1.732). Gender was predictive only of threats, men being more threatened than women ($p = 0.001$; OR, 1.491).

Repeat Experiences of Violence and Aggression

An important proportion of health workers had been victims of violence on more than one occasion over the past 12 months. The highest levels of repeated violence were once again found in large hospitals (Table 3) and in the divisions of A&E and Psychiatry (Tables 6,7).

Up to 85% of cases of aggression were perpetrated by the patients themselves (this percentage was lower in A&E, where 27.3% of aggressors were people accompanying patients). In 21% of cases, aggressors were affected by a mental disorder or cognitive deterioration, and 5.7% were under the influence of alcohol or drugs.

The most frequent cause of aggression was dissatisfaction with waiting times (58%), followed by anger at not being given a doctor’s note for time off work

(15%), and disagreement with regard to the prescription of medicine (10%).

Only 8 health care workers in the sample had reported an incident of aggression. All these cases involved serious physical attacks, which represents 3.7% of the total number of physical aggressions. None of the episodes of threats or insults had been reported.

DISCUSSION

The main limitations of this study come from its retrospective nature. Although it would seem reasonable to assume that those people who had suffered aggressions would be more predisposed to answer, we also received anecdotal information indicating that those who had suffered the most severe episodes did not want to talk about it or to complete the questionnaire. On the other hand, the response rate was low, although typical for Spain.²⁶

This study is part of a wider research project analyzing the characteristics and consequences of workplace aggression. The overall results show troubling levels of this type of violence in the Spanish health sector. Unfortunately, in our study as has been reported elsewhere, many violent episodes went unreported.^{13,14} In this respect, it should be pointed out that future studies should be designed to collect data prospectively, so as to capture the different types of violence conceptually (physical aggression, threatening behaviour and verbal aggression) in such a way that the results can be compared with other research.

As has been seen, not all staff at a facility or all members of a profession are exposed to the same risk of violent incidents. There are differences with regards to the post, to relations with patients and to the work location. Indeed, the use of mean figures for a hospital tends to obscure the high levels of aggression occurring in certain departments and towards certain health workers.¹⁹

The present study shows that the distribution of aggression appears to be related to the size and com-

TABLE 5 Distribution of Incidents of Aggression Against Hospital Workers, by Division (N=1,386)

Service	Surgical	Central	Medical	A and E	Psychiatry	Others	χ^2	Significance
Physical aggression	6.3%	17.1%	9.2%	48.0%	26.9%	20.0%	45.903	p<0.001
Insults	62.3%	25.0%	47.1%	82.1%	64.6%	25.0%	19.995	p<0.001
Threats	62.3%	24.8%	44.6%	87.2%	58.6%	29.4%	25.825	p<0.001

TABLE 6 Distribution of Incidents of Aggression by Post (N=1,826)

Post	Patient						χ^2	Significance
	Admin	Attendant	Manager	Nurse	Doctor	Others		
Physical aggression	7.5%	18.2%	10.0%	17.0%	19.4%	11.1%	8.295	$p = 0.141$
Insults	55.0%	50.0%	40.0%	54.6%	61.6%	39.3%	11.614	$p = 0.040$
Threats	42.5%	39.1%	65.0%	49.9%	60.7%	35.7%	22.678	$p < 0.001$

plexity of the facilities and to different hospital divisions. Facilities in rural and smaller urban areas registered lower levels of physical violence in comparison to larger hospitals where the prevalence was associated with their size and degree of complexity of care, independently of their location or community.

Certain healthcare institutions suffer the stress of overcrowding and limited time to attend many patients.²⁷ The lack of resources, even of space to afford adequate privacy (as in A&E), are problems which lead to the depersonalization of treatment and long waiting times. This may encourage violent behaviour.

Owing to the complexity of the system, the particular characteristics of healthcare and the changes occurring in the relationship between healthcare professionals and patients, large hospitals seem to provide a more propitious environment for aggression and violence towards workers by users.^{2,21} However, further studies are necessary to explain these complex relationships.

The greater overcrowding, complexity and level of bureaucracy, the greater the probability of acts of violence, seemingly indicating that the origin of the problem is to be found in organizational rather than in individual factors.²⁷ When professionals have the time and resources to establish rapport with patients, as occurs in rural facilities or in small hospitals, the healthcare worker/patient relationship is better, and this may minimize the possibility of aggression.^{19,20}

Regarding the distribution of violence in the different departments of the same hospital, various assumptions have been made with regard to the places in which aggression is most frequent and staff most vulnerable. Some studies consider A&E departments have the highest levels of aggression.¹⁸ However, other evidence has shown that violent incidents are also produced outside of the A&E division.^{19,20} This study confirms that A&E is the primary site of physical and non-physical violence but that other areas, especially

Surgery and Psychiatry, also show very high indices.

Physical violence is predominately directed towards doctors and nurses. Insults are directly fairly equally towards all staff, while threats vary with hierarchical status, most often being aimed at those who have control or authority and, in consequence, are responsible for making decisions. This appears to be an expression of intentional violence in an attempt to impact decision-making.

Until recently, it had been considered that nursing staff were the most vulnerable to aggression in the health sector, perhaps due to an "a priori" consensus that they were more at risk. Most of the surveys on this problem were carried out exclusively on this group of health workers.^{17,21,22} Our results confirm that nurses are the largest group of health workers affected by violence, as has been pointed out by other authors.^{17,19,20} Our results also show, however, that doctors have much violence directed towards them. This suggests that violence and aggression most affects those most in contact with patients.

As this and other studies have shown, only a small fraction of the aggression suffered by health workers is formally reported.¹³ For a variety of reasons, healthcare workers only report serious incidents which have required medical intervention, while less serious cases of physical or verbal aggression are rarely reported or followed up.

The incidence and the distribution of physical and non-physical aggression seem very distinct; the former are usually of lower intensity in the healthcare sector, whereas non-physical violence occurs more frequently and, according to Winstanley and Whittington, appears to be associated with the new onset of psychological symptoms among the victims.²⁰

As part of another study, an analysis was performed of the relationship between patients' aggression and psychological symptomatology (depression, anxiety, post-traumatic stress, insomnia, burnout and deterioro-

TABLE 7 Percentage of Workers Who Have Suffered More Than One Violent Incident, by Facility Type (N=1,826)

Center	Facility Type					χ^2	Significance
	Large Hospital	Medium-sized Hospital	Small Hospital	Urban Primary Health Centers	Rural Primary Health Centers		
Physical aggression	12.9%	8.0%	5.5%	6.7%	2.8%	26.261	$p = 0.001$
Insults	41.7%	39.1%	28.8%	40.0%	35.8%	37.543	$p < 0.001$
Threats	37.9%	35.2%	26.1%	35.6%	29.1%	12.035	$p = 0.150$

TABLE 8 Percentage of Hospital Workers Who Have Suffered More Than One Violent Incident, by Hospital Division (N=1386)

Service	Surgical	Central	Medical	A and E	Psychiatry	Others	χ^2	Significance
Physical aggression	3.8%	3.4%	6.9%	21.9%	13.5%	3.3%	45.108	p<0.001
Insults	26.2%	36.6%	43.1%	61.1%	31.7%	18.8%	48.801	p<0.001
Threats	32.9%	34.4%	31.5%	51.9%	23.9%	17.7%	38.216	p<0.001

rated relationships at work). Although no statistically significant association was found between physical aggression and psychological symptomatology, a statistically significant association was found between non-physical violence and anxiety and symptoms of Post-Traumatic Stress Syndrome. Both physical and non-physical violence had an identical negative impact in terms of burnout, exhaustion and conflicts of values, in health care workers.

To date, little effort has been made to eliminate or minimize this problem.¹⁴ This may be because, in most countries, studies have not been performed to characterise the problem and allow the effective design of preventive strategies. However, in response to a recent increase in violent incidents, a change of legislation in Spain has meant stronger sanctions for Type II violence, not only in healthcare, but in other settings as well.

Based on the results of this study, we have proposed prevention protocols (personal communication, Gascón & Martínez-Jarreta, in press) which include medical and legal counsel as well as psychological support for the victims²⁸. It should also be the responsibility of the health care center administration to encourage victims to report these incidents, thus sending a clear message that this type of conduct will not be tolerated. Some authors go even further and argue that the health care center administration itself should stand as plaintiff.²⁹ It is difficult to establish which legal measure would be appropriate to be considered even in the worst cases. This is currently a question of debate in Spain³⁰

It would be useful to implement a system which could document and record aggressions in health centers using a single model, with exhaustive information on the incident, thus facilitating national and international comparative analyses for the whole country.

Data on professionals who repeatedly suffer aggression, and on departments with a high incidence of patient aggression, are of particular interest. We agree with Whittington et al. (1996) that most individuals who have experienced patient aggression have been victims of such aggression more than once. In addition, others have not suffered any aggression at all. This clearly indicate the need to collect information on victims of repeated violence.¹⁹ The importance of these variations is clear when we divide the data into areas and professions (the areas of surgical, medical and central services show a lower rate of physical aggression. Within the central services, areas such as laboratories,

with no contact with the public, did not suffer any kind of aggression).

The data from this study help locate the problem and identify the risks, but further research is necessary with regards to the aetiology of the aggression and to the vulnerability of certain individuals and groups. Further research is also required with respect to vulnerability to repeated aggression attributable to individual characteristics, workplace role, or working environment. The fact that the healthcare workers are often required to return to work in the same department, and even with the same patient, following an incident may be a factor contributing to recurrence of a similar incident.

In summary, events and patterns shown in our study, many supported by information in the literature, provide evidence for health care administrations to place a high priority on addressing aggression and violence in the workplace and to develop appropriate medical and legal protocols for incidents of aggression and violence, for providing psychological support and medical and legal advice for victims.

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