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VIOLENCE AGAINST NURSES: AN EPIDEMIOLOGICAL STUDY FOR NURSES IN MUNICIPAL, HEALTH INSURANCE AND UNIVERSITY HOSPITALS OF BENI SUEF GOVERNORATE, EGYPT

By

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Abstract:

Introduction: Nurses are the first and most available personnel throughout the hospital especially in stressful situations such as accidents, deaths, waiting to visit a physician or transfer of patients to a ward or another hospital. Therefore, they are exposed to more abuse, violence or aggressive behavior from patients or their companions besides the verbal and non verbal aggression they sometimes face from hospital staff. Previous studies showed variable violence rates, e.g., about a third of nurses are physically assaulted and injured, a quarter are sexually harassed and about two-thirds are non-physically assaulted, with these rates varying by setting and world region. **Aim of the work:** To assess the magnitude of violence against nurses in Upper Egypt, with exploring the reporting, consequences and impact of these aggression incidents. **Materials and Methods:** Nurses working at different hospitals in Beni-suef hospitals, Egypt, were asked to fill out a self-administered questionnaire that inquired about their socio-demographics, frequency of exposure to violence incidents during working lifetime, and last year's external and internal aggression. **Results:** The response rate was 70%. Throughout their career, 92.8% of nurses reported that they were exposed to workplace violence. Verbal and psychological aggression incidents were the most common types of violence our nurses were exposed to. During the last year, 86.6% and 42.2% of nurses reported exposure to external and internal violence incidents, respectively.

Generally, stress, anger, fear and depression were the most reported consequences after exposure to violence. More than half of the bullied nurses reported that exposure to workplace violence has negative effects on their performance at work. However, about only one third of the violence incidents were reported to administration. **Conclusions:** This study identified the prevalence rates of all types of aggression the nurses faced during their career and also the last year from both external and internal sources. We also detected the emotional drawbacks of violence on nurses and the impact of different violent incidents on their job quality. Reporting and its consequences were cited clearly, however much study is needed for detecting the causes of under reporting and the most effective methods of stopping aggression directed at nurses.

Key words: Workplace violence - Reporting - Nurses - Consequences - Impact- Job satisfaction

Introduction

Workplace aggressive behavior and occupational violence (OV) directed against nurses are increasing rapidly and nursing is one of the professions most at risk (ILO et al., 2002, Di Martino et al., 2003).

Despite alarm regarding the nature and extent of OV across the world, a major problem in research is the lack of a common definition of the concept within and across countries (Parzefall and Salin, 2010).

The United States National Institute for Occupational Safety and Health (NIOSH) defined workplace violence as violent acts, including physical assaults, directed towards a person at work or on duty (NIOSH, 2002).

Lyneham defined violence against nurses precisely as: "Anything that makes you feel unsafe, fearful or anything that does not allow you to perform your job through intimidation, repression, fear of repercussions or not respectful of you as a person in your own right as a nurse, be it from medical colleagues, clients, management, relatives etc. Where your concerns are pushed aside and they make you feel inadequate" (Lyneham, 1998).

More recent, Department of Human Services, Victoria, Australia defined occupational violence (OV) as "any incident where an employee is abused, threatened or assaulted in circumstances arising out of, or in the course of their employment, where . . . a person to believe that they are in danger of being physically attacked, and may involve an actual or implied threat to safety, health or wellbeing. . . Neither intent nor ability to carry out the treat is relevant;

the key issue is that the behavior creates a risk to health and safety" (Department of Human Services, 2007).

In fact, nurses are the first and most available personnel throughout the hospital. Their presence in stressful situations such as accidents, deaths, waiting to visit a physician or transfer of patients to a ward or another hospital exposes them to more abuse or harsh behavior from patients or their companions besides the verbal and non verbal aggression they sometimes face from hospital staff (Kwak et al., 2006).

A recently published quantitative study regarding violence against nurses showed that about a third of nurses are physically assaulted and injured, a quarter are sexually harassed and about two-thirds are non-physically assaulted, with these rates varying by setting and world region. For instance, nurse exposures to specific types of violence vary by world region, with the highest rates of physical and sexual harassment in the Anglo region, and the highest rates of nonphysical and bullying in the Middle East. The incidence of patients' family and friends initiated violence is relatively higher in Asia and the Middle East than the Anglo and European regions, whereas USA and Europe are particularly prone to violence of all types including even sexual harassment (Spector et al., 2014).

In Egypt, only two main studies tackled the problem of violence against nurses; Cairo University and Ismailiya. The prevalence rates of violence against nurses that was detected by both studies showed marked discrepancies; 86.1% and 27%, respectively. Cairo University study was directed only to nurses at Gynecology and Obstetrics departments, Kasr Al-Ainy, Cairo University hospitals (Samir et al., 2012), while Ismailiya study, included several hospitals and health centers focusing on the negative impact of violence against nurses including job dissatisfaction, poor performance, and high turnover rates (Abbas et al., 2010).

Apart from Cairo and Ismailiya studies, yet, there are no studies in the literature that examined violence against nurses at hospitals in Upper Egypt.

Aim of work

The current study aimed at examining the magnitude of the problem of violence against nurses in Upper Egypt taking Beni Suef governorate as a model. The objectives

of the study included assessment of the prevalence of external and internal violence against nurses and finding out the violence associated factors such as workplace environment, nurses' characteristics, perpetrators, reporting incidents, consequences and impact on nurses and work.

Materials and Methods

In this cross-sectional study, a self-administered questionnaire had been used to inquire about the prevalence and associated factors of external and internal violence against nurses in Beni-Suef governorate hospitals.

A total of 600 nurses working at 6 different hospitals in Beni Suef governorate were asked to fill out a questionnaire inquiring about exposure to violence. These hospitals are the main pillars of the health system in Beni Suef governorate; they included Health Insurance Organization hospitals, Beni Suef University hospital and Beni Suef municipal "general" hospital besides other 3 general hospitals randomly-selected from the governmental general hospitals of the other 6 districts of Beni Suef governorate. Those randomly-selected general hospitals were that of El-Wasta, Nasser and Beba general hospitals.

The questionnaire was designed to encompass key issues identified following a careful literature review and input from nurses. The questionnaire was prepared in Arabic and a 3-point Likert scale was used for data collection, then it was pilot tested with 40 practicing nurses. Feedback was sought on ease of following instructions, question interpretation and relevance, appropriateness of response choices, ease of completion, the questionnaire's overall 'look', and its likely interest to potential respondents. Finally, the questionnaire was designed to cover 4 main domains; socio-demographics of the surveyed nurses, lifetime working experience with aggression, external aggression and its effects on work and emotional consequences, internal aggression and its impacts on work. We also focused on the perpetrators, attitude of nurses following aggression incidents. The questionnaire included also a variety of pre-defined response options, including questions which asked respondents to check the frequency of the occurrence of violence , once, 2–5 times, 6–10 times or >10 times.

Ethical considerations:

The study was approved by the ethical committee of the Faculty of

Medicine, El-Minia University. Prior to data collection, official permissions were obtained from the authorities of Beni Suef governorate hospitals including administration of Beni Suef municipal, university and health insurance hospitals.

The questionnaires included explanations about the purpose of the study with confirming confidentiality of data and assuring that it will never be used for purposes other than scientific research. Accepting to fill out and return the questionnaire back was considered as consent for participation in the study.

The questionnaires were sent to hospitals with some research assistants who distributed and collected back the completed questionnaires, while keeping the questionnaires anonymous, and then handled to the corresponding investigator.

Data analysis:

Data were analyzed using the software, Statistical Package for Social Science, (SPSS) version 19. Frequency distribution with its percentage and descriptive statistics with mean and standard deviation were calculated. Chi-square, student's t-test and correlations were done whenever needed. P values of less than 0.05 were considered significant.

Results

Six hundred nurses working at 6 different hospitals in Beni Suef governorate were asked to fill out a questionnaire inquiring about exposure to violence. Precisely, 422 of nurses accepted to participate in the study by completing and returning the questionnaires back, with a response rate of about 70.3%. Eight questionnaires were excluded because of the incomplete and contradicting data; and 11 were further excluded from this study since they were for male nurses, (who will be presented in our next study of violence against all healthcare workers). Therefore, the current study included a total sample of 403 participants.

Prevalence results showed that 92.8% of Beni Suef nurses were exposed to workplace violence at least for once during their working lifetime, of which 73.8% faced violence more than 10 times.

Furthermore, during the last year, 86.6% of nurses experienced external "patient-initiated" violence, 57.6% of them exceeded 10 times, whereas during

the same period, exposure to internal violence "staff-initiated violence" was reported by 42.2% of nurses with about 24.1% of them reported exposure to more than 10 violence incidents (Table 1).

During their career, verbal and psychological violence incidents were the most common types of violence that nurses were exposed to, reaching about 97.6% and 74.6%, respectively, followed by physical aggression 33.4% and finally, sexual assaults 19.8%.

During the last year, 96.8% of the reported external aggression was of verbal type, 75.9% for psychological aggression, 25.8% for physical aggression and 15.5% for sexual aggression. About 69.4% of the reported internal violence incidents for nurses were of verbal type, 67.6% for psychological aggression, 5.9% for physical aggression and 7.1% for sexual aggression

External violence (86.6%) that the nurses were exposed to during the last year was significantly higher than internal aggression (42.2%), (P=0.0001), (Table 1).

Table 1: Prevalence, number and types of external, internal and working-life exposure to violence against nurses at Beni Suef governorate hospitals, 2013.

Prevalence of the total participants n=403	Working life exposure to violence	External violence (last 12 months)	Internal violence (last 12 months)
	374 (92.8%)	349 (86.6%)	170 (42.2%)
Comparison between external and internal violence resulted in		X^2=171.4 P=0.0001*	
Violence frequency			
Once	6 (1.6%)	27 (7.7%)	52 (30.6%)
Twice to Five times	42 (11.2%)	83 (23.8%)	51 (30.0%)
Six to Ten times	50 (13.4%)	38 (10.9%)	26 (15.3%)
More than Ten times	276 (73.8%)	201 (57.6%)	41 (24.1%)
Comparison between external and internal violence resulted in		X^2=70.2 P=0.0001*	
Types of violence			
Physical	125 (33.4%)	90 (25.8%)	10 (5.9%)
Verbal	365 (97.6%)	338 (96.8%)	118 (69.4%)
Psychological	279 (74.6%)	265 (75.9%)	115 (67.6%)
Sexual	74 (19.8%)	54 (15.5%)	12 (7.1%)
Comparison between external and internal violence resulted in		X^2=19.1 P=0.002*	

N.B. Total is different because of overlapping as many nurses were exposed to different types of violence.

* **= Significant**

Socio-demographic characteristics of the participating nurses are presented in (Table 2) that shows the distribution of the respondents by the hospitals, residence, educational level, marital status, work shifts and current department. The nurses' age ranged from 17 – 59 years, with a mean age ± SD of 32.02±10.97. Their experience expressed in working period ranged between 1 - 38 years, with a mean ± SD of 9.97±9.58, (Table 2)

Table 2: Socio-demographic characteristics of nurses participated in the study of violence against nurses at Beni Suef governorate Municipal, Health Insurance and University hospitals, 2013.

	Total Participant nurses	Exposed to external violence	Exposed to internal violence
	No. (%)	No. (%)	No. (%)
Sex:		Row %	Row %
-Female	403 (100.0)	349 (86.6)	170 (42.2)
Hospital Name:			
- University hospital	115 (28.5)	107 (93.0)	69 (60.0)*
- Health Insurance hospitals	99 (24.5)	71 (71.7)*	32 (32.3)
- General hospitals	189 (47.0)	171 (90.5)	69 (36.5)
Participants› educational level:			
-Diploma	301 (80.5)	264 (87.7)	123 (40.9)
-Nursing Institute and College	73 (19.5)	63 (86.3)	36 (49.3)
Participants› residence			
-Urban	213 (57.9)	177 (83.1)	97 (45.5)
-Rural	155 (42.1)	143 (92.3)*	57 (36.8)
Marital status of participants			
-Married	296 (77.1)	266 (89.9)	118 (39.9)
-Single	52 (13.5)	38 (73.1)	23 (44.2)
-Divorced	25 (6.5)	24 (96.0)*	19 (76.0)*
-Widowed	11 (2.9)	7 (63.6)	2 (18.2)
Shifts			
-Day time shifts only	81 (21.7)	58(17.8)	30 (18.9)
-Rotatory day and night shifts	294 (78.3)	268 (82.2)*	129 (81.1)
Current department			
-Medicine	139 (35.9)	126 (90.6)	51 (36.7)
-Surgery	108 (27.9)	91 (84.3)	43 (39.8)
-Gynacology and Obstetrics	31 (9.0)	31(100.0)*	23 (74.2)*
-Pediatrics	51 13.2)	45 (88.2)	29 (56.9)
-Ophthalm., ENT, Clin. Pathol.	12 (3.1)	10 (82.1)	3 (32.1)
-Outpatient clinics	46 (11.9)	33 (71.7)	15 (32.6)
Mean age of nurses/year	32.02 ± 10.97 (range: 17-59)	31.88±10.34 (range:17-59)	31.51+ 9.60 (range: 17-56)
Job period/y "experience in yrs"	9.97 ± 9.58 (range: 1-38)	9.86±9.12 (range: 1-38)	9.06+8.67 (range:1-38)

* = Significant P<0.05

Table 3: Percentage of reporting external and internal violence incidents against nurses at Beni Suef governorate hospitals, to whom it was reported and the outcome after reporting.

	Total external violence n = 349		**Total internal violence n =170**	
Reported violence incidents	197 (56.4%)	% of total	80 (47.1%)	% of total
***Reported to:**				
Administration	112 (56.9%)	32.1%	54 (68.7%)	31.8%
Security	63 (32.0%)	18.1%	9 (11.3%)	5.3%
Physician	17 (8.6%)	2.0%	7 (8.7%)	1.1%
Relatives and friends	5 (2.5%)	1.2%	9 (11.3%)	5.3%
Comparison between external and internal violence resulted in			X^2=13.8	P=0.01*
****Results after reporting**				
Stopping of violence	43 (21.8%)	12.3%	58 (72.5%)	34.1%
Continued in lower frequency	78 (39.6%)	22.3%	11 (13.8%)	6.5%
Continued in same frequency	51 (25.9%)	14.6%	5 (6.2%)	2.9%
Increased violence frequency	25 (12.7%)	7.2%	6 (7.5%)	3.5%
Comparison between external and internal violence resulted in			X^2=64.1	P=0.0001*

**Significance is calculated for the reported violence incidents only.*

* **= Significant P<0.05**

Reporting violence incidents were done by 56.4% and 47.1% of the nurses who were exposed to external and internal violence, respectively. Nurses who were exposed to external violence reported their incidents to the administration (56.9%), security (32.0%), or physician, colleagues and relatives (11.1%); whereas, nurses who faced internal violence reported the incidents to the administration (68.7%), security (11.3%), or physician, colleagues and relatives (20.0%), (P=0.01), (Table 3).

Reporting staff-initiated violence could stop further aggression in 72.5% of incidents. For external or internal violence against nurses, about 94.0% of the incidents reported to the administration stopped compared to only 57.1% of those reported to security (Table 3).

(Table 4) shows the relationship between socio-demographic characteristics of the studied nurses and reporting their violence incidents. The younger with fewer years of experience or divorced nurses significantly reported the internal violence incidents more than their older counterparts. They tended to report the internal aggression that was committed against them by male perpetrators than female ones. Additionally, those who were working at the university hospital reported the internal incidents more frequently than nurses working in other hospitals (P=0.001).

Table 4: Sociodemographic characteristics of nurses as determinants for reporting their violence incidents

Report	External	P-value	Internal	P-value
Scientific Qualification				
Diploma	137(45.5%)		55 (18.3%)	
Institutional	43(62.3%)	0.042*	17(24.6%)	0.28
College	2(50.0%)		------	
Residence				0.001*
Urban	101(47.4%)	0.42	55(25.8%)	
Rural	76 (49.0%)		18(11.6%)	
Marital Status				
Married	152 (51.4%)		53(17.9%)	
Single	21 (40.4%)	0.002*	12(23.1%)	0.005*
Divorced	16 (64.0%)		11(44.0%)	
Widow	-------			
Hospital				
HIO	38 (38.4%)		14 (14.1%)	
UNI	59 (51.3%)	0.053*	40 (34.8%)	0.001*
Public	100 (52.9%)		26(13.8%)	
Assault				
Physical	59 (65.6%)	0.001*	7 (70%)	0.001*
Verbal	190 (56.2%)	0.001*	53 (44.9%)	0.001*
Psychological	138 (52.1%)	0.047*	62 (53.9%)	0.001*
Sexual	25 (46.3%)	0.40	6 (50.0%)	0.017*
Gender of perpetrator				
Male	101(69.2%)		54 (65.9%)	
Female	47 (75.8%)	0.004*	25 (49.0%)	0.014*
Both	37 (50.7%)		-------	
Job of perpetrator				
Physician			8 (23.5%)	
Clerk			33 (91.7%)	0.001*
Colleague			15 (57.7%)	
Supervisor			19 (55.9%)	
Age				
Yes	32.34±10.17		29.75±8.65	
No	31.75±11.64	0.61	32.59±11.42	0.044*
Years of experience				
Yes	9.45±8.10	0.30	7.96±8.54	0.045*
No	10.49±10.82		10.48±9.77	
*** = Significant P<0.05**				

Perpetrators who committed most of the violence incidents against nurses were males 65.0% for external and 61.9% for internal assaults, respectively; while females were blamed for about 35.0% of external incidents and 38.1% of internal ones. Patients were the most frequent perpetrators who committed the incidents of external violence against nurse, followed by patients' relatives, companions and friends. Physicians, nursing colleagues or supervisors, clerks and administrative staff were the reported perpetrators who committed internal violence against nurses (Table 5). Most of the perpetrators were at their mid thirties, while those who performed sexual assaults aged a bit younger "almost as old as the exposed nurses".

Consequences, effects and reactions of nurses after being exposed to external or internal violence incidents are various including; anger, fear, stress, humiliation, lost rights and injustice... etc (Table 6).

Generally, the most reported consequences by exposed nurses after being exposed to external violence were stress and anger, 28.4% and 26.4%, respectively, whereas nurses who were exposed to internal violence reported mostly fear (31.8%) and stress (26.5%).

Nurses reported many psychological consequences due to exposure to the different types of aggression externally and internally. For example, 62.9% of nurses who were exposed to external physical violence reported fear, 41.4% were depressed, 37.1% were stressed and 35.7% felt they had been humiliated. Similarly, stress, anger and humiliation were the main consequences of external verbal aggression. Also, psychological and sexual violence lead the nurses to feel stress, anger and fear.

Unlike external aggression, stress was the main consequence of internal physical aggression 62.5%; fear for verbal and psychological assaults was reported by 51.7% and 46.1% of nurses. For sexual violence, anger and stress were reported by 57.1% of nurses for each. It is also clear that most of the surveyed nurses reacted stressfully to the external and internal bullying (Table 6).

Impact of exposure to violence on job satisfaction and work performance is presented in (Table 7). Of the nurses who faced external and internal aggression last year, 29.2% and 40% reported that their work has not been affected by the violence incidents; however, about 70% and 60% respectively, reported that exposure to violence incidents affected their work in various levels.

About 25.2% and 11.8% of nurses who experienced external and internal violence, respectively, felt injustice and that their rights are lost at work. Other nurses reported being not satisfied with job, bored of work, decreased work efficiency, decreased interest to continue their career (Table 7).

Table 5: Age, gender and occupation of perpetrators of incidents of external and internal violence against nurses in Beni Suef governorate hospitals, during 2013

Perpetrators of violence Incidents	External violence n = 281	Internal violence n = 133
Gender of perpetrator		
Male	183 (65.0%)	82 (61.7%)
Female	98 (35.0%)	51 (38.3%)
Occupation of perpetrator		
Physician	------	34 (25.6%)
Colleague	------	29 (21.8%)
Clerk	------	36 (27.0%)
Supervisor	------	34 (25.6%)
Mean age of perpetrators	36.1 ± 11.6	34.7 ± 7.5
NB: *External perpetrators' occupational data were missing in most of the questionnaires*		

Table 6: Self-reported consequences after nurses' exposure to external or internal violence at Beni Suef governorate hospitals, 2013.

Consequences of violence	After exposure to external violence n=349	After exposure to internal violence n=170
-No effects	25 (7.2%)	22 (12.9%)
-Fear	75 (21.5%)	54 (31.8%)
-Anger	92 (26.4%)	31 (18.2%)
-Stress	99 (28.4%)	45 (26.5%)
-Humiliation feelings	77 (22.1%)	13 (7.6%)
-Depression	53 (15.2%)	27 (15.9%)
-Guilty sensation	4 (1.1%)	3 (1.7%)
-Desire to take revenge	23 (6.6%)	2 (1.2%)
-Desire to leave work	23 (6.6%)	2 (1.2%)

Table 7: Impact on work, job satisfaction and performance after nurses' exposure to Violence at Beni Suef governorate hospitals, 2013.

Impact of exposure to violence at work	External violence n = 349	Internal violence n = 170
No impact on work	102 (29.2%)	68 (40.0%)
Not satisfied and bored of job	41 (11.7%)	30 (17.6%)
Decreased interest to work	30 (8.6%)	13 (7.6%)
Stressed of job	50 (14.3%)	15 (8.8%)
Humiliation feelings at work	31 (8.9%)	9 (5.3%)
No rights and loss of justice	61(17.5%)	20 (11.8%)
Decreased efficiency at work	34 (9.7%)	5 (2.9%)

Discussion

The current study aimed to examine the prevalence of external and internal violence against nurses and find out the violence-associated factors including nurses' characteristics, perpetrators, reporting, consequences and impact on work.

It was conducted among nurses of municipal, health insurance and university hospitals of Beni Suef governorate, Egypt during January and February 2014.

Our results examined the participants' exposure to workplace violence incidents throughout their nursing career, last year exposure to external violence (from patients and their companions, relatives, friends and visitors) and last year exposure to internal violence (from physicians, supervisors, colleagues, workers and hospital administrative employees). Moreover, we examined the reporting-related issues, perpetrators, consequences and impact of violence incidents on exposed nurses' work performance and job satisfaction.

Prevalence, frequency and types of violence against nurses last year:

Prevalence results showed that 92.8% of Beni Suef nurses were exposed to workplace violence at least for once during their working lifetime; and during the last year, 86.6% and 42.2% of

nurses experienced exposure to external and internal violence, respectively (Table 1). These results are alarming figures regarding the prevalence of violence against nurses in Egyptian hospitals. Ours findings support that of Samir et al., (2012) who studied the forms of workplace violence against obstetrics and gynecology departments in 8 hospitals in Cairo University, and found that the majority of their nurses (86.1%) had been exposed to violence at work during the past 6 months (Samir et al., 2012). However, it contradicted Abbas et al., (2010) who studied the workplace violence against nursing staff in Ismailia governorate, Egypt, and determined its prevalence to be about 27% (Abbas et al., 2010). The reasons for such difference are referred to the different methodologies of different studies specially, inquiring about violence incidents in various periods of work.

Similarly, in Canadian hospitals in Alberta and British Columbia, nearly half (46%) of those surveyed had experienced one or more types of violence in the last five shifts worked (Hesketh et al., 2003). In Hong Kong, Kwak et al., reported that violence had been experienced by 320 of 420 nurses (76%), and the prevalence of verbal and physical abuse was 73% and 18%, respectively (Kwak et al., 2006). A recent survey of nursing staff from 94 wards from 21 hospitals in two Australian states, found that physical violence, threats of violence and emotional abuse were experienced by 14%, 21% and 38% of respondents respectively during their last five shifts worked (Roche et al., 2010).

The results from the Canadian National Survey of the Work and Health of Nurses found that 34% of nurses providing direct care to patients reported physical assault and 47% reported emotional abuse (Shields and Wilkins, 2009). Another National Health Services (NHS) staff survey in England cited that 15% of frontline staff experienced physical violence from patients (or their relatives), whereas bullying, harassment and abuse from patients (or their relatives) were reported by 21% of frontline staff (Health Care Commission, 2009). In the USA, about 59% of nurse aides, working in nursing homes for elderly, reported being assaulted once a week and 16% reported that they are assaulted daily (Gates et al., 1999).

Therefore, nurses are at a very high risk of workplace violence, but the different methodologies result in different prevalence rates. For instance, some studies assessed the prevalence of exposure to violence incidents during the last 5 shifts, last 15 shifts, or last month, and others measured the violence magnitude in the last 3 months, last 6 months or last whole year. No doubt that the frequency of exposure during such various periods will yield different results. However, we believe that worldwide prevalence of violence against nurses is on increase.

On the other hand, it is an alarming result to find much of the violence incidents that encountered by nurses were from their internal co-workers, supervisors and managers. About (42.2%) of our nurses reported that they were exposed to internal violence during the last year; with about 24.1% of them reported exposure to more than 10 violence incidents.

Age, experience and other characteristics of nurses:

Many factors, such as age, sex, education, job position, working hours, and the nurse-patient relationship, have an effect on violence exposure (Hodgson et al., 2004; Gerberich et al., 2005; Kwak et al., 2006).

However, being statistically non significant, our results showed that younger nurses and those with fewer years of experience are more exposed to violence (Table 2).

Samir et al., (2012) study showed that nurses with less than 3 years work experience were more likely to be exposed to violence than nurses with longer work experience (Samir et al., 2012). Alike, a Jordanian study found that shorter professional nursing experience was significantly associated with a higher risk of all types of violence in the workplace (Oweis, 2005). Additionally, the studies of Adib et al., (2002) and Shen et al., (2005) reported that young nurses were more vulnerable to abuse (Adib et al., 2002; Shen et al., 2005).

On the other hand, Hodgson et al. (2004) showed in their study that older nurses experienced more abuse than others (Hodgson et al., 2004); and Ayrancy (2005) stated that nurses aged between 30 and 39 were more vulnerable to abuse (Ayrancy, 2005).

Generally, our results showed that nurses of the university hospital experienced higher rates of exposure to aggression during the last year externally and internally; and Health

Insurance nurses were exposed to lower rates of violence (Table 2).

When external violence incidents were analyzed by departments; the figures for the bullied nurses working at internal medicine, surgery, and pediatrics departments exceeded 80%, and in the gynecology and obstetrics department, it reached a rate of 100%, (Table 2).

On the other hand, outpatient nurses experienced the lowest rates of external aggression 71.7% during last year.

Again, gynecology and obstetrics nurses reported the highest rates of internal aggression during last year 74.2% followed by pediatrics nurses 56.9% (Table 2).

There were no significant differences between nurses who were exposed to violence and those who were not regarding their age, years of experience, scientific qualification. However, divorced nurses and those who were working periodically (day and night shifts) reported higher rates of aggression than those who were working till mid-day only, (P= 0.001), (Table 2).

The extent and intensity of abuse differs in various clinical situations (Winstanley and Whittington, 2004; Gerberich et al., 2005).

Lin and Liu found that most violence occurs during the evening shift (Lin and Liu, 2005). Adib et al. (2002) argued that most occurrences of verbal and physical abuse take place between 2 PM and 10 PM (Adib et al., 2002). Ayrancy (2005) stated that most violence occurs between 8 AM and 5 PM (Ayrancy, 2005).

Perpetrators of violence against nurses:

Perpetrators who committed most of the external and internal violence incidents against nurses were males. Patients and their visitors were the most frequent perpetrators who committed the external violence incidents, while nursing colleagues and supervisors perpetrated the majority of internal ones. Most of the perpetrators were at their mid thirties (Table 5).

In previous Egyptian studies, patients and their relatives were the main perpetrators for most of the assaults (Abbas et al., 2010; Samir et al., 2012). Aligned with our findings, an Australian study, representative of Tasmanian nurses, indicates that patients or their visitors are the most likely perpetrators

of verbal and physical abuse (Farrell et al., 2006). Similarly, another Australian study of the Queensland Nurses Union's members found that patients were the major source of workplace violence, with nurses in the aged care and public sectors at highest risk compared to the private setting (Hegney et al., 2010).

Another study by Farrell and Shafiei (2012) showed that patients and their visitors were identified as the main perpetrators of OV about 85% and 38% respectively; with more than half of the perpetrators (54%) were males who aged over 50 years old. Nurses reported that patients were the most distressing to cope with (56%), followed by their visitors (32%) (Farrell and Shafiei, 2012).

Reporting violence incidents against nurses:

Underreporting of patients and staff members' aggressive behavior is prevalent among the bullied nurses.

In the present study, reporting violence incidents was done by about half of the nurses who were exposed to external and internal violence, respectively. Out of the reported external and internal violence, only one third of the incidents reached the hospitals administration (Table 3).

Interestingly, reporting internal violence to administration was found to be an effective method to stop the aggression. Our results showed that reporting staff-initiated violence could stop further aggression in 72.5% of incidents. For external or internal violence against nurses, about 94.0% of the incidents reported to the administration stopped compared to only 57.1% of those reported to security (Table 3). Similar studies showed that about 70% of those nurses who had experienced violence indicated they had not reported it (Brewer et al., 2013). May and Grubbs (2002) argue that only 29% of abuse is reported and pursued by nurses .

Although underreporting might lead to inefficient attention to strategies for preventing aggressive behavior, the reasons for such behavior not being reported frequently have not been well examined. Under-reporting tendencies might vary across world regions, and violence among nurses is frequently under-reported, at least officially (Snyder et al., 2007). El-Gilany et al. (2010) noted that Middle Eastern women would be quite hesitant to admit to sexual harassment.

Consequences and effects on nurses after exposure to violence:

Consequences and reactions of nurses after being exposed to external or internal violence incidents are various including; stress, anger, fear, depression, humiliation, lost rights and injustice...etc (Table 6). Almost one third of the sample had an angry reaction. These findings concur with other studies which concluded that the most common reactions against abusive behavior were anger, helplessness, humiliation and depression (Lyneham, 2000 ; O'Brien-Pallas et al. 2009).

Worldwide results showed that the effects of abuse on nurses produce the following conditions: exhaustion, sleeping disorders, nightmares, stress, continuous headaches, chronic aches, spasm, loss of self confidence and health, self dissatisfaction, disappointment, short-temperedness, symptoms of amnesia (after being hit), phobia, depression, alcohol consumption, smoking, and even suicide. Sometimes, harm arising from physical violence causes permanent physical problems such as backache, or even the death of a nurse (Gates et al., 1999; Anderson, 2002; Pearson and Porath, 2005).

Most of our surveyed nurses reacted stressfully to the external and internal bullying.

Therefore, it should be noted that most of the consequences that follow exposure to workplace violence are psychological and mostly stressful reactions that consequently, affect the nurses' career and work.

Impact of exposure to violence on job satisfaction and work performance:

About 70% of the nurses who experienced external violence and 60% of those who were exposed to internal violence reported that their work has been negatively affected by exposure to violence incidents. The adverse impacts of nurses' exposure to violence were mainly loss of job satisfaction and reduced work performance and efficiency, followed by being bored of work, decreased interest to continue nursing career and feelings of injustice and loss of rights at work.

Similarly, Samir et al., (2012) study revealed that the majority of nurses (87.2%) who were exposed to violence believed that workplace violence had a negative effect of on their work and may lead to increased errors and decreased

quality of care as well as decreased job satisfaction (Samir et al., 2012).

Such findings are greatly expected; a research on the general population in Great Britain showed the degree of exposure to bullying and harassment was inversely related to job satisfaction, organizational commitment, work effort, productivity and performance and positively related to considering leaving, workload, stress from relationships with colleagues and autocratic leadership (Lee et al., 2002 ; Einarsen, 2009).

Conclusions and recommendations:

We conclude that the majority of nurses in Beni Suef hospitals are exposed to external violence and nearly half of them are exposed to internal violence.

Less than one third of violence incidents are reported to hospital administrations, however, reporting to administration could decrease and even stop further violence specially, the internal ones.

The risk factors for violence against nurses may be common among different hospitals; however, it may vary from a healthcare facility to another. Therefore, it is recommended that the administrations should form multidisciplinary committees to identify the risk factors and to develop strategies and guidelines for prevention of their workplace violence with a clear and publicized system for reporting them.

Administrations should hold safety training programs for prevention of violence and to help nurses and healthcare workers to understand violence-related reasons and risk factors, warning signs of violence and aggression, procedures for its avoidance, prevention and management and reporting if it occurs.

Hospital administration must be supportive and recognize that violence is often traumatic and it can be destructive to nursing career by increasing job strain, decreasing self-esteem, loss of job satisfaction, decreasing performance with poor patient care outcomes.

Circulating the results of our study and the relevant studies to nurses, co-workers and health care workers as well as to hospital administration is of great importance to correct the current ill-belief that violence is a part of nursing job and increase their awareness of the magnitude and consequences of the problem.

Administrative trends of blaming the victims is not the solution, having an effective reporting system, adopting protective guidelines, increasing nursing and other healthcare workers' awareness will make a great difference in combating this problem.

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