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## AGGRESSIONS TOWARDS PRIMARY HEALTH CARE WORKERS IN MADRID, SPAIN, 2011-2012 (\*)

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### ABSTRACT

**Background:** The number of aggressions towards health care professionals has risen over the past few years. There are no previous studies in primary care covering an entire region and all professional categories. The aim of this study was to characterize aggressions in Primary Care in the Community of Madrid.

**Methods:** Multicenter cross-sectional study. Analysis of a Registration System that reports any type of aggression suffered by Primary Care workers, in the Community of Madrid. The study variables included sociodemographic characteristics of the aggressor and the victim, the type of aggression (verbal or physical abuse), its causes and consequences. We described median, interquartile range and frequencies. Logistic regression was performed calculating odds ratio and their 95% confidence intervals.

**Results:** 1,157 assaults were reported, 53.07% suffered by doctors. Physical assault occurred in 4.7% of the cases. The main reason was dissatisfaction with the care (36.1%). The non-medical staff showed less risk of being physically assaulted (OR: 0.38; CI95%: 0.17-0.86). The perpetrator profile was male (56.8%), aged between 31-40 (26.8%) years. Health care victim profile was female (84%), aged between 45-60 years. 10% of professionals reported some form of aggression, 5.9% of aggressions were submitted to court.

**Conclusions** The risk of assault is higher in health personnel, particularly physicians. There are significant differences by gender and age, both in the profile of the aggressor and the victim.

**Keywords:** Aggression, Workplace violence, Primary Health Care, Health personnel, Patient satisfaction, Physical Abuse. Exposure to Violence.

### RESUMEN

#### Agresiones sufridas por las personas que trabajan en atención primaria de la Comunidad de Madrid, 2011-2012

**Fundamentos:** Las agresiones de usuarios a los profesionales de Atención Primaria se han incrementado en los últimos años. No existen estudios previos en atención primaria que abarquen toda una Comunidad Autónoma y todas las categorías profesionales. El objetivo del estudio fue caracterizar la violencia en atención primaria de la Comunidad de Madrid.

**Métodos:** Estudio descriptivo multicéntrico de las notificaciones de agresiones sufridas por los profesionales de Atención Primaria de la Comunidad de Madrid. Las variables del estudio incluyeron características sociodemográficas de las personas agresoras y de las agredidas, el tipo de agresión, sus causas y consecuencias. Se calcularon la mediana, el rango intercuartílico y las frecuencias. Se realizó un análisis de regresión logística calculando las OR y sus IC95%.

**Resultados:** En el periodo de estudio se notificaron 1.157 agresiones, el 53,07% las notificaron médicos. En el 4,7% de los casos hubo agresión física. El principal motivo fue la disconformidad con la atención recibida (36,1%). El personal no sanitario mostró menos riesgo de ser agredido físicamente que el personal sanitario (OR: 0,38; IC95%: 0,17-0,86). La agresión fue cometida por un hombre en el 56,8% de los casos y del grupo de edad entre 31-40 años en el 26,8%. La persona agredida fue mujer en el 84% de los casos, con una edad comprendida entre 45-60 años. El 10% de los profesionales notificaron las agresiones y el 5,9% la denuncia.

**Conclusiones:** El riesgo de sufrir agresión es mayor en el personal sanitario, especialmente médicos. Tanto en el perfil de las personas agresoras como de las agredidas se detectaron diferencias significativas por sexo y edad.

**Palabras clave:** Agresión, Violencia laboral, Atención Primaria de Salud, Personal de salud, satisfacción del paciente, Abuso físico. Exposición a la violencia.

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## INTRODUCTION

Workplace violence is a public health problem that is growing worldwide and entails severe consequences for the individual, families, communities, and countries both in the short and long term<sup>(1,2)</sup>. It is a multi-cause phenomenon<sup>(3)</sup>. The negative consequences of this violence affect provided health services, deteriorate the quality of care, and even lead workers to quit work practice<sup>(4)</sup>. There are several studies and reports that describe and analyze data on aggressions towards health care professionals in Spain<sup>(5,6,7,8,9)</sup>.

Health Professional Associations and Unions have taken a very active role in the defense of health workers and have stressed the importance of reporting these acts. In 2014, the Spanish Medical Association conducted a study that showed that 48% of the aggressions in the health care setting took place in primary care (PC), 16% in the hospital setting, 10% in ambulatory emergencies, and 16% in other settings. The study also revealed a change in the growing tendency of aggressions against doctors starting in 2011<sup>(9)</sup>. This decrease is also evident in a study by a work group of the Spanish National Health System in 2014<sup>(8)</sup> on aggressions against health care workers that showed that over 30,000 professionals had suffered attacks. However, of the aggressions that take place in the health care environment, workers only report to court the most serious cases that require medical attention, whereas less-severe or non-physical assaults are never submitted to court<sup>(10)</sup>.

Autonomous Communities in Spain have developed diverse preventive measures against aggressions towards health care staff, such as preventive plans, registries and observatories of violence to record and follow-up on these situations, as well as certain initiatives for the health care workers to be considered as part of the Spanish public authority<sup>(8)</sup>.

The Health Office of the Community of Madrid, after acknowledging the continuous growth of aggressions against health care workers, issued the Decree 212/2004<sup>(11)</sup> that establishes the guidelines to devise preventive and action plans to face potential conflict situations with citizens, without undermining the existing mechanisms and sanctions already covered by other laws<sup>(12)</sup>. This Decree included the term “conflict situation” for administrative and registry purposes. In 2008, Decree 22/2008 was issued for the creation of a database containing personal records that was named Regional Plan for the Prevention of Conflict Situations<sup>(13)</sup> and aimed at articulating integral actions for the prevention of conflict situations within the framework of Decree 212/2004.

In 2009, the Human Resources General Management of the Madrid Health System issued a resolution that dictated the instructions for the implementation of the Central Registry of Aggressions against Workers by Citizens (REMAC) that was never published in the Madrid’s Government official bulletin. The resolution also established the official “Form to record conflict situations with citizens originated in health centers and institutions ascribed or depending on the Madrid Health System” that considers the different types of conflict situations, a term including physical assault, threat, coercion, insult, slander, harassment, and material damage, among others, that a health worker may suffer. It also includes data on the characteristics of the victim, the aggressor, and the attack. Since the implementation of the Decree 52/2010, which established the basic structural health units of the Madrid Health System, the reports on conflict situations in PC are managed by the Patient Attention Units<sup>(14)</sup>.

The published studies on reported aggressions<sup>(9,15,16,17)</sup> are scarce and mainly cover the hospital environment or emergency rooms and services<sup>(18,19,20)</sup>. In fact, studies reporting only on the PC setting are infrequent<sup>(21)</sup>.

The main objective of this study was to analyze the aggressions suffered and reported by medical and non-medical workers, that took place during 2011 and 2012 in the health center, at the home of the aggressor, or during patient transport, in order to find possible associations between the profile of the aggressor and the worker, and to describe the main characteristics of the assaults.

## MATERIAL AND METHODS

This observational, multicentric, descriptive study was performed via a retrospective analysis of the reported aggressions suffered by PC professionals between January 1, 2011 and December 31, 2012. Hence, it is an external violence study, namely the violence between workers and a person legitimately present at the workplace (patient, family member, accompanying person). The data source for the study was the form that the 2009 resolution by the Madrid Health System established as the specific and validated method to notify aggressions, and which is to be used in all PC centers.

The study included all centers providing primary health care within the Madrid Health System: 264 health centers, 162 clinics, 40 rural health points, and 4 continuous care centers. The studied population comprised all medical and non-medical staff that work in these centers, including family medicine, pediatrics, odontology, psychology, nursery, physiotherapy, midwifery, dental hygienists, nursing assistants, social workers, administrative assistants, and support staff, amounting to a total of 11,525 subjects. They attended a population of approximately 6,400,000 citizens. The analysis unit consisted of every assault report (conflict situation) that took place in any work environment, whether in the center, the patient's home, or during transportation, and which was both filed by the professionals and received during the period of this study. The cases where the incident

was only notified verbally and aggressions between staff members were excluded.

The studied variables were those registered in the Form to Record Conflict Situations and consist of socio-demographic characteristics of both the aggressor (age, gender, patient or relation with patient) and the victim (age, gender, professional category), type of aggression (threat, coercion, insult, physical assault, material damage), cause of the incident, and consequences and actions derived from the aggression. Each form referred to a single incident. The Patient Attention Units entered the reports sent by the assaulted workers in a database created for this purpose.

The study received approval from the Central Ethics Committee for Research of the Primary Care Management of the Community of Madrid.

**Statistical analysis.** Given their asymmetric distribution, quantitative variables were described by their median and interquartile range (IR). Qualitative variables were expressed by their absolute frequency and percentage. In order to assess the relationship between personal characteristics of the aggressors and their victims, a Pearson's chi-squared test was performed. The possible associations between the characteristics of the aggressor or the assaulted professional and the different types of aggressions were studied through univariate logistic regression, and the odds ratio (OR) was calculated with a confidence interval (CI) of 95%.

## RESULTS

A total of 1,157 reports of assault were received in 2011 and 2012 from all the PC centers of the Community of Madrid. **Table 1** shows the proportion of aggressions by professional category considering the total number of incidents, and the proportion of assaulted workers within each category. Family doctors and administrative assistants comprise the highest number of assaulted

workers (48.4% and 24.4%, respectively) and stand out as the categories with the highest proportion of professionals affected (15.1% for both of them). Altogether, 10% of the PC staff reported some sort of aggression during the period of this study.

Women reported 84% of the aggressions, and the average age of victims was 48 years (IR: 39.7–53.3) (table 2). Regarding the profile of the aggressor, 56.8% were men and 26.8% in the age range of 31–40 years.

The conflict situation was generated by the patient in 67.8% of the cases, and the rest was caused by an accompanying person. The assault took place in the consultation room in 62.7% of the cases. The most common type of aggression was insult (75.2%) and 4.7% consisted of physical assault. Occasionally, an incident involved several types of aggression. A total of 5.8% of victims required psychological care.

**Table 1**  
**Conflict situations by professional category**

Professional category	Reported assaults by category	Staff members	Assaults/Staff %
Family doctor	561 (48.48%)	3,721	15.08
Pediatrician	53 (4.58%)	877	6.04
Odontologist	4 (0.34%)	131	3.05
Psychologist	-	30	-
Nurse	204 (17.63%)	3,473	5.87
Auxiliary nurse	15 (1.29%)	414	3.62
Administrative assistant	282 (24.37%)	1,867	15.10
Support staff	20 (1.72%)	481	4.16
Midwife	5 (0.43%)	178	2.81
Physiotherapist	2 (0.17%)	164	1.22
Dental hygienist	-	95	-
Radiology technician	-	2	-
Social worker	2 (0.17%)	92	2.17
Unknown category	9 (0.77%)		
TOTAL	1,157 (100%)	11,525	10.01

The main reason for the incidents was dissatisfaction with the provided care (36.3%), followed by waiting time (17.0%), and pharmaceutical prescription (12.9%). There was a record of previous conflicts in 22.5% of cases.

10.0% of aggressors filed a complaint and 5.9% of professionals reported it to court.

No statistically significant relationships were found between the studied aggressor's characteristics (gender, age, and patient vs. accompanying person) and the professionals (gender, age, and professional category), as shown in table 3.

Table 4 shows the associations between the different types of aggression and the characteristics of the worker and the aggressor. Physical assault was almost three times more frequent in the case of patients than accompanying persons (OR: 2.85; CI 95%: 1.27–6.38). Physical assault was frequent (OR: 0.18; CI 95%: 0.05–0.63) when the aggressor was between 51 and 60 years of age. Non-medical staff were at lower risk of being physically assaulted compared to medical staff (OR: 0.38; CI 95%: 0.17–0.86). Coercion was less frequent when the worker was female (OR: 0.53; CI 95%: 0.38–0.75) or non-medical (OR: 0.46; CI 95%: 0.33–0.65). Aggressors whose age was between 19 and 60 years coerced

**Table 2**  
**Characteristics of the assaulted professional, the aggressor,**  
**and the type of conflict situation**

		n	%
Year (n=1,157)	2011	504	43.6
	2012	653	56.4
Professional's gender (n=1,151)	Men	184	16
	Women	967	84
Professional's age: Median (IR)		48 (39.7-53.3)	
Aggressor's gender (n=1,150)	Men	653	56.8
	Women	497	43.2
Aggressor's age	Between 19 and 30 years	134	12.9
	Between 31 and 40 years	278	26.7
	Between 41 and 50 years	218	20.9
	Between 51 and 60 years	209	20.1
	Over 60 years	202	19.4
Aggressor's relation with patient (n=1,125)	Accompanying	316	28.1
	Unknown	43	3.8
	Others	3	0.3
	Patient	763	67.8
Location (n=681)	Consultation	427	62.7
	Patient's home	36	5.3
	Reception counter at health center	2	0.3
	Others	216	31.7
Type of aggression	Physical assault (n=1,123)	53	4.7
	Threat (n=1,123)	593	52.8
	Coercion (n=1,123)	289	25.7
	Insult (n=1,122)	844	75.2
	Material damage (n=1,131)	353	31.2
	Others (n=969)	45	4.6
Cause of incident (n= 1,138)	Dissatisfaction with provided care	413	36.3
	Waiting time	194	17
	Pharmaceutical prescription	147	12.9
	Request of work leave	57	5
	Others	327	28.7
Previous conflicts (n=805)	Yes	181	22.5
Lawsuit (n=1,032)	Yes	61	5.9
Complaint filed by aggressor (n=956)	Yes	96	10
Consequences for the victim (n=449)	Without consequences	406	90.4
	Psychological support	26	5.8
	Injuries	16	3.6
	Work leave	1	0.9
Post-assault intervention (n=698)	Letter	464	50.2
	Organizational measures in health center	78	11.2
	Change of professional requested by assaulted worker	127	18.2
	Change of health center	6	0.9
	Change of doctor or nurse by patient's choice	191	20.3
	Others	81	11.6

**Table 3**  
**Relationship between the characteristics of the aggressor (gender, age, relation) and assaulted professional (gender, age, category)**

	Professional's gender		p	Professional's age				p	Professional category		p
	Men n=184 n (%)	Women n=967 n (%)		<30 years n=89 n (%)	30-45 years n=368 n (%)	45-60 years n=555 n (%)	>60 years (n=56) n (%)		Medical staff n=833 n (%)	Non-medical staff n=321 n (%)	
<b>Aggressor's gender</b>											
Men	114 (62)	536 (55.8)	0.12	51 (57.3)	199 (54.5)	319 (57.6)	38 (67.9)	0.3	476 (57.5)	176 (55.2)	0.48
Women	70 (38)	424 (44.2)		38 (42.7)	166 (45.5)	235 (42.4)	18 (32.1)		352 (42.5)	143 (44.8)	
<b>Aggressor's age</b>											
19-30 years	19 (11.1)	115 (13.2)	0.86	7 (8.4)	37 (10.8)	78 (14.9)	8 (15.7)	0.27	89 (11.7)	46 (16.2)	0.23
31-40 years	50 (29.2)	228 (26.2)		24 (28.9)	97 (28.4)	129 (24.7)	17 (33.3)		213 (27.9)	68 (23.9)	
41-50 years	37 (21.6)	181 (20.8)		16 (19.3)	77 (22.5)	104 (19.9)	13 (25.5)		158 (20.7)	61 (21.5)	
51-60 years	33 (19.3)	176 (20.2)		16 (19.3)	60 (17.5)	118 (22.56)	7 (13.7)		149 (19.5)	60 (21.1)	
>60 years	31 (18.1)	171 (19.6)		19 (22.9)	71 (20.8)	94 (18)	6 (11.8)		152 (19.9)	49 (17.2)	
<b>Aggressor's relation</b>											
Patient	123 (71.5)	635 (70.4)	0.78	53 (66.25)	245 (71.5)	358 (67.7)	35 (66.2)	0.62	543 (69.08)	217 (74.8)	0.06
Accompanying	49 (28.5)	266 (29.6)		27 (33.75)	96 (28.2)	164 (32.09)	18 (33.8)		243 (30)	73 (25.2)	

**Table 4**  
**Analysis of the relationships between the type of aggression and the characteristics of the aggressor and assaulted professional**

		Physical assault			Threat			Coercion			Insult			Material damage		
		Raw OR	CI 95%	p	Raw OR	CI 95%	p	Raw OR	CI 95%	p	Raw OR	CI 95%	p	Raw OR	CI 95%	p
Aggressor's age	19 - 30	0.6	0.22-1.58	0.3	1.75	1.11-2.73	0.01*	1.85	1.05-3.24	<0.001*	1.28	0.74-2.23	0.38	0.93	0.58-1.48	0.75
	31 - 40	0.61	0.28-1.31	0.2	1.46	1.01-2.11	0.04*	2.49	1.56-3.99	<0.001*	0.83	0.54-1.27	0.39	1.11	0.76-1.63	0.58
	41 - 50	0.8	0.37-1.73	0.57	1.48	1-2.18	0.05*	2.82	1.73-4.60	<0.001*	0.9	0.57-1.43	0.67	0.88	0.58-1.33	0.54
	51 - 60	0.18	0.05-0.63	0.007	1.14	0.77-1.68	0.51	2.54	1.55-4.16	<0.001*	0.69	0.44-1.07	0.1	0.82	0.54-1.24	0.35
	> 60	1	1		1	1		1			1	1		1		
Aggressor's gender	Men	1			1			1			1			1		
	Women	1.38	0.79-2.40	0.25	0.84	0.66-1.06	0.15	0.87	0.66-1.14	0.32	1.46	1.10-1.93	0.01*	1.02	0.79-1.31	0.9
Aggressor's relation with patient	Accompanying	1			1			1			1			1		
	Unknown	---			0.55	0.28-1.09	0.09	0.52	0.21-1.29	0.16	1.18	0.52-2.68	0.69	0.17	0.05-0.56	0.004*
	Others	---			1.6	0.14-17.8	0.7	1.43	0.13-16.0	0.77	0.61	0.05-6.80	0.69	1.02	0.09-11.37	0.99
	Patient	2.85	1.27-6.38	0.01*	0.83	0.64-1.09	0.19	0.98	0.73-1.33	0.91	0.92	0.68-1.26	0.62	0.93	0.70-1.24	0.64
Professional's gender	Men	1			1			1			1			1		
	Women	0.62	0.32-1.21	0.17	0.75	0.54-1.04	0.08	0.53	0.38-0.75	<0.001*	1.2	0.84-1.7	0.32	1.16	0.81-1.65	0.41
Professional's age	< 30	1			1			1			1			1		
	30 - 45	0.43	0.17-1.21	0.08	0.83	0.52-1.32	0.44	1.11	0.64-1.94	0.7	0.77	0.43-1.36	0.36	0.33	0.20-0.53	<0.001*
	45 - 60	0.59	0.25-1.40	0.23	0.78	0.49-1.22	0.28	1.32	0.78-2.25	0.3	0.77	0.45-1.35	0.37	0.4	0.26-0.64	<0.001*
	> - 60 years	0.67	0.167-2.73	0.58	0.92	0.46-1.81	0.81	1.18	0.54-2.58	0.68	0.57	0.26-1.22	0.15	0.25	0.12-0.53	<0.001*
Professional category	Medical	1			1			1			1			1		
	Non-medical	0.38	0.17-0.86	0.02*	0.84	0.65-1.09	0.2	0.46	0.33-0.65	<0.001*	1.15	0.84-1.56	0.37	0.67	0.51-0.92	0.01*

\*p<0.05. CI 95%: 95% Confidence Interval

workers two to three times more than those over 60 years. Compared to non-medical staff, medical workers experienced more than twice the risk (OR: 2.17; CI 95%: 1.54–3.03) of suffering coercion. Insults were more frequently inflicted by women (OR: 1.46; CI 95%: 1.10–1.93). Workers under 30 years of age were at greater risk of suffering material damage at the consultation, and that risk increased further in the case of medical staff (OR: 1.49; CI 95%: 1.09–1.96).

## DISCUSSION

This study shows that family doctors and administrative assistants were the workers that reported the highest number of assaults. The main reason for the incidents was dissatisfaction with the medical care received. Non-medical workers were at lower risk of suffering physical aggressions than medical staff.

There are no previous published studies that use a specific notification system that covers an entire Autonomous Community and all professional categories. Other studies made use of questionnaires devised *ad hoc*<sup>(9,17,19,21,22)</sup>. Furthermore, there are numerous constraints to contrast the outcome of this study with other similar studies in Spain due to the use of different methodologies: use of questionnaires<sup>(9,17,19,21,22)</sup> instead of databases<sup>(15,16,17)</sup>, different participant recruitment methods<sup>(9,15,17,19,22)</sup>, differences in defining the main variable (work violence)<sup>(9,15,17,19,22)</sup>, assessment of a single professional category<sup>(6,9,18,21)</sup>, or diverse health assistance settings and study periods<sup>(9,15-17,19,22)</sup>.

In a study performed in one health care area of the Community of Madrid in 2010, the prevalence of reports of assault was 8% for PC, in contrast with only 1.2% in the case of specialized health care and 2.6% overall, although the study period (15 months) was shorter than ours<sup>(15)</sup>. Another study by the Catalan Health Institute performed in Barcelona between 2006 and 2009 in PC reported a prevalence of 8.7%, similarly to the find-

ings of this study<sup>(23)</sup>. However, in a study by the Grupo del Hospital Universitario Infanta Leonor in Madrid between 2009 and 2014 in PC, the global prevalence of reported aggressions was 30.53%<sup>(16)</sup>. This discrepancy could be explained by the different study periods since the latter covered 6 years.

Regarding the victims' professional categories, family practitioners and administrative staff report more assaults, a result that is consistent with other studies: of professionals suffering assaults, 43.8% of aggressions were doctors and 26.3% administrative assistants in the former Area 6 of Madrid<sup>(15)</sup>, 40.4% were physicians and 27.2% administrative workers in a study in Barcelona<sup>(23)</sup>, and 53.1% of doctors and 28.2% of administrative staff in PC in a study by the Unit for the Prevention of Labor Risks of Hospital Universitario Infanta Leonor de Madrid<sup>(16)</sup>. These data differ substantially from a study by Lameiro, performed in the Hospital de Vigo between 2005 and 2011. This study exclusively covered the hospital setting and the most affected professional category was nursing, with a prevalence of 74% (36% of nurses and 38% of auxiliary nurses), followed by 17% for support staff, and 6% for doctors<sup>(17)</sup>. This author notes that, independently of the professional category, the worker that directly attends to the patient is the receiver of the violent incident. Along this line, another study conducted in the Community of Castilla y León reports that the categories of physicians and nursing suffered the greatest number of aggressions<sup>(5)</sup>. In the case of studies covering the PC setting, this can be partially explained by the type of activity carried out by these two categories. Family doctors manage temporary disability, pharmaceutical prescription, and request tests and referrals; dissatisfaction with some of these tasks, together with waiting time, are the most frequent triggers of violent situations<sup>(7,15,20)</sup>. In fact, according to a survey by the Medical Association of Barcelona, the most frequent cause for violent actions towards medical staff was frustration from not satisfying the patient's expectations<sup>(24)</sup>. As



pointed out by other authors, administrative staff are also exposed to suffering from this type of situations as a result of being the first point of contact for the users<sup>(7)</sup>.

Most aggressions were against women, a similar result to that obtained by the Spanish Ministry of Health, Social Services, and Equality (2008-2012)<sup>(25)</sup>, which found that 72% of assault victims were women, although in the case of the health setting they comprise 73% of the staff. In terms of age, workers of median age are at higher risk of being assaulted, which agrees with the findings of other studies.

In terms of the profile of the aggressor, the patient is the most frequent offender. A study by Maestre<sup>(15)</sup> supports this finding, with a prevalence of 64.8% of cases in the hospital setting and 77.3% in PC, as well as a study from the Grupo Hospital Universitario Infanta Leonor where the patient was the aggressor in 50.8% and 56.9% of cases in specialized care and PC, respectively, and up to 85% in the case of a survey-based study carried out in the PC and two hospitals<sup>(16,10)</sup>. The majority of aggressions were performed by men, similarly to the outcome of a study by the Catalan Health Institute in Barcelona (60.6%)<sup>(23)</sup>, whereas the percentage obtained from a study based on surveys was higher (78.3%)<sup>(20)</sup>. In the latter, half the aggressors were in the age range of 30–50 years, a similar figure to those obtained in both the study by the Grupo Hospital Universitario Infanta Leonor and in this work<sup>(16)</sup>.

According to the data published in a report by a work group on Aggressions against Workers of the Spanish National Health System (2008-2012)<sup>(8)</sup>, 80% of aggressions were either verbal or coercion, and physical assault happened in 20% of cases. This study found that most aggressions were verbal, as other reviews have shown<sup>(15,16,19)</sup>. Physical assault usually implies more severe consequences and was suffered by 4.8% of PC workers. The percentage of physical aggressions was 9.4% in a study performed in the former Area

6 of Madrid in 2010 and 3.2% in the study by the Catalan Health Institute in Barcelona; these figures are slightly lower than the ones from the Grupo Hospital Universitario Infanta Leonor that reached 15.5% of reported physical aggressions in PC<sup>(15,23,16)</sup>. In other research, professionals reported having suffered physical assaults at least once in the course of their work life (3% to 28%)<sup>(18, 26)</sup>. However, there are some studies that report greater proportions of physical assault as well as an underreporting of verbal and/or psychological attacks, as is the case for the study by Lameiro<sup>(17)</sup>, which could result from the fact that the hospitals under study had two Psychiatric Units and many of those professionals assume these situations as intrinsic to their work.

According to the data published by the Spanish Medical Association in 2014, 48% of aggressions took place in the PC setting and material damage was caused in 9% of cases, which is a very low percentage compared to our study (31.21%)<sup>(9)</sup>.

The gender of the victim was not found to be related to the gender of the aggressor, similarly to other studies<sup>(15)</sup>. On the other hand, and contrary to the results of this study, other research do not show a relationship between physical assault and being a medical worker<sup>(26)</sup>. Threats were not found to be related related to the gender of the professional, whereas a study by Martínez-Jarreta did<sup>(10)</sup>. Similarly to other research, this study noted that it is the patient, and not the accompanying person, who most frequently carries out physical attacks<sup>(15)</sup>.

The outcome revealed that aggressors are repeated offenders in the health center they attend, a figure slightly higher than the one by the Catalan Health Institute in Barcelona (16.2%)<sup>(23)</sup>. A possible explanation for this can be that patients that commit assaults have a reference health center that they attend on regular basis, whereas specialized care is provided by diverse professionals, and consultations may be one-time or far-apart in time.

Only a small percentage of workers sued the aggressor, as shown in other studies; the report by the Spanish Health Ministry informs of 10.9% of cases involving physical assault that were reported to court and the one by Martínez-Jarreta reports a figure of 3.7%<sup>(25,10)</sup>. This situation of under-suing may result from the workers' fear of retaliation from the aggressor or from minimizing violent actions. It must be highlighted that there is a constraint to contrast data regarding lawsuits filed by workers since there are different interpretations of the "sue" concept. According to the study by Martínez-León from 2011, assaulted doctors filed a complaint in 71.79% of cases and they considered it necessary to raise awareness among doctors of the need to denounce, not only by reporting to the superior or management at the workplace, but also to their Medical Association<sup>(5)</sup>. In this work, the term "sue" has been employed when the assault is reported to court or any public authority, and "notification" is used in case of being reported to Health Management. A small percentage of professionals required psychological assistance, a very similar figure to the 5.5% obtained in a study performed in Madrid in 2010<sup>(15)</sup>.

Similarly to the study by the Grupo Hospital Universitario Infanta Leonor<sup>(16)</sup>, using a non-editable registration system, the REMAC, enables this work to differentiate the ways of reporting the assault, although it will depend on the awareness of workers to refer the incidents since sometimes data are incomplete and it is likely that some aggressions go unreported. The reason for under-reporting could be minimizing the importance of violent actions or not being aware of the usefulness of reporting them. It was not possible to access the digital records of the REMAC in order to carry out this study, and hence the research team obtained the information from the registry of written notifications that were available at the Patient Attention Units of PC. A digital registry was then created for the purpose of this study where the standardized data from the official forms was entered and later analyzed.

We consider it necessary to develop training and informative activities in order for the professionals to acquire the knowledge, ability, and skills to manage these situations. A systematic review from 2015 supports this recommendation and indicates the need for applying diverse, integrated approaches to train and acquire practical skills to effectively prevent and minimize aggressions and their impact on organizations, which must be developed on the basis of clearly identified needs<sup>(27)</sup>.

It is necessary to promote working in coordination with the units for the Prevention of Labor Risks in reference hospitals since they are responsible for providing the assistance needed by assaulted workers, both at physical and psychological level, and rely on entities that can legally counsel the professionals, such as the Unit for Supporting and Counseling on Conflict Situations that forms part of the Primary Care Management of the Community of Madrid.

The outcome of this study and other similar works show that the most frequent triggers for the aggressions are dissatisfaction with the care provided, waiting time, and disconformity with pharmaceutical prescription, hence the need for taking measures considering these factors. Users' satisfaction could be improved from an organizational perspective: enabling professionals to have the time needed to inform patients and help resolve their doubts, providing real-time information on waiting time whenever there is a delay in consultations, and improving coordination between assistance levels.

Characterizing aggressions and studying their triggers would be useful for identifying areas of improvement, as well as for implementing preventive, security, and management guidelines for this type of situations in order to eliminate or correct problems that have been detected. Along these lines, having a unified registry is of outmost importance since it allows for further investigating these problems and assessing the effects of established measures.

It is necessary to develop training plans on prevention and management of aggressions, addressed to all professionals working in the health care setting, as well as to provide them with support and advice.

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## REFERENCES

1. Organización Mundial de la Salud. Prevención de la violencia: una prioridad de salud pública. Informe de la 49ª Asamblea Mundial de la Salud. 1996;1-2. [Cited 2016-10-12]. Available at: [http://www.who.int/violence5ce\\_injury\\_prevention/resources/publications/en/WHA4925\\_spa.pdf](http://www.who.int/violence5ce_injury_prevention/resources/publications/en/WHA4925_spa.pdf)
2. Krug EG, Dahlberg LL, Mercy JA, Zwi AB, Lozano R. Informe mundial sobre la violencia y la salud. Washington, D.C. Organización Panamericana de la Salud. Oficina Regional para las Américas de la Organización Mundial de la Salud 2003. Publicación Científico y Técnica N° 588. (Citado 12.10.2016). Available at: <http://iris.paho.org/xmlui/bitstream/handle/123456789/725/9275315884pdf?sequence=1>
3. Chapel D, Di Martino V. Violence at Work. 3ªed. Geneva: International Labour Office; 2006. p.62-69.
4. Organización Mundial del trabajo (OIT), Consejo internacional de enfermeras (CIE), Organización Mundial de la Salud (OMS), Internacional de Servicios Públicos (ISP). Directrices Marco para afrontar la violencia Laboral en el sector salud. Programa conjunto sobre la violencia laboral en el sector de la salud. Ginebra: OIT, CIE, OMS;2002. (Citado 12.10.2016). Available at: [http://www.ilo.org/wcmsp5/groups/public/---ed\\_dialogue/---sector/documents/publication/wcms\\_160911.pdf](http://www.ilo.org/wcmsp5/groups/public/---ed_dialogue/---sector/documents/publication/wcms_160911.pdf)
5. Martínez-León M, Queipo D, Irurtia MJ, Martínez-León C. Análisis médico-legal de las agresiones a los profesionales sanitarios en Castilla y León (España). Rev Esp Med Legal. 2012; 38(1):5-10.
6. Fernández MJ, Camacho MG, Olmos C, Ruiz S, Sanjuán M. Análisis y registro de las agresiones en UCI. Enferm intensiva. 2006; 17(2): 59-66.
7. Gascón S, Casalod Y, Martínez Jarreta B, Abecia E, Luna A, Pérez Cárceles M.D, Santed M.A, González-Andrade F, Bolea M. Aggressions against healthcare workers: An approach to the situation in Spain and the victims psychological effects. Leg Med (Tokyo). 2009;(11Suppl 1):S366-367.
8. Informe Grupo de Trabajo de agresiones a profesionales del sistema nacional de salud. Comisión de Recursos Humanos del SNS. Ministerio de Sanidad, Servicios Sociales e Igualdad. Dirección General de Ordenación Profesional. Subdirección General de Recursos Humanos del SNS. 2014. (Citado el 12.10.2016). Available at: <http://www.senado.es/web/expedientappendixblob-servlet?legis=10&id1=136341&id2=1>
9. Organización Médica Colegial de España. Observatorio de agresiones. Años 2009-2014. [Cited el 12.10.2016]. Available at: [http://www.cgcom.es/documentacion\\_agresiones](http://www.cgcom.es/documentacion_agresiones)
10. Martínez-Jarreta B, Gascón S, Santed MA, Goicoechea J. Análisis médico-legal de las agresiones a profesionales sanitarios. Aproximación a una realidad silenciosa y a sus consecuencias para la salud. Med Clin (Barc). 2007; 128(8): 307-10.
11. Boletín Oficial de la Comunidad de Madrid. Orden 212/2004, de 4 de marzo, de la Consejería de Sanidad y Consumo, por la que se establecen las directrices y líneas generales para la elaboración de planes de prevención y atención frente a potenciales situaciones conflictivas con los ciudadanos en los centros e instituciones sanitarias públicas y se crea la Comisión Central de Seguimiento. BOCM núm 63 de 15/03/2004.
12. Boletín Oficial del Estado. Ley General de Sanidad. Ley 14/1986 de 25 de abril. BOE núm 102 de 29/04/1986.
13. Boletín Oficial de la Comunidad de Madrid. Orden 22/2008, de 21 de enero, por la que se crea el fichero de datos de carácter personal denominado Plan Regional de Prevención de Situaciones Conflictivas (PRPSC), dependiente de la Dirección General de Recursos Humanos de la Consejería de Sanidad de la Comunidad de Madrid. BOCM núm 29 de 4/02/2008.
14. Boletín Oficial de la Comunidad de Madrid. Decreto 52/2010, de 29 de julio, por el que se establecen las estructuras básicas sanitarias y directivas de Atención Primaria del Área Única de Salud de la Comunidad de Madrid. BOCM núm 189 de 9/08/2016.
15. Maestre M, Borda J, Ortega A, Sainz C, Cabrero B, Rodríguez ML. Incidencia de notificación de situaciones conflictivas con los ciudadanos en el área 6 de la comunidad autónoma de Madrid: Abril - junio 2011. Med Segur Trab. 2011; 57 (223): 134-146.

16. De-San-Segundo M, Granizo JJ, Camacho I, Martínez-de-Aramayona MJ, Fernández M, Sánchez-Úriz MA. Estudio comparativo de las agresiones a sanitarios entre Atención Primaria y Atención Especializada en una zona de Madrid (2009-2014). *SEMERGEN*. 2016 May 4. Epub 2016 May 4.
17. Lameiro C, Besteiro A, Cuevas A, Pérez A, Gómez C, Del Campo V. Violencia laboral en Instituciones sanitarias. Análisis de un perfil cambiante. *Rev Enferm Trabajo*. 2013; 3: 66-74.
18. Galián Muñoz I, Llor Esteban B, Ruiz Hernández JA. Violencia de los usuarios hacia el personal de enfermería en los hospitales públicos de la región de Murcia. *Rev Esp Salud Pública*. 2012; 86: 279-291.
19. Mayorca IA, Lucena S, Cortés M, Lucerna MA. Violencia contra los trabajadores sanitarios en un hospital de Andalucía: ¿Por qué hay agresiones no registradas? *Med Segur Trab (Internet)* 2013; 59 (231) 235-258
20. Bernaldo-de-Quirós M, Cerdeira JC, Gómez Mm, Piccini AT, Crespo M, Labrador FJ. Agresiones a los profesionales de las urgencias extrahospitalarias de la Comunidad de Madrid. Diferencias entre los servicios de urgencias y los de emergencias. *Emergencias*. 2014; 26:171-178.
21. Caigas MJ, Ojembarrena S, Sainz E. Violencia percibida y/o sufrida por el personal sanitario y no sanitario de los centros de salud de atención primaria del Servicio Cántabro de Salud. *Nuber Cientif*. 2013; 2(9): 31-37.
22. Cervantes G, Blanch J.M, Hermoso D. Violencia ocupacional contra profesionales sanitarios en Cataluña notificadas por Internet (2007 – 2009). *Arch Prev Riesgos Labor*. 2010; 13(3): 135-140
23. Escamilla MA. Agresiones al personal de salud en centros de Atención Primaria del ICS en Barcelona: Estudio de factores demográficos y laborales. Barcelona: Universidad Pompeu Fabra; 2010.
24. Col·legi Oficial de Metges de Barcelona. La violencia en el lloc de treball. L'experiència del metges de Barcelona. Barcelona: Col·legi Oficial de Metges de Barcelona; 2004.
25. Solo uno de cada 10 sanitarios agredidos denuncia a su agresor. *JANO [Internet]*. 2014 Jun 16. Available at: <http://www.jano.es/noticia-solouno-cada-10-sanitarios-22304>
26. Herreros M. La importancia de la notificación de las situaciones de violencia. Experiencia práctica del ICS. Barcelona: Institut Català de la Salut; 2009.
27. Hills DJ, Ross HM, Pich J, Hill AT, Dalsbø TK, Riahi S, Guay S, Martínez-Jarreta B. Education and training for preventing and minimising workplace aggression directed toward healthcare workers. *Cochrane Database of Syst Rev*. 2015; (9): CD011860.