

Violence Against Primary Health Care Workers in Al-Hassa, Saudi Arabia

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This self-report questionnaire study was carried out in Al-Hassa, Saudi Arabia to highlight the magnitude, predictors, and circumstances of workplace violence against primary health care (PHC) workers. A total of 1,091 workers completed a self-administered questionnaire. About 28% were exposed to at least one violent event during the past year. Logistic regression analysis revealed that the most important predictors of violence are high education of workers (OR = 9.3), working in emergency clinics (OR = 6.8), and in Hegar (OR = 3.2). Emotional and physical violence accounted for 92.1% and 7.9% of violent events, respectively. Unmet needs of patients, overcrowding, and reaction to injury or illness were the leading contributing factors for violence. There is a need for violence prevention and control program in health care facilities.

Keywords: *workplace violence; primary health care; physical violence; psychological violence; Saudi Arabia*

Violence is a major social and public health problem. The World Health Organization (WHO) defined workplace violence as the intentional use of power, threatened or actual, against another person or against a group in work-related circumstances that either results in or has a high degree of likelihood of resulting in injury, death, psychological harm,

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maldevelopment, or deprivation (WHO, 1995). Although violence (either physical or psychological) directed at health care providers is reported as endemic occupational hazard (Whitly, Jacobson, & Gawryst, 1996), the real size of the problem is largely unknown, and recent surveys showed that the current figures represent only the tip of the iceberg (Goodman, Jenkins, & Mercy, 1994; International Labor Office [ILO]/International Council of Nurses [ICN]/WHO/Public Services International [PSI], 2003a).

The true incidence of violence in health care setting is difficult to estimate. Whereas physical violence at the workplace has been always recognized, the existence of psychological violence has been long underestimated and is now receiving due attention (Di Martino, 2003).

In country case studies, Di Martino (2003) reported high rates of psychological assaults in past year ranging from 32.2% in Bulgaria to 67.0% in Australia. The rate of physical violence ranged from 3.0% in Lebanon to 17.0% in South Africa. In Israel, 58.5% and 9.5% of community physicians were exposed to verbal and physical violence during the previous year, respectively (Carmi-Iluz, Peleg, Freud, & Shvartzman, 2005). The corresponding rates were 91.1% and 33.0% among nurses in Turkey (Celil, Celik, Agirbas, & Ugurluoglu, 2007).

Workplace violence has its origin in a number of factors. Individual factors (e.g., particular gender of workers) may heighten the risk. Environmental factors (e.g., poor security) can increase the risk of violence. Understaffing may increase the risk of violence due to longer patient wait times and workers being alone with patients. Mistrust or miscommunication between care providers and attendants may contribute to violence in health care setting (Centers for Disease Control and Prevention [CDC], 2002; Cole, Grubb, Sauter, Swanson, & Lawless, 1997; Di Martino, 2003; Levin, Hewitt, & Misner, 1998; Texas Workers' Compensation Commission, 2007; U.S. Department of Labor, 2007a, 2007b).

Violence at work can trigger a range of physical and emotional outcomes in victims (e.g., anger, shock, fear, depression, anxiety, and sleep disturbances). Characteristics of perpetrators include demographic factors, traumatic life events, psychological and/or behavioral disorders, and personality factors (Budd, 1999; CDC, 2002; Di Martino, 2003; Texas Workers' Compensation Commission, 2007).

Violence is not only an occupational health issue but also may have significant implications for the quality of care provided (Arnetz & Arnetz, 2001). To the best knowledge of authors, there is no published research on the problem of workplace violence in health sectors in Saudi Arabia. Furthermore, there is neither statistics on workplace violence in its different

forms nor even a formal acknowledgment of its existence. This study aims to highlight the magnitude of workplace violence against health care workers in primary health care (PHC), the type of violence, its risk factors, the nature of perpetrators, and its impact on victims.

Population and Method

Setting

This study was carried out in Al-Hassa, Saudi Arabia, during the period from October 1 to December 31, 2006. PHC in the Al-Hassa Directorate of Health is provided through a network of 54 centers distributed in urban, rural, and Hegar (Bedouin desert collections) areas. PHC services are managed as a central vertical program. PHC centers work one shift for 5 days a week. Centers in Hegar and some rural areas provide emergency services throughout the week, three shifts per day. Human resources are mostly expatriate health workers (Arab and non-Arab) with a slow increase of Saudi, especially nonmedical and paramedical personnel. There is no policy regarding violence in health centers. Furthermore, there is no system of sanctioning perpetrators.

Participants

The target population was all workers who had worked in PHC for at least a year. This is because the outcome variable is exposure to work place violence victimization over the past year, whatever the type of violence. Every exposure to work place violence was not studied to avoid recall bias about the event of violence. A total of 1,228 personnel of different nationalities, religions, and educational background were working in these centers. Of these workers, 94 were excluded because they worked in PHC for less than 1 year.

An anonymous, self-administered questionnaire was distributed to 1,134 personnel and recollectd by sector supervisors. A total of 1,091 questionnaires were returned (response rate 96.1%). These included 211 physicians, 430 nurses/midwives, 31 health inspectors, 104 pharmacists, 94 technicians, 159 servants/drivers, and 62 other workers. Thirty-seven of workers were not on duty during the study period (annual vacation or maternity leave). Only 6 personnel, who are low-educated service personnel unaware of the importance of the study results, were not interested in the study.

None of the eligible personnel was excluded in spite of the language barrier. All health care workers are Arabic and/or English speakers.

The high response rate was expected. Violence is an emerging problem in the PHC setting, and there is informal commitment to reveal its magnitude and circumstances. This is a prerequisite for a potential future program intended to control this problem and its reasons. Also, field supervisors contributed to this high response rate. They distributed the questionnaires during their visits to the health centers and recollected them at the end of the working day. They revised the questionnaire for completeness and clarified any vague points in the field.

Questionnaire

The questionnaire developed by ILO/ICN/WHO/PSI (2003b) and used for country case studies of workplace violence in the health sector was modified and used in this study. Both the English and Arabic versions were used.

The questionnaires were translated into Arabic separately by two translators (the first two authors). The two versions were combined and revised and then back translated into English by a third translator (one of the bilingual sector supervisors). The translation was refined after back translation until agreement was obtained among all three translators. Three bilingual PHC supervisors examined the versions of the questionnaire for content and construct validity and agreed on it. Sector supervisors are specialists in public health or general medicine with long experience in PHC in the region and have good knowledge of the Saudi culture.

Both forms of the questionnaire were then piloted for comprehension and ease of administration on 20 Arabic-speaking (Saudi and non-Saudi) and 20 non-Arabic-speaking PHC workers not included in the full-scale study. Many questions were left blank (unanswered) by the majority of both groups of health care workers (e.g., those concerning the racial harassments and questions at the end of the questionnaire). Other questions were not clear to nonmedical and paramedical personnel.

Problems Experienced With the Questionnaire

It is the long and tedious process of filling the questionnaire that bothers workers. All questions were closed-ended so as to minimize writing and to make health care workers feel safe to express themselves.

The following major changes were judged necessary and were made to the questionnaire to improve clarity and appropriateness to the Saudi situation:

1. Racial harassment is rarely encountered in Saudi Arabia, so this section was deleted from the questionnaire.
2. New questions were added; for example, locality of health centers (whether urban, rural, or Hegar), education, and nature of work in PHC center.
3. Twelve questions were deleted; for example, marital status. This is because many expatriate workers leave their families in their home countries, thus lacking their family support. These are either nonapplicable to the PHC setting as all workers are full-time governmental employees and deal with all types of patients/clients. We were concerned only with workers exposed to (not witnessed) violence because this will duplicate information collected and there may be a possible a mix between experiences and witnessed events.
4. Many questions were abbreviated or reworded to be simple and understandable (e.g., PV1.10, VA7, BM7, Sh7, HE1, HE3, O1-3).

The final questionnaire covered the personal and workplace data, physical workplace violence, psychological workplace violence (verbal abuse, bullying/mobbing, and sexual harassment), perpetrators of violence, and opinion on workplace violence.

Most of the perpetrators are residing in the catchments area of the health center and are well known to health care workers. Workflow necessitates that patients should get the family file during consultation, so their identity is known. Only in cases of emergency, the perpetrators may be strangers and therefore their age and education may remain unknown.

Approval of the Al-Hassa Directorate of Health was obtained before implementation of the full-scale study. Sector supervisors collected data from PHC workers under supervision of the authors. The questionnaire was distributed individually to health care workers. Sector supervisors explained the objectives of the study to the PHC workers and clarified any questions related to questionnaire.

Data Analysis

Data were analyzed using Statistical Package for Social Sciences (SPSS) version 11. Due to a small proportion of physical violence and to boost the power of the logistic regression analysis, physical and emotional violence were treated as a unit. Descriptive statistics were done. The chi-square test was used as a test of significance in univariate analysis of the predictors of the outcome variable (exposure to violence, whatever its type, during the past year). Only significant predictors of exposure to violence in univariate analysis were entered into multivariate stepwise forward Wald logistic regression analysis. Odds ratios and their confidence intervals were

presented. The unit of analysis in the model is the victim (whether exposed to violence of any type) and not the violent event. Features of work setting and circumstances of events were not used as predictors of violence because these are based on subjective reporting, which may be liable to recall bias, and victims gave more than one answer for a single event of violence. A p value $\leq .05$ was considered statistically significant.

Results

The study results will be portrayed in four categories: total worker-based results, victim-based results, event-based results, and perpetrators-based results.

Total worker-based results. The study reveals that 302 (27.7%) of PHC workers were exposed to 913 physical and emotional/psychological violent attacks during the past year. These 302 victims had a median and mean of 3 attacks and a range of 1 to 25 violent events. More than one third (35.8%) of them experienced one violent attack of any type (the modal number of violent victimization).

PHC workers working in Hegar, of less than 5 years' duration of work, of non-Saudi origin, of higher education, working in emergency departments, and doctors are at more risk of violence than others (Table 1). However, logistic regression analysis revealed that the significant predictors of violence are higher education (OR = 9.3), working in an emergency department (OR = 6.8), working in Hegar (OR = 3.2), and those with secondary education (OR = 3.0; Table 2).

Victim-based results. The most frequent contributing factors to violence as reported by victims are unmet service demand, lack of penalty for perpetrators, and overcrowding (Table 3). The most frequent consequences of violent are being bothered, becoming suspicious, and feeling anger. More than two thirds of the 302 health care workers who had been victimized reported work dissatisfaction, and almost a third reported decreased performance and efficiency as a response to the victimization experience. Other factors are listed in Table 4.

Table 5 shows that 32.1% of victims did not use any coping mechanisms. The most common coping mechanisms are telling a colleague, pretending it did not happen, telling family/friends, and trying to forget the event. Availability of security personnel, liaison with police, and penalty

Table 1
Univariate Analysis of 1,091 Workers' Characteristics
Predicting Violence During the Past Year

Predictor	Total	Exposed to Violence	OR (95% CI)	χ^2
	<i>N</i>	<i>N</i> (%)		
Overall	1,091	302 (27.7)		
Locality				
Urban	539	130 (24.1)	1 (r)	
Rural	409	90 (22.0)	0.9 (0.7-1.2)	0.6
Hegar	143	82 (57.3)	4.2 (2.8-6.3)***	58.2***
Duration of work (years)				
1 to <5	333	116 (34.8)	1 (r)	
5 to <10	233	61 (25.8)	0.7 (0.4-0.96)*	4.8*
10 or more	525	125 (23.9)	0.6 (0.4-0.8)***	12.3***
Age				
<30 years	289	77 (26.2)	1 (r)	
30 or more	802	225 (28.1)	1.1 (0.8-1.5)	0.2
Sex				
Male	664	190 (28.6)	1 (r)	
Female	427	112 (26.2)	0.89 (0.67-1.2)	0.7
Religion				
Moslem	951	243 (25.6)	1 (r)	
Others	140	59 (42.1)	2.1 (1.5-3.1)***	16.8***
Nationality				
Saudi	699	158 (22.6)	1 (r)	
Arab	171	59 (34.5)	1.8 (1.2-2.6)*	
Non-Arab	221	85 (38.5)	2.1 (1.5-3.0)***	
Education				
Less than secondary	119	16 (13.4)	1 (r)	
Secondary	589	142 (24.1)	2.1 (1.1-2.7)**	10.4**
Above secondary	383	144 (37.6)	3.9 (2.1-7.1)***	21.7***
Workplace				
Outpatient clinic	393	106 (27.0)	1 (r)	
Pharmacy	111	29 (26.1)	1.0 (0.6-1.6)	0.03
File room	173	40 (23.7)	0.7 (0.5-1.3)	0.8
Health inspector room	31	6 (19.4)	0.7 (0.2-1.7)	0.9
Dressing room	50	14 (28.0)	1.1 (0.5-2.1)	0.02
Emergency department	83	56 (67.5)	5.6 (3.3-9.7)***	50.1***
Vaccination room	47	9 (19.1)	0.6 (0.3-1.4)	1.3
Antenatal care room	60	7 (11.7)	0.4 (0.14-0.9)*	6.5*
Others	143	35 (27.7)	0.88 (0.6-1.4)	0.3

(continued)

Table 1 (continued)

Predictor	Total	Exposed to Violence	OR (95% CI)	χ^2
	<i>N</i>	<i>N</i> (%)		
Job				
Physician	211	87 (41.2)	1 (r)	
Nurse/midwife	430	106 (24.7)	0.5 (0.3-0.7)***	18.5***
Health inspector	31	7 (22.6)	0.4 (0.2-1.1)	3.96*
Pharmacist	104	27 (26.0)	0.5 (0.3-0.9)**	7.0**
Technician	94	23 (24.5)	0.5 (0.3-0.8)***	7.9**
Servant/driver	159	29 (18.2)	0.3 (0.2-0.5)***	22.3***
Others ^a	62	23 (37.1)	0.8 (0.5-1.6)	0.3

Note: OR = odds ratio; CI = confidence interval; r = reference group.

a. Primary health care centers directors, clerks, File room workers, and so on.

* $p \leq .05$. ** $p \leq .01$. *** $p \leq .001$.

Table 2
Logistic Regression Analysis of Predictors
of Violence Among 1,091 Workers During the Past Year

Predictor	β	<i>p</i>	OR (95% CI)
Locality			
Urban			1 (r)
Rural	-0.2	.23	0.8 (0.6-1.1)
Hegar	1.2	.000	3.2 (2.1-4.9)
Education			
Less than secondary			1 (r)
Secondary	1.1	.002	3.0 (1.5-6.2)
Above secondary	2.2	.000	9.3 (4.3-20.2)
Workplace			
Outpatient clinic			1 (r)
Pharmacy	-0.2	.4	0.8 (0.6-1.1)
File room	-0.2	.3	0.8 (0.5-1.3)
Health inspector room	-0.6	.2	0.5 (0.2-1.4)
Dressing room	0.4	.3	1.5 (0.7-3.0)
Emergency department	1.9	.000	6.8 (3.7-12.1)
Vaccination room	0.16	.7	1.2 (0.5-2.6)
Antenatal care room	-0.7	.1	0.5 (0.2-1.2)
Others	-0.11	.6	0.9 (0.6-1.4)
Model χ^2	168.7, $p = .000$		
Constant	-1.15		
% predicted	75.8		

Note: OR = odds ratio; CI = confidence interval; r = reference group.

* $p \leq .05$. ** $p \leq .01$. *** $p \leq .001$.

Table 3
Factors Contributing to Violence as Reported
by 302 Workers Exposed to Violence During the Past Year

Contributing Factor	Number (%)
Unmet service demand ^a	218 (72.2)
Lack of penalty for perpetrators	203 (67.2)
Overcrowding	199 (65.9)
Impatience (patient in hurry)	178 (58.9)
Reaction to injury/accident/illness	172 (56.95)
Lack of security	119 (39.4)
Lack of mutual understanding	112 (37.1)
Hot climate	103 (34.1)
Lack of knowledge/illiteracy	91 (30.1)
Noncompliance to work system	84 (27.8)
See expatriate as inferior	73 (23.8)
Language or communication barriers	71 (23.5)
Mentally ill/drug abuse	63 (20.9)
Lack of protective measures	41 (13.6)
Bad flow of work	32 (10.3)
Deficient staff	28 (9.3)
Relatives of directors/managers	13 (4.3)
Poor administration	6 (2.0)

Note: Categories are not mutually exclusive.

a. For example, referral, more drugs, unnecessary investigation, sick leaves, nonavailable drugs, or investigation.

for perpetrators are the most frequent suggestions to prevent and control violence (Table 6).

Event-based results. Emotional violence was the most frequent (92.1%), especially verbal abuse (54.2%), as shown in Table 7. Onset of violence was more likely to occur on Saturdays, early in the day, and with closed doors (Table 8).

Perpetrators-based results. Perpetrators were mostly Saudi, males, of middle age, patients' relatives, and of lower education (Table 9).

Discussion

Although it was once a long-forgotten issue, violence at work has dramatically gained momentum in recent years and is now a priority concern in

Table 4
Consequences of Violence as Reported by 302
Workers Exposed to Violence During the Past Year

Consequence	Number (%)
Bothered	292 (96.7)
Becoming suspicious	261 (86.4)
Anger	211 (69.9)
Work dissatisfaction	209 (69.2)
Irritability	208 (68.9)
Anxiety	152 (50.3)
Superalert and watchful	139 (46.0)
Fear	115 (38.1)
Decrease performance and efficiency	91 (30.1)
Tearfulness	89 (29.5)
Depression	85 (28.1)
Becoming stressed	72 (23.8)
Low motivation	63 (20.9)
Feeling chronic fatigue	19 (6.3)
Felt ashamed/guilty	13 (4.3)
Planning to leave work/resignation	9 (3.0)
Pain/contusion	5 (1.5)
Others (absence from work, request for sick leave)	5 (1.5)

Note: Categories are not mutually exclusive.

Table 5
Coping Mechanisms of 302 Workers Exposed to Violence

Coping Mechanism	Number (%)
Told colleague	201 (66.6)
Pretended did not happen	123 (40.7)
Told family/friends	119 (39.4)
Trying to forget the event	106 (35.1)
No action	97 (32.1)
Replied the perpetrators	37 (12.3)
Defend physically	19 (6.3)
Take time off work	16 (5.3)
Transferred to other center/place of work	7 (2.3)
Reported to director/supervisor	5 (1.7)

Note: Categories are not mutually exclusive.

both industrialized and developing countries (ILO/ICN/WHO/PSI, 2002). Health care workers are exposed to many safety and health hazards, including

Table 6
Suggestions of 302 Workers Exposed to Violence

Suggestion	Number (%)
Availability of security personnel	295 (97.7)
Liaison with police or Emara (local authority)	282 (93.4)
Penalty for perpetrators	191 (63.2)
Training on violence prevention and control	170 (56.3)
Administrative measures	66 (21.9)
Policy for care for victims	25 (8.3)
Changing work environment and flow	24 (7.9)
Hot line for immediate reporting of events	15 (5.0)

Note: Categories are not mutually exclusive.

Table 7
Types of Violence in 913 Reported Events

Type of Violence	Number (%)
Physical	46 (5.0)
Beating	23 (2.5)
Pushing	11 (1.2)
Pinching	5 (0.5)
Others (kicking, slapping, biting)	7 (0.8)
Emotional (psychological)	815 (89.3)
Threat of physical force	301 (33.3)
Verbal abuse (name calling)	478 (52.4)
Bullying/mobbing	23 (2.5)
Sexual harassment/threat	13 (1.4)
Both physical and emotional	52 (5.7)

violence (CDC, 2002; Texas Workers' Compensation Commission, 2007). The bulk of literature on violence in the work place focuses on psychiatric, emergency, long-term, and home health care workers (Brown, 1998; Featherstone, 1999; Lewis & Dehn, 1999; Rose, 1997). PHC workers are the first line of close contact with a large segment of the population. Therefore, they are vulnerable to violence.

This study revealed that 27.7% of PHC workers were exposed to violence during the past year. This low rate may be attributed to the nature of self-report questionnaire used in the study. Denial of the violent acts may be a determinant factor. The Saudi culture has its own unique characteristics of segregation of both genders in public places and its conservative

Table 8
Circumstances of 913 Reported Violent Events

Circumstance	Number (%)
Health worker was alone at time of violence	346 (37.9)
Door was closed at time of violence	419 (45.9)
Working shift of violent events onset	
Morning shift (8 a.m.-4 p.m.)	173 (18.9)
Evening shift (4 p.m.-10 p.m.)	455 (49.8)
Night shift (10 p.m.-8 a.m.)	285 (31.2)
Working days of violent event onset	
Saturday	528 (57.8)
Sunday to Tuesday	132 (14.5)
Wednesday	253 (27.7)
Perpetrator at right	31 (3.4)
Measures taken against perpetrators (verbal warning from the directors)	14 (1.5)

Table 9
Profile of 972 Perpetrators of 913 Reported Violent Events

Profile of Perpetrators	Number (%)
Total perpetrators	972 (100)
Sex	
Male	923 (95.0)
Female	49 (5.0)
Age	
Less than 20 years	243 (25.0)
20-39	582 (59.9)
40 and older	57 (5.9)
Unknown	90 (9.4)
Nationality	
Saudi	958 (98.6)
Non-Saudi	14 (1.4)
Nature	
Patient	225 (23.1)
Patient's relative	662 (68.1)
Colleague	69 (7.1)
Director	16 (1.6)
Education	
Illiterate	328 (33.7)
Less than secondary	211 (21.7)
Secondary	81 (8.3)
Above secondary	29 (3.0)
Unknown	323 (33.2)

society based on Islamic rules that discourage violence. Medical personnel, especially doctors, are held in high regard and are fully respected by the community. It was stated that incidents of violence are likely to be underreported, perhaps due in part to the persistent perception within the health care industry that assaults are part of the job. Underreporting of workplace violence against health care workers is very common, ranging from 46% to 80% (Duncan, Estabrooks, & Reimer, 2000; Goodman et al., 1994; Mayhew & Chappell, 2003).

The dimension of work place violence in the health sector from the countries included in WHO case studies is a shattering one. More than half of the health care workers surveyed had experienced at least one incident of physical or psychological violence in the 12 months prior to the survey (Di Martino, 2002): 75.8% in Bulgaria (Tomev et al., 2003), 67.2% in Australia (Mayhew & Chappell, 2003), 61.9% in South Africa (Steinman, 2003), 60% in health centers and 37% in the hospitals in Portugal (Ferrinho et al., 2003), 54% in Thailand (Sripichyakan, Thungpunkum, & Supavititpatana, 2003), 46.7% in Brazil (Palacios et al., 2003), 73.1% in Mozambique (ILO/ICN/WHO/PSI, 2003c), 76.7% in Lebanon (Deeb, 2003), and 49.5% in Turkey (Ayranci et al., 2004).

Our results revealed that on average each victim experienced 3 events during the previous year. A mean of 1.5 events in a year was reported from Australia (Mayhew & Chappell, 2003). Most violent events occurred on Saturdays after return from the weekend, especially on early working hours. At these times, overcrowding with long waiting is common.

Psychological violence is currently emerging as a priority concern in the workplace, leading to a new awareness and reevaluation of the importance of all psychological risks at work (Di Martino, 2003). In this study, it accounted for 92.1% of violent acts. It leaves no outer mark or proof, and charges cannot be laid. Many studies found that emotional violence is the most frequent type of violence with verbal abuse at the top of the list (Ayranci et al., 2004; Deeb, 2003; Di Martino, 2002; Ferrinho et al., 2003; ILO/ICN/WHO/PSI, 2003c; Steinman, 2003; Sripichyakan et al., 2003; Tomev et al., 2003).

Sexual harassment in this study is low because there is sex segregation in most PHC activities. Furthermore, it is not likely to be reported, and this hides the real magnitude of the problem. Women's fear of speaking publicly on this subject could contribute to low reporting.

No particular gender or age patterns were identified among the victims. Rather, violence appeared to reflect the extent of exposure to clients with higher-risk demographic (e.g., young illiterate males), particular environment (e.g., emergency room), and provider characteristics (e.g., short working duration, high education).

Many studies reported no gender or age pattern of victims (Mayhew & Chappell, 2003; Steinman, 2003). One study revealed more prevalence of violence among male workers (Sripichyakan et al., 2003). Working in emergency rooms is a high-risk factor for violence to occur. This is in agreement with other findings from different countries (CDC, 2002; Mayhew & Chappell, 2003; Texas Workers' Compensation Commission, 2007).

The high prevalence of violence in Hegar can be attributed to many factors including limited resources in these centers, presence of emergency services with night shifts, low socioeconomic status of the Bedouin population, and the fact that most of the personnel working in these centers are expatriates. In these Hegar, most of the health care providers live in health-setting locus. It is possible that these personnel view the violent incidents happening at their homes that are inflicted by health personnel or nonhealth personnel as workplace violence as well.

Di Martino (2003) noted that the general culture of the work environment must be taken into consideration when assessing the risk of work-related violence. He noted that a participatory working environment with open dialogue and communication may defuse the risk of violence. There is a wide range of factors contributing to workplace violence as indicated by the victims. The most frequent contributing factors are unmet service demand, lack of penalty for perpetrators, and overcrowding. The same contributing factors were reported in different proportions in many studies (Ayranci et al., 2004; Carmi-Iluz et al., 2005; CDC, 2002; Di Martino, 2002; Ferrinho et al., 2003; ILO/ICN/WHO/PSI, 2003c; Health Professionals and Allied Employees, 2007; Mayhew, 2002; Mayhew & Chappell, 2003; Texas Workers' Compensation Commission, 2007; U.S. Department of Labor, 2007a, 2007b; Wilkinson, 2001).

All violence committed against PHC workers is nonfatal. However, violence had many consequences, and the most frequent are being bothered, becoming suspicious, and feeling anger. The same consequences were reported in different proportions in previous studies (CDC, 2002; Di Martino, 2002, 2003; Palacios et al., 2003; Texas Workers' Compensation Commission, 2007; U.S. Department of Labor, 2007a, 2007b). The most serious consequences are work dissatisfaction, decreased performance and efficiency, and planning to leave work/resignation as responses to victimization experiences. Violence may have significant implications for the quality of care provided (Arnetz & Arnetz, 2001). In developing countries in particular, equal access to PHC will be threatened if health care workers—already a scarce resource—abandon their profession because of the threat of violence (ILO/ICN/WHO/PSI, 2002). The situation could be worse in Saudi Arabia as the majority of health care workers are expatriates.

Individuals vary in their reaction to violence. They may use their experience and training to defuse, control, or physically react to a conflict. Alternatively, they may be overcome by fear or panic reacting in a manner that inflames the situation. An individual's innate personality traits plus context and environment act as influential factors in establishing the person's response (Richards, 2003). About one third of victims did not take any coping mechanisms. The most common coping mechanisms are telling a colleague, pretending it did not happen, telling family/friends, and trying to forget the event. The same findings were reported from different studies and authors (CDC, 2002; Di Martino, 2003; ILO/ICN/WHO/PSI, 2003c; Palacios et al., 2003; Texas Workers' Compensation Commission, 2007; U.S. Department of Labor, 2007a, 2007b).

Availability of security personnel, liaison with police, and penalty for perpetrators are the most frequent suggestions to prevent and control violence. This is in agreement with other studies (Ferrinho et al., 2003; ILO/ICN/WHO/PSI, 2003c; Palacios et al., 2003).

It was difficult to establish a profile of the perpetrator of violence. Health care workers are subject to violence from multiple sources: clients, family members of clients, and coworkers. Perpetrators are mostly Saudi, males, of middle age, patients' relatives, and of lower education. This is in agreement with previous findings (Ayranci et al., 2004; Deeb, 2003; Di Martino, 2002, 2003; Duncan et al., 2000; Ferrinho et al., 2003; ILO/ICN/WHO/PSI, 2003c; Mayhew & Chappell, 2003; Palacios et al., 2003; Sripichyakan et al., 2003; Steinman, 2003; Tomev et al., 2003).

No action was taken most of the time; only 4 perpetrators were verbally warned by directors of PHC centers. This is in agreement with other study findings (Deeb, 2003).

In conclusion, the results indicate that violence against PHC workers is not uncommon and affects all categories of workers with negative consequences on the victims. The equal access to PHC is endangered especially in desert and remote areas if health workers—already a scarce resource in Saudi Arabia—feel under threat of violence. Again, violence may endanger policy of quality improvement and accreditation of services.

A further large-scale study of violence in the health care sector—both qualitative and quantitative—including different types of health facilities is highly recommended. Focus group discussions and in-depth structured interviews will reveal the psychosocial aspect of workplace violence in the health care sector. Longitudinal studies are useful to identify antecedents to workplace violence and its long-term effects on both victims and organizations. Perpetrators of violence should be a part of these studies to reveal their social and psychological backgrounds. Awaiting the results of such

study, some measures suggested by victims can be implemented immediately in PHC centers (e.g., availability of security personnel, liaison with police or Emara [local authority], penalty for perpetrators, and training in violence prevention and control).

Violence registry with a clear reporting system is useful for data collection on the problem and helps in formulating and evaluating antiviolence programs. Counseling and psychiatric care are mandatory for the victims of violence. The problems of crowding, long waiting times, and work overload need to be resolved.

Study Limitations

The results cannot be generalized to all health care workers in Saudi Arabia. The study was carried out in PHC centers, and hospitals and private facilities were not involved. Furthermore, it was carried out in one region (Al-Hassa). The study questionnaire needs more standardization to be applicable in all types of health care facilities in the Saudi culture. Data collected depend on perception of health care workers, and these need to be validated. The triangulation method of multiple measuring techniques could be used (i.e., using a combination of reporting procedures, survey instruments, and diary keeping). Consequently, this study is not a comprehensive epidemiologic one but rather is explanatory in nature and designed to provide basic information about the problem of workplace violence in PHC. Any future studies should differentiate between the physical and psychological violence and their correlates.

Another limitation is the matter of the opinion of participants as opposed to objectively systemically collected data on factors contributing to workplace violence victimization.

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