

# Violence exposure among health care professionals in Saudi public hospitals

## *A preliminary investigation*

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### ABSTRACT

**الأهداف:** التعرف على مدى انتشار ظاهرة العنف تجاه المهنيين الصحيين في المستشفيات السعودية، وكذلك التعرف على أسباب وأنواع ومصادر هذا العنف.

**الطريقة:** لقد استخدمنا في هذه الدراسة المسحية المقطعية استبانات ذاتية التعبئة من أجل جمع بيانات عن ظاهرة العنف تجاه الهيئة الطبية والتمريضية في المستشفيات السعودية. وتم توزيع 600 استبانة عشوائياً، فيما تم استرجاع 383 استبانة كاملة (63.8%) وذلك في اثنين من المستشفيات العامة بمدينة الرياض، المملكة العربية السعودية خلال الفترة من مايو إلى يوليو 2011م.

**النتائج:** تبين أن أكثر من ثلثي عينة الدراسة (67.4%) قد تعرضوا لظاهرة العنف خلال 12 شهراً الماضية، وكان العاملون في التمريض أكثر عرضة لهذا السلوك مقارنة بالأطباء ( $p < 0.001$ ). كما أوضحت النتائج أن العاملين الذكور، والأقل خبرة في المجال الصحي، والأصغر سناً هم الأكثر تعرضاً للعنف. وتبين أن طول فترة الانتظار، والنقص في عدد العاملين، وعدم تلبية احتياجات المرضى هي أكثر العوامل المسببة للعنف. كما تبين أن العنف اللفظي هو الأكثر انتشاراً. أوضحت النتائج أن أقارب المرضى أو أصدقائهم ويلي ذلك المرضى أنفسهم هم الأكثر تسبباً في العنف. أفاد المجيبون أن عدم التبليغ عن ظاهرة العنف يعود إلى عدة أسباب أهمها: طبيعة العمل، والاعتقاد المسبق بعدم اتخاذ تدابير لمنع الظاهرة، والخوف من تبعات التبليغ.

**خاتمة:** لقد أثبتت الدراسة مدى تعرض المهنيين الصحيين لخطر العنف، وبالتالي فإنه يجدر بصانعي القرارات في القطاع الصحي اتخاذ الخطة والحذر من تبعات هذا السلوك. كما يلزم اتخاذ التدابير اللازمة للوقاية من هذه الظاهرة وذلك لجعل بيئة العمل في المستشفيات أكثر أماناً.

**Objectives:** To identify the prevalence, causes, types, and sources of workplace violence among health professionals in public hospitals in the Kingdom of Saudi Arabia.

**Methods:** This exploratory cross-sectional survey employed self-administered questionnaires to collect data on aspects of workplace violence against physicians and nurses in Saudi hospitals. The questionnaires were distributed randomly to 600 physicians and nurses, of which 383 (63.8%) completed the questionnaires at 2 public hospitals in Riyadh city between May and July 2011.

**Results:** More than two-thirds (67.4%) of respondents reported they were victims of violence in the previous 12 months. Nurses were more likely to be exposed to violent incidents than physicians ( $p < 0.001$ ). Males, less experienced, and younger respondents were more likely to encounter violent episodes than their counterparts. Respondents reported that excessive waiting time, shortage of staff, and unmet patients' demands were the most common reasons for violence. Verbal abuse was the most common type encountered. The assailants were mostly the patients' relatives or friends, followed by the patients themselves. Reasons for not reporting violent events included: feel it is a part of the job, previous experience of no action, and fear of consequences.

**Conclusion:** Physicians and nurses are at high risk of violent incidents. Health decision makers need to be aware of the potential consequences of such events. Appropriate preventive measures are needed to make hospitals safer environments.

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Health care professionals are ranked as one of the most vulnerable groups experiencing violence and aggressive behavior compared to other occupational groups.<sup>1,2</sup> Authors suggest that health professionals, particularly those who work in hospitals, are at risk because they are dealing directly with patients and their caretakers, many of whom are emotionally disturbed.<sup>3</sup> One of the most difficult situations that health care providers face is being threatened or physically harmed by their patients, or by a patients' relatives, or even by their colleagues.<sup>4</sup> The problem of 'violence' against health workers has been investigated in a number of countries and it seems that its prevalence depends on the criteria used to define the term and the populations studied. However, studies indicate that as much as 90% of health workers have experienced violent incidents at work, with percentages ranging from 70-80% for nurses and doctors.<sup>5</sup> However, the actual prevalence of violence against health workers is unknown because there is no "standard definition" on what constitutes a violent incident in health care.<sup>6</sup> The World Health Organization (WHO) indicated that violence is the intentional use of force that makes threats to individuals or groups, which may result in injury, death, or psychological harm.<sup>7</sup> In the literature, the term "violence" was often used synonymously as "aggression" and tends to occur along a continuum from verbal to physical attacks.<sup>8</sup> However, authors indicated that violence and aggression directed to health workers may have negative impacts on their well-being, including dissatisfaction, low productivity, turnover, and health care provided to patients.<sup>6</sup> Violence may also lead to lost workdays, loss of consciousness, termination of employment, shortage of health care workers, and undermines the quality of health services delivered to patients.<sup>9</sup> Risk factors contributing to the development of violent behavior have been reported in the literature and included the characteristics of perpetrators, health care providers, health organization, and environment. The perpetrators' characteristics included their age, gender, mental state, and past history of aggression.<sup>10</sup> Similarly, health care providers' characteristics included their gender, age, years of experience in health care sector, occupation, education, and self-esteem.<sup>11</sup> Organizational characteristics included visiting hours, overcrowding, under-staffing, working hours, and the nature of work in the hospital departments.<sup>6</sup> Environmental factors included ward

turmoil, lack of privacy, poor organization, and vague policies. However, researchers suggest that violent episodes may occur as a result of a combination of these characteristics.<sup>7</sup>

Most of the available literature on violence and aggression in health care illustrates its prevalence and associated factors in particular settings such as psychiatric hospitals,<sup>12</sup> and emergency departments,<sup>13</sup> but relatively few attempts have been made to examine the problem in general hospitals<sup>14</sup> despite the fact that violence and aggression in such facilities constitute a serious problem for health staff in different departments.<sup>15</sup> Accordingly, the aim of the present study was set to explore violence against physicians and nurses in public hospitals. Specifically, the main objectives of this study were: 1) to explore the prevalence of violent episodes among physicians and nurses in public hospitals in Riyadh city, 2) to identify types and sources of violence experienced by physicians and nurses, and 3) to identify reasons causing workplace violence as perceived by physicians and nurses. For the purpose of this study, violence was defined as any aggressive behavior against health workers, including physical assault or verbal aggression as reported by the respondents themselves. Such a definition has been used by other authors.<sup>16</sup> Although it is recognized that there is no agreement on what constitutes "violence" in health care, this definition was used; taking into account its possible limitations.

**Methods.** This cross-sectional study was conducted to explore the work violence towards physicians and nurses who worked in 2 public hospitals in Riyadh city between May and July 2011. The study population composed of all physicians (n=475) and nurses (n=898) who work in these 2 hospitals. The study sample was selected from these hospitals and composed of 200 physicians (42%) and 400 nurses (44.5%). Such a large sample size was determined in order to increase the accuracy, and to replace lost or uncompleted questionnaires.<sup>17</sup> Respondents were selected using a stratified random sampling in order to represent male and female respondents and the major departments of the 2 hospitals. Accordingly, 600 self-administered questionnaires were distributed, of which 134 physicians and 249 nurses successfully completed and returned the questionnaire. This gives a general response rate of 63.8%. The study sample was similar to the study population with respect to gender ( $p=0.17$ ) and age ( $p=0.74$ ).

The study questionnaire was written in English and consisted of 4 sections. The first section sought information about the general profile of respondents, such as their age, gender, years of experience in the health care sector, occupation, educational level, and

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their departments. The second section asked respondents whether they had been exposed to any violent event in the past 12 months. Respondents were asked to give a binary response (yes/no). Those who answered in the affirmative were requested to identify the types of violent acts (verbal, physical, or both) and sources of such violence (patients, patients' relatives/friends, or co-workers). In the third section, respondents who reported exposure to violent incidents were asked to identify whether they reported such events (yes/no). Those who did not report the violent acts were requested to identify the reasons for not reporting. The final section asked respondents who were exposed to violence to identify causes of the violent acts they encountered. In this section, authors proposed a closed checklist for causes of violent episodes, based on a review of the literature, and requested respondents to select all that applied.

In order to increase the content validity of the questionnaire, a review of the literature on violence in health care was carried out, 2 physicians and 2 nurses reviewed the draft questionnaire and it was pilot-tested. Based on the feedback of the reviewers, together with the outcome of the pilot study, the final questionnaire was designed. The respondents were assured of confidentiality and provided with an explanation regarding the purpose of the study and the importance of their participation. The subjects gave verbal consent to participate in the study. Ethical approval for the study was granted by the relevant research ethics committee and conformed to the principles outlined in the Declaration of Helsinki, on the ethical principles for medical research involving human subjects.

Chi-square analysis was used to test the differences in violence exposure (yes versus no) according to respondents' characteristics. Crude odds ratios and 95% confidence intervals were used to assess potential associations, and then adjusted for covariates including respondents' gender, age, years of experience, educational level, occupation, and department. All questionnaires were distributed by well-trained postgraduate students and were completed by physicians and nurses at their convenience of time. The data for this study were entered and analyzed using the Statistical Package for Social Sciences version 11 (SPSS Inc, Chicago, IL, USA). The level of significance was set at  $p < 0.05$ , and the results were presented in a descriptive fashion.

**Results.** Respondents were predominantly young with an average age of  $36.2 \pm 9.9$  years (range, 20-62 years). Females constituted the majority (60.3%) of respondents and those holding a bachelor's degree or higher comprised 64.4% of the study sample. The respondents' average years of experience in health sector were  $10.1 \pm 8.3$  (range, 1-40 years). Respondents were

recruited from both inpatient (45.7%) and outpatient departments (54.3%). Out of the total respondents, 258 (67.4%) reported that they were victims of some sort of violence (verbal, physical, or both) in the previous 12 months.

Table 1 shows the descriptive association between respondents' characteristics and exposure to work violence in the past 12 months. The results indicated that nurses had experienced a significantly higher percentage of violent incidents than physicians. Males (73.7%) had a significantly higher percentage of violent exposure than females. Younger respondents (<35 years old) reported a significantly higher percentage of violent acts than older respondents ( $p < 0.01$ ). Similarly, those who had less years of experience (<10 years) in the health care sector reported a significantly higher percentage of violent incidents than those who had a greater number of years. The results also indicated that those who work in the outpatient departments experienced a significantly higher percentage of violent events than those who work in inpatient departments.

Table 2 presents the unadjusted and adjusted odds ratios with their 95% confidence intervals for the exposure to violence (yes versus no) according to the respondents' demographic characteristics. Crude odds ratios indicated that exposure to violence episodes was significantly associated with respondents who were males ( $p = 0.033$ ), younger than 35 years ( $p < 0.001$ ),

**Table 1** - Exposure to violence according to the characteristics of respondents at 2 public hospitals in Riyadh city between May and July 2011 (n=383).

Characteristics	Exposed to violence in the past 12 months?		$\chi^2$	P-value
	Yes (%)	No (%)		
<b>Gender</b>				
Male, n=152	112 (73.7)	40 (26.3)	4.116	0.042
Female, n=231	146 (63.2)	85 (36.8)		
<b>Age (years)</b>				
<35 years, n=207	155 (74.9)	52 (25.1)	10.843	<0.01
≥ 35 years, n=176	103 (58.5)	73 (41.5)		
<b>Experience in health care</b>				
<10 years, n=213	164 (77.0)	49 (23.0)	19.277	<0.001
≥10 years, n=170	94 (55.3)	76 (44.7)		
<b>Education level</b>				
<Bachelor's degree, n=98	72 (73.5)	26 (26.5)	1.876	0.171
≥Bachelor's degree, n=285	186 (65.3)	99 (34.7)		
<b>Occupation</b>				
Nurse, n=249	190 (76.3)	59 (23.7)	24.736	<0.001
Physician, n=134	68 (50.7)	66 (49.3)		
<b>Department</b>				
Outpatient, n=208	150 (72.1)	58 (27.9)	4.215	0.040
Inpatient, n=175	108 (61.7)	67 (38.3)		

**Table 2 -** Unadjusted and multivariate-adjusted odds ratios for exposure to violence among the study group at 2 public hospitals in Riyadh city.

Characteristics	Unadjusted OR (95% CI)	P-value	Adjusted OR* (95% CI)	P-value
<i>Gender</i>				
Male	1.6 (1.04-2.56)	0.033	4.2 (2.25-7.79)	<0.001
Female	1.0 (reference)		1.0 (reference)	
<i>Age (years)</i>				
<35 years	2.1 (1.37-3.26)	<0.001	1.1 (0.59-1.81)	0.891
≥35 years	1.0 (reference)		1.0 (reference)	
<i>Experience in health care</i>				
<10 years	2.7 (1.74-4.20)	<0.001	2.1 (1.22-3.47)	0.007
≥10 years	1.0 (reference)		1.0 (reference)	
<i>Educational level</i>				
< Bachelor's degree	1.5 (0.89-2.46)	0.136	1.1 (0.58-2.00)	0.810
≥ Bachelor's degree	1.0 (reference)		1.0 (reference)	
<i>Occupation</i>				
Nurse	3.1 (1.99-4.89)	<0.001	5.6 (2.78-11.13)	<0.001
Physician	1.0 (reference)		1.0 (reference)	
<i>Department</i>				
Outpatient	1.6 (1.04-2.47)	0.031	1.4 (0.85-2.20)	0.201
Inpatient	1.0 (reference)		1.0 (reference)	

\*The odds ratios were adjusted for gender, age, experience, educational level, occupation, and department covariates. OR - odds ratio, CI - confidence interval, reference - reference category in the logistic regression model

**Table 3 -** Types and sources of violent events encountered by respondents at 2 public hospitals in Riyadh city between May and July 2011 (n=258).

Aspects	Frequency	
	n	(%)
<i>Types of violence*</i>		
Verbal only	244	(94.6)
Physical only	31	(12.0)
Both (physical and verbal)	27	(10.5)
<i>Sources of violence (assailants)*</i>		
Relatives/friends (or visitors)	185	(71.7)
Patients	155	(60.1)
Co-workers	37	(14.3)

\*Respondents were instructed to select as many items as applicable

**Table 5 -** Causes of violence as perceived by health care professionals at 2 public hospitals in Riyadh city during May-July 2011. (n=258)

Causes	Frequency	
	n	(%)
<i>Reasons for violence*</i>		
Excessive waiting time	133	(51.6)
Shortage of staff	101	(39.1)
Unmet patients' demand	98	(38.0)
Poor organization of work	76	(29.5)
Overcrowding	73	(28.3)
Patient's health condition	63	(24.4)
Staff workload	56	(21.7)
Reasons perpetrated by colleagues or supervisors	24	(9.3)

\*Respondents were instructed to select as many items as applicable

**Table 4 -** Reporting of violence and reasons for not reporting by health care professionals at 2 public hospitals in Riyadh city between May and July 2011.

Aspects	Frequency	
	n	(%)
<i>Reported violence events (n=258)</i>		
Yes	166	(64.3)
No	92	(35.7)
<i>To whom violence was reported (n=166)*</i>		
Direct supervisor	100	(60.2)
Colleagues	43	(25.9)
Hospital Management	40	(24.1)
Others†	33	(19.9)
<i>Reasons for not reporting violence (n=92)*</i>		
Feel it as part of job	56	(60.9)
Previous experience of no action	25	(27.2)
Feeling fear of consequences	10	(10.9)
Others	22	(23.9)

\*Respondents were instructed to select as many items as applicable, †others included formal reports made to other authorities or police

had less years of experiences in the health sector, nurses, and worked in outpatient departments. In the final multivariate-adjusted odds ratios model, only 3 factors remained significantly associated with exposure to work violence. In particular, male respondents were approximately 4 times more likely to be exposed to work violence than females. Respondents who had less years of experience in the health sector were 2 times

more likely to be victims of violent episodes than those who had higher years of experience ( $p < 0.001$ ). Finally, nurses were 5.6 times more likely to encounter work violence than physicians.

Table 3 shows that the most common type of violence encountered by respondents in the past 12 months was verbal and reported by the vast majority of respondents. Physical assault was reported by 12% of respondents only. The results revealed that patients' relatives/friends or visitors were the primary source of all forms of violence combined and identified by more than 70% of respondents. Approximately 60% of the study sample indicated that patients' themselves were the major source of violence. Approximately 14% of respondents indicated that they encountered violent incidents from their co-workers in hospitals.

When victims of violence ( $n=258$ ) were asked whether they reported the violent episodes, 166 (64.3%) replied in the affirmative. Of these, more than 60% indicated they reported such incidents to their direct supervisors, more than 25% reported the episodes to their colleagues and a similar percentage (24.1%) of respondents indicated reporting the events to their hospital management. Approximately 20% reported the violent acts to "other" people, including authorities or police (Table 4). Those who did not report violent incidents were requested to identify their reasons for "not reporting" such incidents. Of these, approximately 61% regarded it as "part of their job" and more than a quarter indicated they did so because of "previous experience of no action". Those who gave "feeling fear of consequences" as a reason for not reporting constituted approximately 10%. Respondents cited "other" reasons for not reporting and included: "lack of evidence on the violent incidents" "the violence was minor", "the perpetrator apologized" and feel that reporting the incident might be viewed as a result of "poor job performance".

Respondents who were exposed to violent incidents were asked further to identify the causes of such events. A list of possible causes was offered, and respondents could select any that applied. Over half of respondents reported that "excessive waiting time" for examination was the main reason for violent episodes. The second most often cited reason was "shortage of staff" and reported by more than one-third of respondents, followed by "unmet patients' demand" and indicated by 38% of respondents. Respondents reported other reasons of violence, including poor organization of work, overcrowding, patients' health problems, and work overload. Just below 10% of respondents reported causes of violence that were perpetrated by colleagues or supervisors (Table 5).

**Discussion.** In this study more than two-thirds of respondents experienced some form of violence in the year before the survey. Studies conducted in developed<sup>18-22</sup> and developing<sup>23-26</sup> countries vary in their estimation of the volume of health workers who exposed to violent acts. Comparing the results reported here with those from other countries is difficult because of differences in the definition of violence and the methodologies used. However, the fact that more than two-thirds of respondents were exposed to violence may question the availability of violence prevention programs and security measures in the Saudi public hospitals.

The bivariate and logistic regression analyses revealed that nurses were overwhelmingly more likely to be exposed to violent events than physicians. These results are in line with previous research<sup>5,6,9,27</sup> and probably not surprising as nurses comprise one of the largest groups in the health care professions,<sup>28</sup> they provide 24-hour care and they have direct contacts with patients. However, the fact that more than three-quarters of nurses had experienced aggressive or violent events in the past year is alarming and may have an implication for occupational health.

In this study, male respondents were more likely to experience violent acts than females. The evidence on whether a worker's gender poses a risk for being assaulted is contradictory. While some researchers<sup>29</sup> reported that men experience violent events more significantly than women,<sup>30,31</sup> others ascertained the opposite and reported that women, particularly nurses, are more likely to encounter violence and aggressive behavior than men. In fact, other authors reported that there was indifference in the overall frequency of verbal and physical violent events between health staff according to their gender.<sup>32</sup> The results emerged from this study indicated that respondents with less job experience were at higher risk rates of violence. This finding is contradicted by other studies<sup>33,34</sup> where students nurses are less exposed than nurses to physical violence. However, the association between job experience and violence is probably a spurious one. For example, recent employees may be put to work in the most uncomfortable and hazardous places, such as first aid and wards with elderly people.

The present study did not attempt to quantify the exact number of violent incidents encountered by respondents. However, in this study, verbal violence was the most common sort of violence encountered by the vast majority of respondents, which is consistent with the previous research.<sup>15,16</sup> Despite the fact that only 10% of respondents were exposed to physical violence, such behavior is annoying and warrants further investigation in order to determine triggering factors and measures

of prevention. In this study, respondents who reported exposure to violence during the past year were asked to identify their aggressors. The overwhelming majority of perpetrators of violence were the patients' relatives/friends or visitors, followed by the patients themselves. A factor that might have contributed to this finding in Kingdom of Saudi Arabia is that when someone becomes ill, relatives and friends act as if they also were patients and go to the hospital. These results are similar to those reported in the literature, which indicated that when people are exposed to critical health conditions and are transferred to hospitals for medical intervention, they and their relatives or friends have high levels of stress and feelings of anger and frustration which in turn, might be manifested in the use of violence against others, possibly healthcare providers.<sup>26,35</sup> This study provides evidence that approximately 10% of respondents were exposed to violent incidents that were exclusively created by colleagues or supervisors. This is contrary to expectations, and a matter of concern. Ideally, hospitals should be free from violent threats and workers should work in a cooperative manner that provides a safe environment for both the patients and the co-workers themselves. However, it has been reported that medical staff may be responsible for emotional, verbal, and physical abuse against each other.<sup>36,37</sup> In this study, respondents indicated that "excessive waiting time", "overcrowding", "unmet patient's demand" and shortage of staff were the most triggers for violence in their hospitals. Reasons for not reporting violent incidents included: "feel it is part of job", "previous experience of no action" and "feeling fear of consequences". These results are similar to those identified in the literature.<sup>35,38</sup> Further research is needed to minimize both causes of violent events and their under-reporting.

This study had several limitations. First, the study was limited to violence exposure in public hospitals. Nevertheless, the findings have implications for private hospitals as well. Second, due to time and financial constraints, the present study was limited to 2 hospitals only. Therefore, the results cannot be generalized to other hospitals in Saudi Arabia. Finally, the results were based on self-reported data; and accordingly they are subject to recall bias. Using more objective data is recommended to further explore this topic. Nonetheless, this study provides a preliminary investigation of the violence episodes against health care providers in the Saudi context and may pave the way for further research. Future research should take into account the concerns and limitations reported in this study.

In conclusion, the risk of workplace violence is a significant occupational hazard facing health

professionals, particularly those who have frequent contact with patients or their guardians. Violence has a negative impact on patient care and health professionals' performance. If appropriate strategies for preventing such behavior are to be developed, comprehensive research involving additional health care workers and facilities is required.

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