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### RESEARCH ARTICLE

## FACTORS INFLUENCING VIOLENCE EXPERIENCED BY MEDICAL STAFF IN PRIMARY HEALTH CARE CENTERS, TAIF CITY.

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### Abstract

**Background:-** Health care workers are ranked as one of the most vulnerable groups experiencing violence and aggressive behavior compared to other occupational groups.

**Objectives:-** To estimate the prevalence rate, characteristics and assessing the avoidance measures, notification of the violence among medical staff working in primary health care centers in Taif city.

**Subject and methods:-** A cross-sectional study design was applied among all physicians and a representative sample of nurses working in primary health care centers, affiliated to the Ministry of Health (MOH) in Taif city. A predesigned Arabic/English validated self-administered questionnaire was used.

**Results:-** In this study 56 physicians and 145 nurses responded giving a response rate of 77.6%. Their age ranged between 25 and 60 years ( $36.2 \pm 8.2$ ), 59.7% of them aged between 25 and 35 years. Males represent 55.7% of them. More than half of them (52.2%) were Saudis. Prevalence of workplace violence was 30.3%. Verbal abuse was the commonest reported type (86.9%). Absence of security, training on the procedures that must be followed and special uniform at workplace was significantly associated with workplace violence. We concluded that, workplace violence is a significant problem facing a considerable proportion of HCWs in primary health care centers in Taif, Saudi Arabia. Most violence incidents were verbal.

**Conclusion:-** Findings of this study revealed that HCWs who were dealing with male patients only were at high risk of workplace violence and absence of measures to avoid workplace violence particularly security, training on the procedures that must be followed and special uniform at workplace was significantly associated with workplace violence.

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## Introduction:-

Health care workers are ranked as one of the most vulnerable groups experiencing violence and aggressive behavior compared to other occupational groups (Jansen et al., 2005, and Magin et al., 2005). The ILO (2002) stated that “while workplace violence affects practically all sectors and all categories of workers, the health sector is at major risk” (International Labor Office, 2002).

Violence is defined as “the intentional use of force that makes threats to individuals or groups, which may result in injury, death, or psychological harm” (World Health Organization, 2002). One of the most difficult situations that health care providers face is being threatened or physically harmed by their patients, or by patients’ relatives, or even by their colleagues (Ayranci et al., 2006). 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 (Merecz et al., 2006). 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 (Adib et al., 2002).

Violence has several bad outcomes as it may 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 (Needham et al., 2005).

Workplace violence can be physical, sexual or psychological in nature and can be actual or threatened (Mohamad and Motasem, 2012).

Bullying, harassment, and violence are more prevalent in the health sector than any other sector, with 54.4% taking place in the hospital due to some situations such as long bureaucracy in service delivery and lack of needed materials in the facility (Ogbonnaya et al., 2012 and Aytac et al., 2009). Patients and clients themselves may have personality and behavioral issues such as alcoholism and drug abuse while some hospital members of staff have poor attitude and approach in relating with patients (Samir and Moustafa, 2012). Furthermore, patients are usually under stress and in pain or are financially handicapped and so they transfer their aggression to health workers (Aytac et al., 2009). Aggression may be more serious at the accident and emergency unit (Magnavita and Heponiemi, 2012). Policy and procedure addressing workplace violence in the healthcare setting has been documented in many developed countries (Magnavita, and Heponiemi, 2012), but is almost non-existence in developing countries. Many violence and harassment against the health professionals go often unreported officially (Ferns, 2006 and Pawlin, 2008).

Despite the high frequency of violence towards medical staff working at primary health care centers, there remains a lack of adequate research evidence about the issue.

The aim of this study to investigate the problem of work-related violence against medical staff (physicians and nurses) working in Primary health care centers in Taif city.

## Subjects and Methods:-

A cross-sectional study design was applied in primary health care centers, affiliated to the Ministry of Health (MOH) in Taif city. It is a city in the Mecca Province of Saudi Arabia at an elevation of 1,879 m (6,165 ft.) on the slopes of the Sarawat Mountains. It has a population of  $\approx 1,200,000$  (General Census of Population and Housing in 1436 AH) (Central Department of Statistics and Information, 2015). The total numbers of primary health care centers (PHCCs) are 113 centers which are divided into urban and rural centers. Nineteen of these centers are located inside the Taif city and distributed on four administrative sectors.

All medical staff (physicians and nurses) working in PHC centers inside Taif city (MOH) at the time of study conduction were eligible for inclusion in the study. Using recent data is from the database system of primary health care directory, MOH in Taif city: For physicians: the total number of 89 physicians working in 19 primary care centers while for nurses: the total number of 305 working in 19 primary health care centers. Regarding physicians: all of them were invited to participate in the study while for nurses, using Roasoft Online sample size calculator, (Online Raosoft sample size calculator) putting into consideration that the expected proportion of outcome is 54.3% as reported by Mohammed in a study conducted among nurses in Riyadh (Mohamed, 2002;

51-56) and the worst accepted proportion was  $\pm 5\%$  and the level of confidence is 95%, sample size was estimated to be 170. This sample size constituted almost 55.7% of the nurses working in PHC centers, MOH in Taif city. For nurses, 10 PHC centers were selected through a simple random technique and all nurses working in these centers were recruited in the study till we reached the required sample size.

A predesigned self-administered questionnaire distributed to all working physicians and nurses in the selected PHC centers. The questionnaire includes demographic data of the respondents, workplace characteristics, prevalence of violence events during the previous 12 months, risk factors contributing to workplace violence, personal opinions, perceptions, attitudes, experiences and recommendations concerning the subjects' workplace violence (International Labor Office, 2003). It is in Arabic and previously validated and tested for reliability (Abbas, et al, 2010). The used questionnaire was valid and reliable since it was mainly developed from the WHO survey questionnaire about violence in health care settings, and it used in many international, regional and local studies in many languages.

Permissions from the Research and Ethical Committee at King Abdul-Aziz University, Faculty of Economics and Administration, department of Health Services and Hospital Administration were obtained for conducting the study were obtained prior to study conduction. Acceptance to participate in the study was considered as consent.

Data were collected, reviewed, coded and entered into the computer. Data were presented in the form of frequencies and percentages for qualitative variables and mean $\pm$ standard deviation for continuous variables. Chi-squared test was used for comparing qualitative data. Statistical analysis was done using SPSS program version 20 where p-value at or below 0.05 was utilized as a cut-off for statistical significance.

### Results:-

Out of 259 targeted HCWs (89 physicians and 170 nurses) to be included in the study, 201 (56 physicians and 145 nurses) responded giving a response rate of 77.6%.

Table 1 presents socio-demographic characteristics of the participants. Their age ranged between 25 and 60 years ( $36.2\pm 8.2$ ), 59.7% of them aged between 25 and 35 years. Males represent 55.7% of them. More than half of them (52.2%) were Saudis. Most of them (76.1%) were married. The experience of work after graduation exceeded 10 years in more than half of them (53.7%).

**Table 1:-** Socio-demographic characteristics of the participants.

	Categories	Frequency N=201	Percentage
Gender	Male	112	55.7
	Female	89	44.3
Age in years	25-35	120	59.7
	36-45	58	28.9
	>45	23	11.4
Nationality	Saudi	105	52.2
	Non-Saudi	96	47.8
Marital status	Single	43	21.4
	Married	153	76.1
	Divorced	5	2.5
Experience in years	$\leq 5$	37	18.4
	6-10	56	27.9
	>10	108	53.7

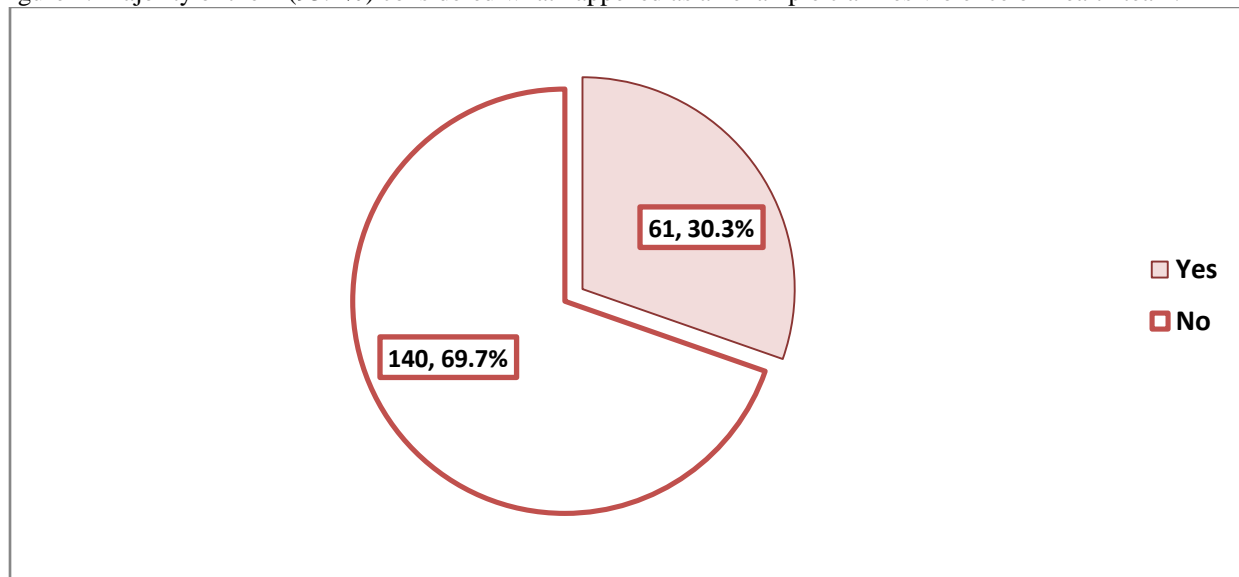
As demonstrated in table 2, 72.1% of the participants were nurses whereas the remaining 27.9% were physicians. Majority of them (98%) were dealing with patients. Adult, children and elderly patients were reported by 77.6%, 48.8% and 46.8% of them respectively as regards the patients' age. Concerning patients' gender, females, males and both represent 29.4%, 32.3% and 38.3%, respectively. Number of colleagues in work place ranged between one and five in 45.8% of them. The participants were asked to rate their worries about violence in their current work place on

a scale ranged between 0 (not worried) to 5 (extremely worried). The mean $\pm$ SD of the scale was 1.5 $\pm$ 1.3. More than one-fourth of them (29.4%) were not worried whereas only one (0.5%) was extremely worried.

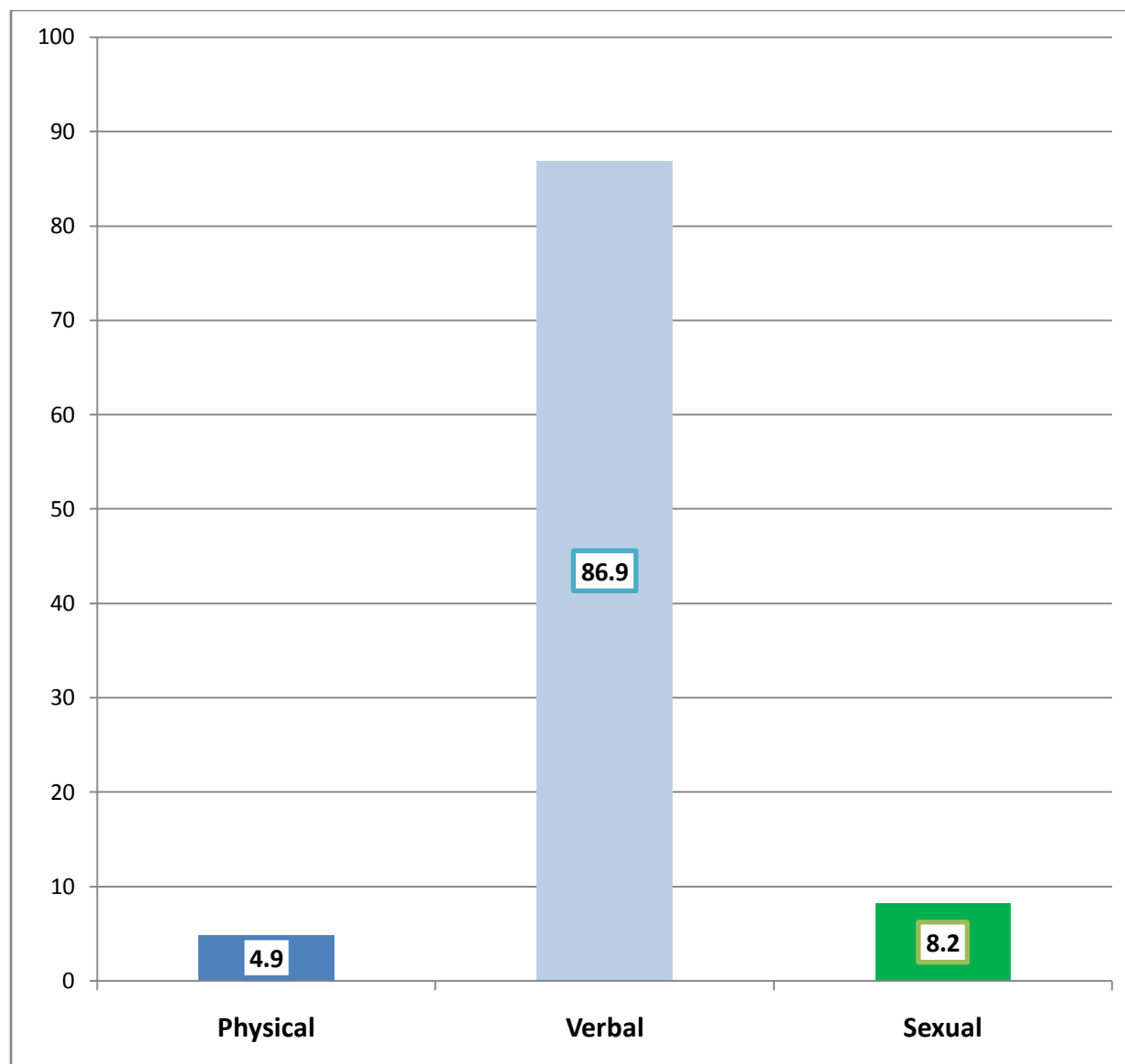
**Table 2:-** Work-related characteristics of the participants.

	Categories	Frequency N=201	Percentage
Job	Physician	56	27.9
	Nurse	145	72.1
Dealing with patients	Yes	197	98.0
	No	4	2.0
Patient`s age	Newborn	13	6.5
	Children	98	48.8
	Adults	156	77.6
	Elderly	94	46.8
Patients` gender	Female	59	29.4
	Male	65	32.3
	Both	77	38.3
Number of colleagues in work place	None	4	2.0
	1-5	92	45.8
	6-10	39	19.4
	11-15	66	32.8
Worries about workplace violence	None	59	29.4
	1	50	24.9
	2	40	19.9
	3	42	20.9
	4	9	4.5
	Extremely worried	1	0.5

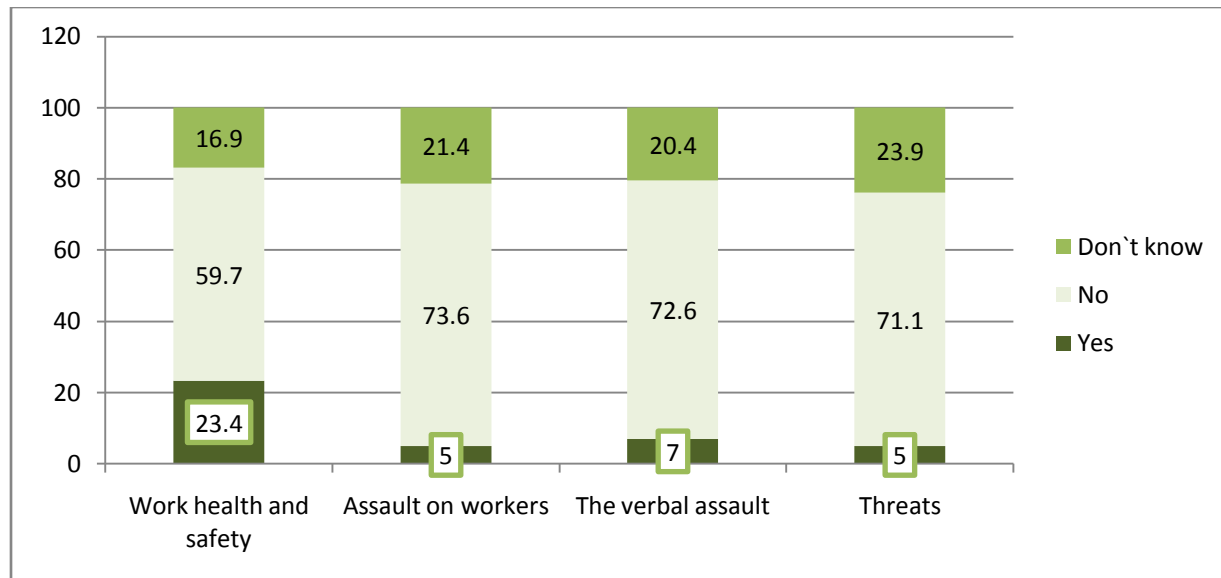
The presence of procedures for the reporting of violence in health care workers` work place was mentioned by 29.4% of the participants. Most of the participants (76.3%) were aware about using the system to notify on violence accidents. Almost two-thirds of HCWs, who were aware about using the system to notify on violence accidents (67.8%), were encouraged to report workplace violence. Majority of them (92.5%) were encouraged by the management. Prevalence of workplace violence among health care workers, primary health care centers, Taif city was 30.3% as obvious from figure 1. Verbal abuse was the commonest reported type of workplace violence (86.9%) whereas sexual and physical abuse were reported by 8.2% and 4.9% of the participants, respectively as evident from figure 2. Majority of them (93.4%) considered what happened as an example clarifies violence on health team.



**Figure 1:-** Prevalence of workplace violence among health care workers, primary health care centers, Taif city.



**Figure 2:-** Type of workplace violence against health care workers, primary health care centers, Taif city.



**Figure 11:-** Presence of any written or hanged procedures in work place related to violence against health care workers.

Table 3 describes the violent event. Majority of them were attacked by patients (86.8%), claimed that the incident took place in the workplace (91.8%), in the morning period (78.7%) and during the working days of the week (Sunday-Thursday) (77%). As regard the response to the incident, more than one-third of the victims (37.7%) told a special consultant, 21.3% told their mates and 18% told family members or friends whereas 16.4% of them did nothing. Only 6 victims (9.8%) filled a form of assault notification. More than two-thirds of them (68.9%) claimed that the incident could have been prevented. All of them were not injured as a result of the incident and 14.8% of them took time-off from work after being attacked (few hours in all). Action taken to investigate the cause was reported by 34.4% of them. In majority of them (85.7%) investigation was done by the management. For those who did the assault, nothing done in 70.5% of them while oral warning was done for 21.3% of them and notifying the police was done for 5 of them (8.2%). More than half of the victims (57.4%) were severely dissatisfied toward the process after the assault. Regarding reason for not reporting the incident, almost two-thirds of them (67.2%) reported that there is no benefit to notify.

**Table 3:-** Characteristics of the violent event (n=61).

Questions	Responses	No.	%
Who attach you?	-Patient	53	86.8
	-Relative/patient's friend	4	6.6
	-Both	4	6.6
Where did the incident take place?	-In workplace	56	91.8
	-During going or coming back to work	1	1.6
	-Both	4	6.6
At what time did it happen?	-Morning period	48	78.7
	-Evening period	8	13.1
	-Night period	5	8.2
Which day of the week?	-Working days	47	77.0
	-Weekend (Friday-Saturday)	10	16.4
	-All days	4	6.6
Response to the incident*	-Nothing	10	16.4
	-told family/friends	11	18.0
	-Told supervisor	3	4.9
	-Asked him to stop	9	14.8
	-Told a special consultant	23	37.7
	-Told my mates	13	21.3
	-Filled form of assault notification	6	9.8

The incident could have been prevented	-Yes -No	42 19	68.9 31.1
Injury as a result of the incident	-Yes -No	0 61	0.0 100
-Time-off from work after being attacked	-Yes -No	9 52	14.8 85.2
-Any action taken to investigate the cause	-Yes -No	21 40	34.4 65.6
-Who investigated the incident	-Management -Mate	18 3	85.7 14.3
-The consequences for the person who did the assault	-Nothing -Oral warning -Notifying the police	43 13 5	70.5 21.3 8.2

\* More than one response is possible

**Table 3:-** Characteristics of the violent event (n=61). (Cont.)

Questions	Responses	No.	%
-Satisfaction toward the process after the assault	-Satisfied	1	1.6
	-2	3	4.9
	-3	10	16.4
	-4	12	19.7
	-Dissatisfied	35	57.4
-Reason for not reporting the incident	-It was not important	8	13.1
	-I felt embarrassed	5	8.2
	-I felt guilt	4	6.6
	-There is no benefit to notify	41	67.2
	-I don't know to whom I notify	3	4.9

\* More than one response is possible

Almost one-quarter of the health care workers has witnessed incident/s of violence at their workplace during the last year. In most of occasions (74.5%), this happened monthly.. Only five health care workers (4.6%) claimed that they were punished or blamed because of notifying an incident of workplace violence.

Among studied HCWs` socio-demographic and work-related characteristics, HCWs who deal with male patients were exposed to workplace violence more significantly compared to those deal with females or both genders (42.4% versus 32.3% and 19.5%, respectively,  $p=0.015$ ). Other factors (gender, age, nationality, marital status, experience, job, history of dealing with patients, patient`s age, and number of colleagues in workplace) were not significantly associated with workplace violence. Table 4

**Table 4:-** Association between health care workers` characteristics and workplace violence.

	Workplace violence		$X^2$	p-value
	Exposed N=61 N (%)	Not exposed N=140 N (%)		
<b>Gender</b>				
Male (n=112)	38 (33.9)	74 (66.1)	1.53	0.216
Female (n=89)	23 (25.8)	66 (74.2)		
<b>Age in years</b>				
25-35 (n=120)	37 (30.8)	83 (69.2)	0.98	0.613
36-45 (n=58)	19 (32.8)	39 (67.2)		
>45 (n=23)	5 (21.7)	18 (78.3)		
<b>Nationality</b>				
Saudi (n=105)	32 (30.5)	73 (69.5)	0.01	0.967
Non-Saudi (n=96)	29 (30.2)	67 (69.8)		
<b>Marital status</b>				

Single (n=43)	12 (27.9)	31 (72.1)		
Married (n=153)	48 (31.4)	105 (68.6)		
Divorced (n=5)	1 (20.0)	4 (80.0)	0.45	0.798
<b>Experience in years</b>				
≤5 (n=37)	12 (32.4)	25 (67.6)		
6-10 (n=56)	11 (19.6)	45 (80.4)		
>10 (n=108)	38 (35.2)	70 (64.8)	4.31	0.116
<b>Job</b>				
Physician (n=56)	21 (37.5)	35 (62.5)		
Nurse (n=145)	40 (27.6)	105 (72.4)	1.88	0.171
<b>Dealing with patients</b>				
Yes (n=197)	61 (31.0)	136 (69.0)		
No (n=4)	0 (0.0)	4 (100)		0.232*
<b>Patient's age</b>				
Newborn/Children (n=26)	8 (30.8)	18 (69.2)		
Adults (n=71)	19 (26.8)	52 (73.2)		
Elderly (n=19)	3 (15.8)	16 (84.2)		
Two or more (n=85)	31 (36.5)	54 (63.5)	3.85	0.278

**Table 4:-** Association between health care workers' characteristics and workplace violence (Cont.)

	Workplace violence		X <sup>2</sup>	p-value
	Exposed N=61 N (%)	Not exposed N=140 N (%)		
<b>Patients' gender</b>				
Male (n=59)	25 (42.4)	34 (57.6)		
Female (n=65)	21 (32.3)	44 (67.7)		
Both (n=77)	15 (19.5)	62 (80.5)	8.46	0.015
<b>Number of colleagues in work place</b>				
None (n=4)				
1-5 (n=92)	1 (25.0)	3 (75.0)		
6-10 (n=39)	30 (32.6)	62 (67.4)		
11-15 (n=66)	6 (15.4)	33 (84.6)		
	24 (36.4)	42 (63.6)	5.54	0.136

\* Fischer exact test

Presence of any written or hanged procedures in work place related to violence against health care workers was demonstrated in figure 3. . Work health and safety was present as cited by 23.4% of HCWs whereas assault on workers, the verbal assault and threats were present according to 5%, 7% and 5% of HCWs, respectively.

From table 5, security was present as mentioned by 10% of HCWs whereas presence of place organized and suitable for work was reported by 64.6% of them. Public not allowed to enter the work place, registered patients, families and friends enter to the place of work and special uniform for staff at work place were reported by 28.9%, 39.3% and 63.2% of the participants, respectively. Reduced periods of working alone, training on the procedures that must be followed and training on how to deal with others in work zone were mentioned by 21.9%, 35.3% and 41.3% of them, respectively.

**Table 5:-** Availability of measures to avoid violence at working setting according to health care workers

	Categories	Frequency	Percentage
Security	Yes	20	10.0
	No	176	87.5
	Don't know	5	2.5
Place organized and suitable for work	Yes	130	64.6
	No	51	25.4
	Don't know	20	10.0
Public not allowed to enter the work place	Yes	58	28.9



	No	123	61.1
	Don't know	20	10.0
Registered patients, families and friends enter to the place of work	Yes	79	39.3
	No	99	49.3
	Don't know	23	11.4
Special uniform for staff at work place	Yes	127	63.2
	No	53	26.4
	Don't know	21	10.4
Reduced periods of working alone	Yes	44	21.9
	No	87	43.3
	Don't know	70	34.8
Training on the procedures that must be followed	Yes	71	35.3
	No	98	48.8
	Don't know	32	15.9
Training on how to deal with others in work zone	Yes	83	41.3
	No	81	40.3
	Don't know	37	18.4

As shown in table 6, 10% of HCWs who reported presence of security at workplace compared to 33.5% of those who reported absence of security at workplace had a history of workplace violence. This difference was statistically significant,  $p=0.031$ . Thirty-one percent of HCWs who reported training on the procedures that must be followed to avoid violence and assault at workplace setting compared to 37.4% who had no such training experienced workplace violence with statistically significant difference,  $p=0.003$ . Thirty-nine HCWs (30.7%) who reported presence of special uniform for work staff at workplace setting compared to 37.7% who had no such uniform experienced workplace violence. However, this difference was borderline insignificant,  $p=0.058$ . Other measures (place organized and suitable for work, Public not allowed to enter the work place, registered patients, families and friends enter to the place of work, reduced periods of working alone and training on how to deal with others in work zone) were not significantly associated with workplace violence.

**Table 6:-** Association between workplace violence and measures to avoid violence at working setting.

	Workplace violence		$\chi^2$	p-value
	Exposed N=61 N (%)	Not exposed N=140 N (%)		
<b>Security</b> Yes (n=20) No (n=176) Don't know (n=5)	2 (10.0) 59 (33.5) 0 (0.0)	18 (90.0) 117 (66.5) 5 (100)	<b>6.94</b>	<b>0.031</b>
<b>Place organized and suitable for work</b> Yes (n=130) No (n=51) Don't know (n=20)	41 (31.5) 16 (31.4) 4 (20.0)	89 (68.5) 35 (68.6) 16 (80.0)	<b>1.13</b>	<b>0.570</b>
<b>Public not allowed to enter the work place</b> Yes (n=58) No (n=123) Don't know (n=20)	18 (31.0) 40 (32.5) 3 (15.0)	40 (69.0) 83 (67.5) 17 (85.0)	<b>2.52</b>	<b>0.284</b>
<b>Registered patients, families and friends enter to the place of work</b> Yes (n=79) No (n=99) Don't know (n=23)	20 (25.3) 37 (37.4) 4 (17.4)	59 (74.7) 62 (62.6) 19 (82.6)	<b>5.09</b>	<b>0.079</b>
<b>Special uniform for staff at work place</b> Yes (n=127)				

No (n=53) Don't know (n=21)	39 (30.7) 20 (37.7) 2 (9.5)	88 (69.3) 33 (62.3) 19 (90.5)	<b>5.68</b>	<b>0.058</b>
<b>Reduced periods of working alone</b> Yes (n=44) No (n=87) Don't know (n=70)	10 (22.7) 28 (32.2) 23 (32.9)	34 (77.3) 59 (67.8) 47 (67.1)	<b>1.56</b>	<b>0.459</b>
<b>Training on the procedures that must be followed</b> Yes (n=71) No (n=98) Don't know (n=32)	22 (31.0) 37 (37.8) 2 (6.3)	49 (69.0) 61 (62.2) 30 (93.8)	<b>11.35</b>	<b>0.003</b>
<b>Training on how to deal with others in work zone</b> Yes (n=83) No (n=81) Don't know (n=37)	23 (27.7) 27 (33.3) 11 (29.7)	60 (72.3) 54 (66.7) 26 (70.3)	<b>0.62</b>	<b>0.733</b>

### Discussion:-

Workplace violence towards health care workers has increased during the last decades with serious consequences that may extend beyond individuals to an entire health care organization (Ventura and Wilson, 2009).

In the current study, workplace violence was reported by 30.3% of HCWs (37.5% of physicians and 27.6% of nurses). In a study conducted by Algwaiz WM, Alghanim in Saudi public hospitals, (Algwaiz and Alghanim, 2012) more than two-thirds of HCWS experienced some form of violence in the year before the survey. Studies conducted in developed (Franz et al., 2010, Brock et al., 2009, Forrest et al., 2010) and developing (Abbas et al., 2010, Aydin et al., 2009, Rehmani, 2004) 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, variation in setting and population and the methodologies used.

The fact that almost one-third of HCWs were exposed to violence may question the availability of violence prevention programs and security measures in the Saudi primary health care centers and may have an implication on occupational health. O'Brien-Pallas et al., (2009) showed that workplace violence significantly increased the likelihood of HCWs' absenteeism, job dissatisfaction and poor physical and mental health and can negatively impact quality of care.

Contrary to several studies, (Merecz et al., 2006, Needham et al., 2005 and Erkol et al., 2007) the physicians were overwhelmingly more likely to be exposed to violent events than nurses despite the fact that nurses comprise one of the largest groups in the health care professions, they provide 24-hours care and they have direct contacts with patients. The conduction of this study in primary health care centers may explain this as physicians are in direct contact with patients as equal as nurses. Anyhow, the difference was not significant in the present study.

In this study, male respondents were more likely to experience violent acts than females, although not significant. HCWs who deal with male patients only were more significantly exposed to workplace violence in the present survey. The evidence on whether a worker's gender has a risk for being assaulted is contradictory. While some researchers (Gillespie et al., 2010) reported that men experience violent events more significantly than women, others ascertained the opposite and reported that women, particularly nurses, are more likely to encounter violence and aggressive behavior than men (Miedema et al., 2009 and Thomas et al., 2006). In fact, other authors in line with us reported that there was a difference in the overall frequency violent events between health staff according to their gender (Tolhurst et al., 2003).

Training on the procedures that must be followed to avoid violence at workplace and presence of security at workplace were significantly associated with avoidance of violence at workplace in the present study. Martino

(2007) noted that job security is always associated with risk of violence at work as supervisor support may decrease the amount of violence at work.

In the current study, verbal violence was the most common type of violence encountered by the majority of respondents, which is consistent with the previous research (Ayranci et al., 2006, Algwaiz, Alghanim, 2012, Abbas et al., 2010 and Carmi-Iluz et al., 2005). Despite the fact that only 8.2% of respondents were exposed to sexual violence and 4.9% were exposed to physical violence, further investigation is warranted 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 majority of perpetrators of violence were the patients themselves followed by relatives/friends or visitors. These results are similar to those reported in the literature (Algwaiz & Alghanim, 2012, and Khoshknab et al., 2012), 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 (Rehmani, 2004, and AbuAlRub et al., 2007). According to Kwok et al. (2006) patients and their relatives were the main perpetrators in all cases.

In the current survey, less than 10% of the respondents filled form of assault notification. Meanwhile, almost two thirds of those who did not notify reported that there is no benefit from notification. In addition, more than half of the victims were dissatisfied with procedures taken after the assault. In our study, about two-thirds of HCWs thought that violence attacks were preventable. According to Nachreiner et al. (2009) 81% of HCWs working in long term facilities reported that preventive or corrective measures were taken against possible work related assaults by themselves or their workers, while 46% of nurses at hospital wards perceived that their administrative took preventive or corrective action against assaults.

Among limitations of the present study its cross-sectional design which did not confirm the causality of the association between compared variables. The self-reported questionnaire utilized in this study is subjected to inaccurate reporting and misclassification bias. The study was limited to violence exposure in primary health care centers.

Nonetheless, this study collecting data on the nature of workplace violence in addition to identification of risk factors will help development of sound policies and practical approaches to address workplace violence in different health care sectors.

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