

## Workplace Violence against Female Nurses in Menoufia Governorate, Egypt: An Epidemiological Study

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### Abstract:

**Background:** Workplace violence (WPV) against nurses becomes a global problem with negative sequel on healthcare providers. **Objectives:** to evaluate the prevalence of WPV against Egyptian female nurses and to determine its sociodemographic and occupational risk factors. **Methods:** This cross-sectional study was performed at different level hospitals in Menoufia governorate, Egypt. A total of 1023 nurses were included, with response rate (94.82%): Nine hundred and seventy nurses. They worked on primary (n=120), secondary (n=380) and tertiary (n=470) level of hospitals. Predesigned data collection sheet was prepared to record WPV and its risk factors. **Results:** The prevalence of WPV was estimated to affect 71.24% of the studied nurses. They were exposed to verbal, physical, or sexual assault during their professional career (60.31%, 8.66% and 14.12%; respectively). Also, significant association between the public or tertiary hospital where the participants worked and WPV was found (85.38% and 52.96%; respectively). Risk factors for WPV included working in Emergency department, night shift workers, younger nurses, and work experience less than 15 years. Perpetrators of violence were in decreasing order of frequency patients' relatives (68.88%), patients (40.38%) followed by the head of the work (29.38%) and finally colleagues (18.09%). **Conclusion:** Increased WPV against female nurses become tragic in healthcare settings. Ultimate implementation of protective interventions and behavioral education sessions of nurses is needed.

**Keywords:** Healthcare, Hospitals, Nurses, Violence

### Introduction:

Workplace violence (WPV) constitutes a major problem in hospitals with nurses being at a greater risk of abuse.<sup>(1,2)</sup> About a quarter of the world's WPV occurs in hospitals.<sup>(3)</sup> The World Health Organization (WHO) defined workplace violence (WPV) as "incidents where working staff are abused, threatened, or assaulted in various circumstances during their work."<sup>(4)</sup>

Most nurses have been exposed to different forms of WPV from patients and/or their relatives, as well as exposure to aggressive behavior from their colleagues, managers and/or patients. WPV included verbal threats, physical and/or sexual assaults by patients and/or their relatives who interact with the medical staff.<sup>(5,6)</sup> Any of these acts of WPV poses a negative impact on the safety and health of

nurses<sup>(7)</sup> and may disturb the quality of patient healthcare.<sup>(8)</sup>

The aim of this study was to assess the prevalence of WPV against Egyptian female nurses and to determine its sociodemographic and occupational risk factors.

### Methods:

This cross-sectional study was conducted in Menoufia governorate, Egypt from the period of first January to the end December 2019. This study employed multistage random sample. The first stage: Out of 9 districts of Menoufia governorate, two districts (Shebin Elkom and Menouf) were chosen randomly. Second stage involved hospitals selection. From each district, three levels of hospitals comprised of one primary healthcare center, a secondary healthcare hospital and a tertiary healthcare

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hospital were chosen randomly. The third stage included all female nurses of any age, working in the selected healthcare facilities and agreed to participate in the study. Total sample size of nurses was 1023, with response rate (94.82%): Nine hundred and seventy nurses. They worked on primary, secondary, and tertiary care level of hospitals (120, 380 and 470 nurses, respectively).

The tertiary care hospitals had the highest number of participants (470 nurses). This was because tertiary hospital had specialized consultative care, specialized intensive care units and advanced diagnostic support services which provided usually on referral from primary and secondary hospitals. So, it was required higher numbers of nurses than primary or secondary hospitals.

Pre-designed data collection sheet was prepared to assess WPV and its risk factors. It was validated by a pilot survey of 10 nurses. This validation aimed to evaluate the time needed to complete the questionnaire and to assure that all the questions are phrased clearly and appropriately for comprehension and to avoid bias that might otherwise affect the results. Moreover, more validation was done for reliability coefficient with Cronbach's Alpha which was of 0.82. The questions were either of short answered, or multiple check boxes.

**The study Variables:** Independent variables comprised personal characteristics (age, marital status, and graduation degree) and occupational history (department of work, experience years,

rank position and work shift. Dependent variables contained past exposure to different types of violence (physical, verbal, and sexual)

**Data Management:** Data was analyzed using Statistical Package for Social Sciences (SPSS) version 22 (SPSS Inc, Chicago, IL, USA). Descriptive statistics were performed to describe the prevalence of WPV and its types. Chi-square test was used to assess the differences in exposure to violence regarding sociodemographic and occupational characteristics of participants. The association between workplace violence types and perpetrator of violence was tested. Odds ratio (OR) with its 95% confidence interval (CI) were used for risk estimation. All statistical analyses were two-tailed and p value < 0.05 was considered significant.

**Ethical Considerations:** The study was formally approved by Research Ethics Committee at Menoufia Faculty of Medicine. Also, permission was also sought from hospital managers. The objective of the study was thoroughly explained to hospital managers and all participants and they were assured of confidentiality. Written consent was obtained from all participants.

### **Results:**

This study was included 970 nurses who were drawn from three levels of hospitals (primary, secondary, and tertiary) located in two districts of Menoufia governorate, Egypt.

The prevalence of WPV was estimated to be 71.24% of the studied nurses. They were

exposed to verbal, physical, or sexual assault during their work (60.31%, 8.66% and 14.12%; respectively). They were exposed to more than one type of WPV as shown in Figure (1a and 1b).

The age of participants less than 25 years ago was significantly exposed to the workplace violence than those with aged ranged from 25-40 years. While the age of participants above 40 years, was significantly protected from assaults. More than half of the studied nurses who exposed to WPV had a diploma qualification (53.83%) and less than 15 experience years (58.18%). As regards to the hospitals' differences, a statistically significant association between the public or tertiary hospital where the participants worked and workplace violence (85.38% and 52.96%; respectively). Inside the hospital, nurses working in outpatients and emergency department were more assaulted than other departments as depicted in Table 1.

66.42% of sexual assaults were between single nurses while the married nurses were more exposed to the verbal and physical violence (57.95% and 53.57%; respectively). The nurses working in emergency found to be significantly associated with being assaulted physically (40.48%). Correspondingly, experience years less than 15 years among participants and junior nurses were also significantly associated with being exposed to physical, verbal, or sexual workplace violence. Night shift was reported more cases of WPV than day shift. Also, 40.38 and 68.88 percent of

assaults were reported to patients and their relatives as perpetrators of WPV while 18.09 and 29.38 percent of assaults were documented to the colleagues and head of the work as revealed in Table 2.

Perpetrators of WPV were in decreasing order of frequency patients' relatives, patients followed by the head of the work and finally colleagues as shown in Figure 2.

### Discussion:

The current study confirmed the high propensity of violence against nurses in Tertiary healthcare hospitals in Menoufia governorate, Egypt.

Workplace violence against nurses is reported in many other countries.<sup>(9-15)</sup> In this study, female nurses were verbally, physically, or sexually assaulted during their professional career (60.31%, 8.66% and 14.12%, respectively).

Verbal abuse (83.9%), verbal threats (27.6%), physical violence (21.4%), sexual abuse (10.8%), followed by ethnical harassment (6.1%) were the commonest types of WPV experienced by the Iranian nurses in a recent cross-sectional study.<sup>(16)</sup>

The prevalence of WPV against nurses was 65.8%; of this, 64.9% was verbal violence, and physical violence and sexual harassment reported to be 11.8% and 3.9%, respectively among 15 970 Chinese nurses.<sup>(17)</sup>

In the current study, nurses working in Emergency department were found to be

significantly associated with being assaulted physically in the workplace (40.48%).

This is in accordance with large Chinese study which reported that frequent workplace violence occurred primarily in Emergency and Pediatrics departments.<sup>(17)</sup>

Night shift nurses were more prone to suffer from workplace violence (WPV) than day shift in this study which is contrary to that reported by Honarvar et al.<sup>16</sup> Also, Basfr et al., recently reported higher rate of WPV against morning shift nurses when compared to the evening shift nurses (58.4% versus 42.3% respectively).<sup>(18)</sup> This could be related largely to different population and different studied departments.

Perpetrators of violence in descending order of frequency were patients' relatives (68.88%), patients (40.38%) followed by the head of the work (29.38%) and finally colleagues (18.09%) in the current study.

These figures were in accordance with previous studies. According to Honarvar et al, patients' relatives, patients followed by physicians were identified as the sources of WPV in 70.6%, 43.1%, and 4.1% of cases, respectively.<sup>(16)</sup> Respondents reported that patients' relatives were the main perpetrators in tertiary and county-level hospitals in another study.<sup>(17)</sup>

Violent behavior was mostly exhibited by the patients themselves (81.3%) in another recent study conducted in Psychiatric Hospital Settings.<sup>18</sup> More surprising, nurse managers

committed violent behaviors against 54% of the nurse participants in another Saudi study.<sup>(15)</sup>

Experience years less than 15 years among participants and junior nurses were also significantly associated with being exposed to physical, verbal, or sexual workplace violence in this study.

General nurses, younger than 30 years and with high professional titles as well as those working in shifts are at higher risk of psychological violence as reported by a recent Chinese survey.<sup>(19)</sup>

The type of violence faced was not either statistically associated with professional experience, weekly working hours, or working shift in another recent Brazilian study.<sup>(14)</sup>

Workplace violence significantly negatively affected nurses' job satisfaction and associated with higher nurses' turnover intention in another recent Chinese survey of 1024 nurses.<sup>(20)</sup>

**Limitations:** This study reflected the prevalence of WPV among the nurses and its risk factors only and did not apply any action plane for protection or reducing WPV. So, future research should focus on protective measures against WPV at individual and institutional levels.

**Conclusion:** Increased WPV against female nurses become tragic in healthcare settings. Ultimate implementation of protective interventions and behavioral education sessions of nurses is needed.

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**Fund:** The research was conducted with no fund.

**Conflict of Interest:** There was no conflict of interest.

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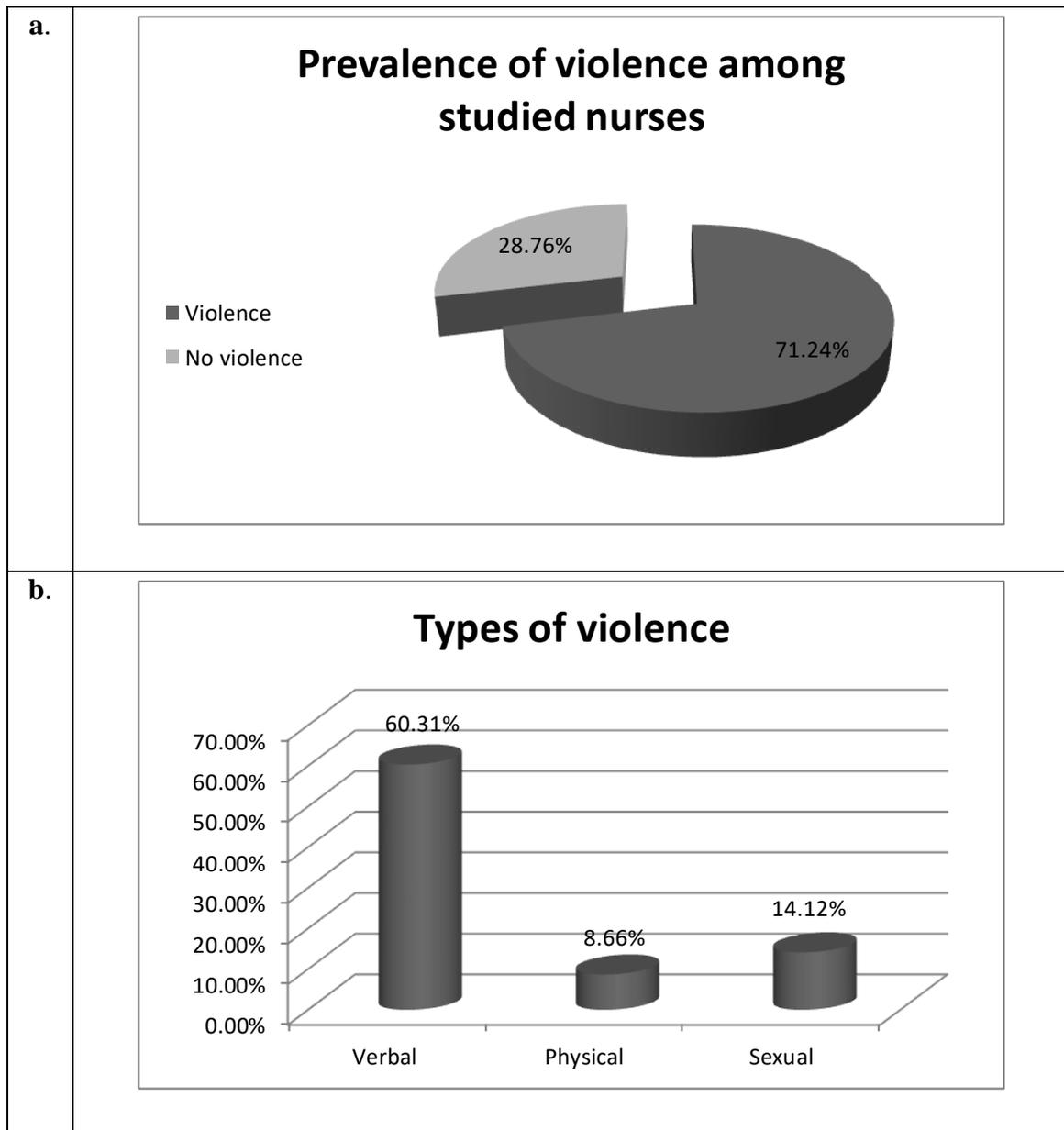


**Table (1): Association between Sociodemographic and Occupational Characteristics of nurses with Violence Prevalence**

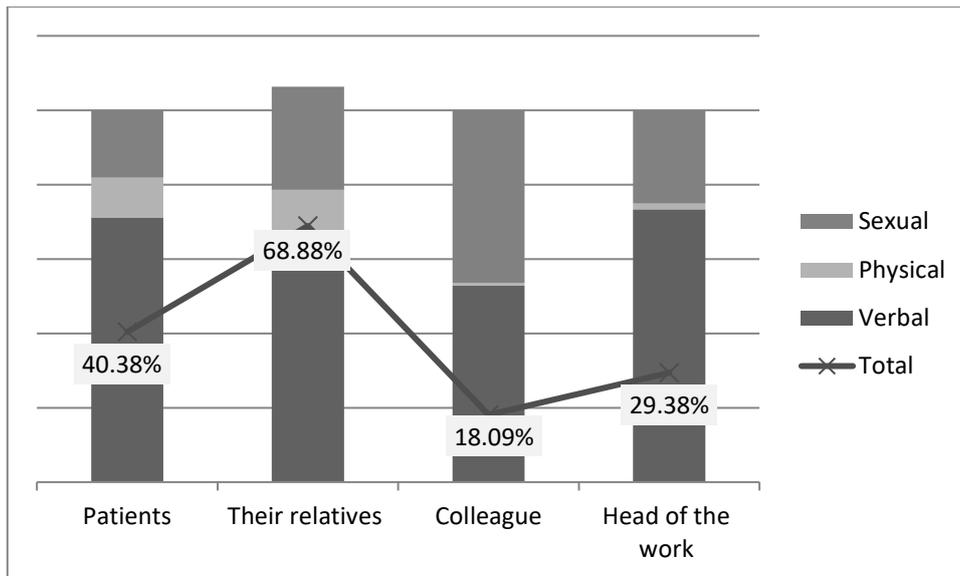
Sociodemographic and occupational characteristics	Violence (No.=691)	No violence (No.=279)	$\chi^2$ test	P value	Odds ratio (95% CI)
<b>Age</b>					
▪ <25 year	324(46.89%)	82(29.39%)	76.93	<0.001	1.88 (1.33-2.65) Reference 0.78 (0.55-1.10)
▪ 25- 40 year	198(28.65%)	94(33.69%)			
▪ >40 year	169(24.46%)	103(36.92%)			
<b>Marital status</b>					
▪ Single	261(37.78%)	98(35.12%)	1.85	0.397	-----
▪ Married	382(55.28%)	155(55.56%)			
▪ Widow or divorced	48 ( 6.94%)	26(9.32%)			
<b>Graduation degree</b>					
▪ Diploma	372(53.83%)	80(28.67%)	50.56	<0.001	2.90(2.15-3.91) Reference
▪ Bachelor degree	319(46.17%)	199(71.33%)			
<b>Department</b>					
▪ Outpatients	137(19.83%)	35(12.54%)	26.74	<0.001	1.39(0.86-2.27) 1.10 (0.70-1.71) 0.80(0.52-1.22) 0.45(0.29-0.71) Reference
▪ Emergency	163(23.59%)	53(19.00)			
▪ Medical	146(21.13)	52(18.64%)			
▪ Surgical	159(23.01%)	71(25.45%)			
▪ ICU	86(12.44%)	68(24.37%)			
<b>Experience years</b>					
▪ <15 years	402(58.18%)	83(29.75%)	64.25	<0.001	3.28(2.44-4.42) Reference
▪ >15 years	289(41.82%)	196(70.25%)			
<b>Rank position</b>					
▪ Senior	272(39.36%)	133(47.67%)	5.64	0.017	reference 1.40(1.06-1.86)
▪ Junior	419(60.64%)	146(52.33%)			
<b>Hospital</b>					
▪ Public	590(85.38%)	198(70.97%)	27.10	<0.001	2.39(1.71-3.34) Reference
▪ Private	101(14.62%)	81(29.03%)			
<b>Work shift</b>					
▪ Day	295(42.69%)	167(59.86%)	23.48	<0.001	Reference 2.00(1.51-2.66)
▪ Night	396(57.31%)	112(40.14%)			
<b>Type of hospital</b>					
▪ Primary	63(9.12%)	57(20.43%)	31.63	<0.001	0.50(0.33-0.76) Reference 1.58(1.17- 2.16)
▪ Secondary	262(37.92%)	118(42.29%)			
▪ Tertiary	366(52.96%)	104(37.28%)			

**Table (2): Association between Sociodemographic and Occupational Characteristics of Nurses with Types of Violence**

Sociodemographic and occupational characteristics	Total	Violence			$\chi^2$ test	P value
		Verbal (No.=585)	Physical (No.= 84)	Sexual (No.= 137)		
<b>Age</b>						
▪ <25 year	324	284(48.54%)	36(42.86%)	63(45.98%)	4.65	0.325
▪ 25- 40 year	198	176(30.09%)	26(30.95%)	51(37.23%)		
▪ >40 year	169	125(21.37%)	22(26.19%)	23(16.79%)		
<b>Marital status</b>						
▪ Single	261	207(35.38%)	24(28.57%)	91(66.42%)	61.95	<0.001
▪ Married	382	339(57.95%)	45(53.57%)	41(29.93%)		
▪ Widow or divorced	48	39(6.67%)	15(17.86%)	5(3.65%)		
<b>Graduation degree</b>						
▪ Diploma	372	301(51.45%)	51(60.71%)	74(54.01%)	2.26	0.27
▪ Bachelor degree	319	284(48.55%)	33(39.29%)	63(45.99%)		
<b>Department</b>						
▪ Outpatients	137	97(16.58%)	14(16.67%)	30(21.90%)	19.24	0.013
▪ Emergency	163	157(26.84%)	34(40.48%)	33(24.09%)		
▪ Medical	146	105(17.95%)	12(14.28%)	37(27.01%)		
▪ Surgical	159	151(25.81%)	17(20.24%)	26(18.97%)		
▪ ICU	86	75(12.82%)	7(8.33%)	11(8.03%)		
<b>Experience years</b>						
▪ <15 years	402	342(58.46%)	53(63.09%)	116(84.67%)	32.87	<0.001
▪ >15 years	289	243(41.54%)	31(36.91%)	21(15.33%)		
<b>Rank position</b>						
▪ Senior	272	182(31.11%)	20(23.81%)	76(55.47%)	33.90	<0.001
▪ Junior	419	403(68.89%)	64(76.19%)	61(44.53%)		
<b>Hospital</b>						
▪ Public	590	546(93.33%)	82(97.62%)	49(35.77%)	286.59	<0.001
▪ Private	101	39(6.67%)	2(2.38%)	88(64.23%)		
<b>Work shift</b>						
▪ Day	295	246(45.13%)	24(28.57%)	51(37.23%)	6.03	0.049
▪ Night	396	339(54.87%)	60(71.43%)	86(62.77%)		
<b>Type of hospital</b>						
▪ Primary	63	42(7.18%)	2(2.38%)	23(16.78%)	24.44	<0.001
▪ Secondary	262	259(44.27%)	27(32.14%)	51(37.23%)		
▪ Tertiary	366	284(48.55%)	55(65.48%)	63(45.99%)		



**Figure (1): The Prevalence of Workplace Violence and its Types among Nurses**



**Figure (2): The Perpetrators of Workplace Violence among Nurses**

## الملخص العربي العنف في مكان العمل ضد الممرضات في محافظة المنوفية بمصر: دراسة وبائية

هاله مروان جبر - فاتن عز العرب يونس - عزيزة سعد البديري

**المقدمة:** أصبحت ظاهرة العنف في مكان العمل ضد الممرضات منتشرة مع تواجدها السلبية على مقدمي الخدمة الطبية. **الهدف:** لتحديد معدل أنتشار ظاهرة العنف في مكان العمل ضد الممرضات المصريات وتحديد عوامل الخطورة لهذه الظاهرة

**طرق البحث:** تم اجراء هذه الدراسة المستعرضة على المستويات المختلفة لمستشفيات الخدمة الصحية في محافظة المنوفية بمعدل استجابة بلغ 94.82% . شملت الدراسة 970 ممرضة من العاملات بمستشفيات الرعاية الصحية الأولية والثانوية والمستوى الثالث حيث تم ملئ أستبيان سابق التصميم للبحث عن معدل أنتشار وأسباب العنف في مكان العمل ضد الممرضات. **النتائج:** بلغ معدل أنتشار ظاهرة العنف في مكان العمل ضد الممرضات 71.24% بين الممرضات المشاركات في الأستبيان وتباين بين أعتداء لفظي وجسدي وتعدى جنسى وتم الأعتداء غالبا في مستشفيات المستوى الثالث من الرعاية الصحية. كانت أبرز عوامل الخطورة لأنتشار هذه الظاهرة: العمل في قسم الطوارئ، العمل بالمناوبات الليلية، الأصغر سنا من الممرضات والأقل خبرة من 15 عام بين الممرضات. وكان مرتكبو العنف مرتبين تنازليا كالأتي: أقارب المرضى، المرضى أنفسهم، رؤساء العمل وأخيرا زملاء في العمل. **الخلاصة والتوصيات:** أصبح أنتشار العنف في مكان العمل ضد الممرضات أمرا مأساويا مما يستدعى سرعة التمدخل لايجاد أليات حماية وبرامج تثقيف سلوكي مكثفة.