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Original Research Article

The magnitude and determinants of workplace violence among family medicine residents at the joint program of Family Medicine in Jeddah, Saudi Arabia 2020

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ABSTRACT

Background: Workplace violence is a universal problem across all hospitals. Very few studies have reported violence incidents faced by residents during their residency. This study aimed to quantity family medicine resident's exposure of workplace violence and its consequences.

Materials and Methods: A cross-sectional study was conducted among family medicine residents of joint program of Family medicine in Jeddah, Saudi Arabia in 2020. A structured questionnaire consists of demographic data, occupational history and reporting of violence was used to collect data. Out of total 180 family medicine residents were, 155 had participated in study. Data were analyzed using SPSS 26.0 version statistical software.

Results: Out of 155 residents, there were 57(36.8%) were male subjects. The mean (SD) age of residents was 28.3(2.5) years. Self-reported prevalence of workplace violence during their residency training period was 46.5%. And there is no significant association between exposure to workplace violence and resident's gender (p=0.873), marital status (p=0.595) and level of residency (p=0.268). Verbal abuse was faced by 69(82.1%) residents. Overcrowding, long waiting time, reaction to injury and misunderstanding were causes of violence. Only 23(31.9%) of residents had reported violent incidents to their supervisors.

Conclusions: Workplace violence has become a routine and significant problem in all hospitals where physicians, residents, interns and nurses are victims. A high prevalence of violence together with underreporting indicates inadequate role of administrative machinery to provide measures for the safety of health care workers. Providing training for residents in best working practices and proper methods of resolving conflicts could reduce the incidents of workplace violence.

1. Introduction

Violence at working places is very much prevalent in almost all institutions across all countries dealing with general public besides health workers in hospitals. Health institutions and hospitals have high incidence of work place violence because it provides services which relates to emotional aspect of patients and their family members. The sense of dissatisfaction among patients occurs when they have the perception of less care and service on the behalf of doctors and health care providers. This leads to violence either in the form of physical retaliation or verbal abuse.[1] Workplace violence in the health care sectors is defined as the incidents where health care workers are abused, threatened or assaulted in their working places. The WHO definition of workplace violence includes physical violence and psychological violence.[2] Physical violence consists of hitting, kicking, shooting, barring, pushing, biting, sexual harassment and rape. Psychological violence is an intentional act against a person or a collective force that results in physical mental, spiritual, moral and social damage that includes verbal abuse, threats, insult, and harassment.[2] Healthcare workers including physicians are at high risk of workplace violence and aggression. Physical

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violence or verbal aggression may cause psychological effects and harm among physicians, interfering with their professional performance at work and leading to job dissatisfaction, intention to leave and increasing stress and anxiety among them, and all of these consequences could affect the quality of care during their work. Health care workers in particular are at high risk of workplace violence, they have 16 times risk of workplace violence more than other service workers have.[3]

Several studies have reported the prevalence against Health care workers. But there were differences in assessing the pattern of violence, definition of violence and type of health care workers. In a survey from different regions in US, it was reported that 74% of the Health care workers experienced workplace violence occasionally, 2% always and 19% frequently.[4] In a cross sectional survey of Health care workers of 19 hospitals in Japan, it was observed that a prevalence of 36% workplace violence by patients and their companions.[5] Moreover, a cross sectional study among health care professionals in Saudi public hospitals found that 67.4% of healthcare workers were victims of violence.[6] Furthermore healthcare workers will face workplace violent events at least once during their careers.[7] It can be observed that, annual prevalence of work place violence against all health workers in the general hospitals of many countries has been high, although these data are difficult to compare.[8–11] Most studies reported that non-physical violence, in the form of psychological violence or verbal abuse, is the most frequent type of aggression in all health care settings. The work place violence which was reported varied according to the type of violence where verbal threat was the most common form, with a frequency range between 19.6% and 98.6%, which was three to six times higher than physical violence.[12]

In Middle East region number of studies examined the workplace violence of health care workers. In a cross-sectional study done in Egypt, where 970 nurses of four hospitals and 12 primary health care centers had participated, 28% reported at least one type of violence.[13] In another cross-sectional study done in Jordon, among 227 nurses working in emergency departments it was shown that 76% of the nurses were exposed to at least one type of violence.[14] In a similar study among 240 health care workers of five public hospitals in Palestine, it was found that 80% of the health care workers were exposed to at least one type of violence.[15]

In Saudi Arabia, there was difficultly in estimating the magnitude of the Work place violence due to lack of reporting and other factors. In a cross-sectional study across 12 family medical centers in Riyadh, it was found that 45.6% of 270 health care workers experienced some sort of violence during the 12 months prior to the study.[16] In a self-reporting questionnaire study in Al-Hassam of 1091 primary health care professionals revealed that 28% suffered from workplace violence.[17] A cross-sectional study at King Fahd Hospital showed that 30.7% of 391 nurses were exposed to verbal abuse.[18] In another cross-sectional study which was carried out in Riyadh among 600 physicians and nurses it was found that 67.4% were exposed to workplace violence, and that nurses were more susceptible than physicians.[19] In the study of Emergency Departments of 3 hospitals in Riyadh, 89.3% of 121 nurses experienced a violent incident in the 12 months prior to the study.[20] In another study of Emergency departments in Taluk, 90.7% of 129 had history of workplace violence.[21]

The literature indicated about the factors which were contributing to the workplace violence against health care workers are either related to offenders, colleagues and the workplace environment. The most significant factors reported in different studies towards patients were mental health disorders such as schizophrenia, anxiety, acute stress reaction, dementia, suicidal ideation, alcohol and drug intoxication, male gender, and older age, being a victim of violence, and having access to firearms. Factors related to health care workers included serving volatile patients in emergency departments and psychiatric units, under-staffed working conditions, working alone, and long working hours. Factors related to the workplace included long waiting times for getting service, overcrowded conditions, uncomfortable waiting rooms, poor environmental design, and poorly lit corridors, rooms, parking lots, and unrestricted movement of the public, inadequate security and lack of surveillance video cameras, lack of staff training, and lack of policies for preventing and managing violence.[22,23]

This study was carried out to measure the prevalence and pattern of workplace violence and its associated factors among the family medicine residents of the joint program of Family Medicine in Jeddah, Saudi Arabia. Also to assess family medicine residents perceptions towards workplace violence.

2. Materials and Methods

An observational cross-sectional study was conducted among the family medicine residents level1 to level 4 (R1-R4) at the joint program of Family medicine in Jeddah, Saudi Arabia during Jan. to June 2020. A structures questionnaire which consists of demographic data, occupational history and reporting of violence was used to collect the data. Using a prevalence of violence exposure, 67% among health care workers in Saudi Public hospitals,[4] with a precision of $\pm 7\%$, at 0.05 level of significance the required sample size will be 173. As the total number of residents are 180, consecutive non-sampling was used to select the residents. All residents were approached through mobile phone numbers and email ids. Upon their willingness to participate in the study an electronic questionnaire was distributed and responses were obtained. The Institutional Ethics Committee has approved

the study. All data were kept confidential and used only for purpose of research. Informed consent was obtained from all the Residents. Data were analyzed using SPSS 24.0 version statistical software (IBM Inc., Chicago, USA). Descriptive statistics (mean, standard deviation, frequencies and percentages) were used to describe the study and outcome variables. Pearson's Chi-square test was used to test and measure the association between the categorical study and outcome variables and to compare the distribution of categorical responses. A p-value of ≤ 0.05 was used to report the statistical significance of results.

3. Results

Out of the 155 family medicine residents, there were 98(63.2%) female residents. The mean age of residents was 28.3 years. More than 95% of them were Saudi nationals and 67 (44.4%) of them were married. The level of residency was evenly distributed across the 4 years (R1 to R4). (Table 1)

Table 1: Characteristics of Family Medicine Residents (n=155)

Characteristics	**No. (%)**
Age in years (Mean & Sd.,)	28.3(2.5)
Gender	
Male	57(36.8)
Female	98(63.2)
Nationality	
Saudi	150(96.8)
Non-Saudi	5(3.2)
Marital status(n=151)	
Single	84(55.6)
Married	67(44.4)
Residency level	
R1	33(21.3)
R2	39(25.2)
R3	44(28.4)
R4	39(25.2)

The residents were asked to respond the statements related to their exposure of education in management of conflict situations, where 58.1% of them had responded positively that they were able to manage a conflict situation which is statistically significantly higher proportion (p<0.0001). Only 30.3% of them agreed that they had taken lectures/ workshops about conflict management during their family medicine residency program which is statistically significantly lower proportion (p=0.028). And 71% of them had contradicted that they did not take any lectures or workshops about de-escalation techniques during their family medicine residency program which is a higher proportion and statistically significant (p<0.0001). (Table 2)

Also the residents were asked to respond the statements related to violence reporting, where 47.1% of them had responded that there is a system for reporting violence in the current rotation/course and the remaining residents had responded as 'no' and 'I don't know' (p<0.0001) and only 18.1% of them had mentioned that they know how to use the system of reporting which is statistically significantly lower proportion out of 155 residents (p<0.0001). And there is no statistically significant (p=0.556) difference in the three option (yes, no and I don't know) responses for the statement 'Is there encouragement to report violence event ?' About 40.6% of them had agreed that if there is a system of reporting, it will be effective and 45.8% of them had responded as 'I don't know' which is statistically significant (p<0.0001). The prevalence of workplace violence during their residency was obtained by asking the statement "did you face any kind of workplace violence (verbal or non-verbal) during your residency", where the 72(46.5%; 95% CI: 38.46% to 54.68%) residents had responded positively and the remaining 83 (53.5%) had mentioned as 'no', where these binary responses were not statistically significant (p=0.377).(Table 2)

From the 72 residents who had faced the workplace violence during their residency were asked about the place, time and type of violence. The responses were quantified as multiple responses. The outpatient (58.3%) & Emergency department (45.8%) were the places where the violence had occurred, and 54(75%) residents had mentioned that the violence had occurred in Ministry of health sector during their training followed by 12(16.7%) at Armed forces of medical services sector. Most the residents had faced verbal violence (82.1%) and the incidence of violence has happened in morning shift (66.7%), whereas 71(98.6%) residents had mentioned that violence incidence has happened in inside health institution facility. About the characteristics of persons who were involved in violence, majority of them male(72.2%), 59.7% of them in age group of 21-45 years, 66.7% of them patients themselves, 26.4% were companions and remaining 23.6% of them were Doctors who were involved in workplace violence. Towards the reaction to violent event, 51.4% of residents had done nothing, whereas remaining had reported to their supervisor (31.9%), consulted their colleague or friend (19.4%). (Table 3)

Also the affected residents were asked to their perceptions towards the reasons for reporting violence incidents, cause of incidents and consequences of violent incidents in working places, where 27.5% of them felt that 'it is not important to report about the violent incident, 29.4% of them did not know who to report and 29.4% of them felt it was useless. Towards the cause of violence events, 47.2% of residents felt that it was due to 'lack of punishment for offender', 40.3% of them as 'overcrowding', 37.5% as 'long waiting time' and 34.7% of them felt that it was due to misunderstanding with the patients. For the consequence of violent event, 60% of affected residents had done 'nothing' and 27.1% had a consequence of 'decrease in their working performance. (Table 4)

Table 2: Distribution of Family Medicine resident's responses towards exposure of education in management of conflict situations, violence reporting and prevalence of facing working place violence

Statements	No. (%)	χ^2 -value	p-value
In general, do you think you are able to manage a conflict situation?			
Yes	90(58.1)	69.84	<0.0001
No	6(3.8)		
Certain	59(38.1)		
During family medicine residency program did you take any lectures or workshops about conflict management?			
Yes	47(30.3)	7.17	0.028
No	67(43.2)		
I don't remember	41(28.5)		
During family medicine residency program did you take any lectures or workshops about de-escalation techniques?			
Yes	11(7.1)	103.91	<0.0001
No	110(71.0)		
I don't remember	34(21.9)		
Is there a system for reporting violence in the current rotation/course?			
Yes	73(47.1)	33.69	<0.0001
No	18(11.6)		
I don't know	64(41.3)		
If available, do you know how to use the system of reporting?			
Yes	28(18.1)	16.73	<0.0001
No	67(43.2)		
I don't know	60(38.7)		
Is there encouragement to report violence event?			
Yes	58(37.4)	1.17	0.556
No	49(31.6)		
I don't know	48(31.0)		
If there is a system, do you think it is effective?			
Yes	63(40.6)	27.92	<0.0001
No	21(13.5)		
I don't know	71(45.8)		
Did you face any kind of workplace violence (verbal or Non-verbal) during your residency?			
Yes	72(46.5)	0.78	0.377
No	83(53.5)		

Data did not provide any statistically significant association between the prevalence of workplace violence and the family medicine resident's gender (χ2=0.025, p=0.873), marital status (χ^2=0.282, p=0.595) and their level of residency (χ^2=3.94, p=0.268).

4. Discussion

Health care workers and doctors were having an occupational health hazard in the form of working place violence. This study among family medicine residents had found that most of them did not have any exposure to any lectures/workshops about conflict management also about de-escalation techniques. And most of the residents were not aware of presence of any system of reporting violence in their current rotation, even if available most of them do not know how to use the system of reporting. Our study revealed a self-reported prevalence of 46.5% workplace violence (verbal and non-verbal) by resident doctors of family medicine during their residency period. This prevalence is much less than that reported by Ori et al. in India[24] where 78.3% of postgraduate students had faced at least one form of violence during their entire

Table 3: Distribution of responses towards place, time, type & characteristics of persons involved in workplace violence with Family medicine residents (n=72)

Items	No. (%)*
Department where violence happened	
Inpatient	23(31.9)
Outpatient	42(58.3)
ER	33(45.8)
Other place	2(2.8)
Sector of training where violence event happened	
Ministry of health	54(75)
Armed forces of medical services	12(16.7)
Joint program of FM(course)	3(4.2)
KFSH & RC	1(1.4)
Private sector	6(8.3)
University hospital/clinics	9(12.5)
What type of violence did you face?	
Physical	6(7.1)
Verbal	69(82.1)
Intimidation	9(10.7)
When was the incidence happened?	
Morning shift	48(66.7)
Evening shift	20(27.8)
Nigh shift	11(15.3)
I don't remember	9(12.5)
Gender of the offenders	
Male	
Female	52(72.2))
Age of the offender	40(55.6)
<=20	10(13.9)
21-45	43(59.7)
>45	34(47.2)
Person who attacked	
Patient	48(66.7)
Companion	19(26.4)
Doctor	17(23.6)
What was your reaction to violent event?	
Nothing	37(51.4)
Report to supervisor	23(31.9)
Request to move from that department	2(2.4)
Consult colleague or friend	14(19.4)
Report to police	1(1.4)
Other	7(9.7)

*Multiple responses

residency period. The difference in the prevalence could be due to the duration of exposure, different definition of workplace violence and different geographical location. However, the findings of our study slightly higher with the study conducted by Newman et al. In Uganda where 39% of health workers reported experiencing at least one form of workplace violence in the previous 12 months.[25] Among the three types of violence (Physical, Verbal & Intimidation) in our study, verbal violence (82.1%) was the most common form of violence. This finding too is consistent with other studies.[24,26] No significant association was observed between workplace violence and gender of residents. Our findings contradict to those findings by Katonah and Hamad from Palestine[27] reported that gender was an influencing factor associated with workplace violence.

In our study, about 75% of residents faced violence while they were working in the Primary care clinics related to Ministry of health hospitals. But many studies have found that the emergency department and its doctors would have violent environment.[14,20,21] In these departments the doctors and health care workers face patients who are critically ill and accompanied by family members who are anxious and stressed. Hence, they are more susceptible to

Table 4: Distribution of Family medicine resident's perceptions towards aftermath (reasons & consequences) of violent incidents in working places

Items	No (%)*
Reasons for not reporting about the violent incident (n=51)	
It is not important	14(27.5)
Felt shamed	2(3.9)
Felt guilty	1(2.0)
Afraid of negative consequences	8(15.7)
Did not know who to report	15(29.4)
Did not know how to report	1(2.0)
Useless	15(29.4)
Other	4(7.8)
Cause of violent event(n=72)	
Unmet service demand	14(19.4)
Lack of punishment for offender	34(47.2)
Overcrowding	29(40.3)
Long waiting time	27(37.5)
Misunderstanding	25(34.7)
Reaction to injury	1(1.4)
Others	1(1.4)
Consequence of violent event(n=70)	
Nothing	42(60)
Absenteeism	3(4.3)
Injury need medical care	2(2.9)
I was punished	1(1.4)
Decrease performance work	19(27.1)
Felt ashamed or guilty	8(11.4)
Others	5(7.1)

*Multiple responses

aggression and violence if they feel that the patient was not treated well. Our results shows the patients, companions and Doctor were involved in the violence, where 23.6% of residents had faced violence at the hands of their co-workers, which is a concerning factor for the hospital administration. The reasons could be due to low job satisfaction and unknown factors, where this study could not explored. Evidence suggests that Surgeons, psychiatrists, emergency physicians, anesthesiologists and internists are often victims of violence,[26] but our study indicates even Family medicine residents are vulnerable to working place violence.

Work-related violence which was faced by health care workers and doctors usually results in short- and long-term effects on the victims' physical, psychological state and professional performance[27,28] Adverse consequences of violence in our study was found to be decrease performance work in 27.1% residents and felt ashamed or guilty by 11.4% residents. Working place violence has been associated with reduced productivity, increased turnover, absenteeism, counselling costs, decreased staff morale and poor quality of life.[29] Hence, there is a need to introduce policies and measures to stop violence in the health sector. In general working place violence is an under-reported phenomenon.[26] In our study too, only 23 out of 72 residents had reported the event of violence to their supervisors. And remaining residents who did not report considered as It is not important, Felt shamed, Felt guilty, Afraid of negative consequences, Did not know who to report, Did not know how to report and useless. This highlights the need to encourage the proper mechanism of reporting of violent incidents among distressed workers and to develop organized mechanisms for speedy measures to avoid such events.

Regarding characteristics of treating doctors who faced workplace violence, our study did not find any associated factors such as gender, age, marital status and level of residency. Patient characteristics who involved in violence were male(72.2%) and of were in age above 20 years (86.1%) but could not find other factors such as intoxication and mental health problems as reported in other studies.[30] Other factors which leads to violence, our study found that unmet service demand, misunderstanding and reaction to injury. Besides overcrowding and long waiting time were also the contribution factors towards the workplace violence.

Our study indicates that the workplace violence exists, and its prevention is fundamental. The institutions must provide training for the resident doctors in good working practices which have effective communication and system

of reporting violent incidents so as to resolve the conflicts situations. It was found there is nonexistence of policy for reporting, investigating the cause and prosecuting the offender. In most of the residents who had conflicts, their responses to the incident were found inappropriate due to multiple reasons. The reasons of violence due to variables of working place indicates the need for changes in health care settings which include decision-making procedures (such as reducing waiting time & providing proper time bound services) work climate and support among colleagues.

5. Conclusion

Workplace violence is a common phenomenon and in most of the health care facilities there is no system of reporting and its prevention. Even if there is a system in some of the settings, there is wide spread ignorance among the residents which lead to under reporting. Most of the verbal aggression experienced by our family medicine residents particularly in Ministry of health hospitals were due to poor communication, long waiting period, over-crowding and clinical issues (unmet services) arising from patient care. Providing training during residency rotations in good working practices with effective communication and having system of resolving conflicts could be considered as the way to reduce the likelihood of happening workplace violence. A strong, positive and continuous commitment is required by the residents, their supervisors and management to counter the workplace violence.

6. Limitations

This study was conducted only among the residents of Family medicine in Jeddah (KSA) region with limited sample size and the results could not be generalized to the other residents. There is a possibility of recall bias as the study used a questionnaire to collect the incidents of workplace violence. As most of the information is self-reported where the data was collected from residents perspective and not verified from the administrative records and also patient's perceptive was not considered.

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8. Conflict of Interest

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