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Prevalence and impact of clinical violence towards nursing students in Hong Kong: a cross-sectional study

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ABSTRACT

Objectives Studies of violence towards nursing students (NSs) have been scattered mainly in the West and Middle East, but to date there have been no studies in Eastern countries. Differences in nursing education systems and cultures might have contributed to variations in incidences of clinical violence. The purpose of this study was to investigate the prevalence, associated factors and impact of clinical violence to NSs.

Methods This was a cross-sectional survey study. Convenience sampling was used to recruit university NSs from March to June 2012 in classroom settings in Hong Kong. A valid and reliable questionnaire was used to collect the data. 1297 questionnaires were distributed and 1017 NSs completed questionnaires, with a response rate of 78.41%.

Results Of the 1017 NSs, 37.3% (n=379) reported having experienced clinical violence during their nursing studies. The prevalence of verbal abuse (30.6%) was significantly greater than that of physical violence (16.5%). The perpetrators of verbal abuse were predominantly patients (66.8%), hospital staff (29.7%), university supervisors (13.4%) and patients' relatives (13.2%). Patients (91.0%) were the greatest source of physically violent assaults. Compared with those who had experienced physical violence, the NSs who had experienced verbal abuse were more likely not to take action, and not to stop or report the incident, but were also more likely to tell their friends/families. Although the negative effects on emotions, clinical performance and the extent to which they were disturbed by the violence were significantly greater for verbal abuse than that for physical violence, their intention to leave the nursing profession after experiencing either verbal or physical violence was significantly higher after than before the experience (p<0.001).

Conclusions Our results found a moderately high prevalence of clinical violence among NSs. Provision and/or reinforcement of appropriate training about clinical violence in the nursing curricula is necessary.

Strengths and limitations of this study

► This cross-sectional study involved a large sample of 1017 nursing students from different years of study.
► The response rate for the study was high, 78.41%.
► Although the study sample was from one university, the school of nursing is one of the largest in Hong Kong.
► The recall bias of the cross-sectional design could have affected the results.

INTRODUCTION

Nursing students (NSs) are the future of this particular caring profession. Retention of NSs and new nursing graduates is one of the strategies necessary to rectify current nursing shortages.[1] Unfortunately, however, retention can be problematic, and clinical violence has been shown as one of the reasons why NSs consider leaving the profession[2] in the early stages of their education. There have been limited studies investigating the prevalence of clinical violence and its associated factors. One reason for this lack of literature may be the lack of bargaining power that NSs have with staff in hospitals and nursing schools.[3]

Workplace violence affects all workers in all sectors. Nurses have been found in some studies to be at the highest level of risk of workplace violence,[4] and in other studies it has been found to be second only to security guards and police services.[5] Nurses are vulnerable because of their frequent and direct contact with patients, families and relatives.[6] Violence towards NSs is a growing concern in nursing education, clinical practice and professional development.[7] Comparatively, there have been fewer studies investigating clinical violence towards NSs than towards staff nurses; differences have been noted in the types, contributing factors and results of clinical violence between the two groups.[2 3 8–10]

Studies of violence towards NSs have increased in the past 10 years, but have mainly been scattered among a few Western and Middle Eastern countries, such as the UK,[2 11] the USA,[3 7] South Africa,[9] Australia,[12] Turkey,[10 13] Italy[14] and Iran.[15] No studies have been conducted in any Eastern countries. Differences in the nursing education systems and cultures might have contributed to variations in the incidences of clinical violence.[16]

While 3 years is the most frequent duration of nursing education (ie, in UK and Australia), bachelor programmes of 4 years' duration are prevalent in Europe (ie, Greece, Iceland, Ireland, Israel, Malta, The Netherlands, Portugal and Sweden), USA, Canada, South Africa[17] and Asian countries (ie, Japan, Korea, Macau and Thailand).[18] In Hong Kong (HK), programmes are for 4–5 years.[19] The clinical hours required for registration also vary, from a minimum of 800 hours in Australia[20] to 1400 hours in HK,[21] to 2300 hours in the UK.[22] In addition, NSs in Australia have been found, on average, to be older than those in HK and Japan.[23] In general, workplaces in the East are more hierarchical than that in the West and this implies existential inequality.[24] The respect for authority in China may be connected deeply with rigid social stratification in Chinese feudal societies.[24]

In existing studies in Western and Middle East countries, the focus has been on the prevalence and various types of workplace violence (ie, physical violence, bullying, sexual harassment, verbal abuse), the main perpetrators, contributing factors and outcomes. Comparisons of findings are difficult because various definitions and aspects of clinical violence have been used and studied. In one UK study, nearly half of the student participants (42.18%) indicated they had experienced bullying/harassment in the previous year while on clinical placement. One-third (30.4%) had witnessed bullying/harassment of other students and 19.6% of incidents had involved qualified nurses as the bullies/harassers.[2] In South Africa, verbal violence (verbal abuse, threats, shouting and name-calling) was most commonly reported (65%), more than physical assault (6%).[9] Perpetrators of non-physical violence were classmates and students from other years (horizontal violence), and nurse educators (vertical violence) in South Africa[9] and clinical facilitators, preceptors and nurse managers in Australia.[12] A risk factor, that is, specific to NSs is the power hierarchy in the hospitals and schools. In the USA, Thomas and Burk[3] interviewed junior NSs to investigate their experiences of vertical violence during clinical rotations. They described the clinical violence towards NSs as 'nurses eating their young' and 'violence between individuals with unequal power'. Interestingly, no difference was found in prevalence of horizontal violence between bachelor and master students in the USA.[7] In Istanbul, Özcan and colleagues[10] found that student's gender and age was not related to violence during clinical practice. Yet, workplace violence can influence NSs' attitudes towards the nursing profession and their levels of satisfaction with their work.[2] Among staff nurses, younger staff experiencing workplace violence had greater intentions to leave than did the older ones.[25] Clinical violence was found to lead to uncertainty about their career choices[26 27]; and affected NSs would consider leaving nursing.[2] As a vicious cycle, those who perceive horizontal violence as a rite of passage may mimic and continue such behaviours later in their careers.[7]

Despite the fact that workplace violence is an increasingly significant problem worldwide, clinical violence towards NSs in Eastern countries has not been explored. Thus, the purpose of this study was to investigate the prevalence, associated factors and impact of violence to NSs in clinical settings.

METHOD

Design and sampling

This was a cross-sectional survey study. Convenience sampling was employed to recruit university NSs studying in 3-year higher diploma and 4-year bachelor programmes, in classroom settings, from March to June 2012. The NSs were informed, verbally and through a written information sheet, about their voluntary participation; their consent was implied if they returned the completed questionnaire. In addition, they were assured that their decision to participate or not would not affect their academic results. No incentive was given for participation.

Instrument

A questionnaire named 'Clinical Violence towards NSs' was adapted based on the literature review.[16 28 29] Permission to use the questionnaire was obtained from the authors. Substantial modifications were made to meet the study objectives. The definition of clinical violence used by the International Labour Organization and coorganisations[16] was adopted and was stated at the beginning of the questionnaire.

The questionnaire had three sections. Section 1 consisted of 11 items to collect personal information (age, gender, programme and year of study), and respondents' perceptions about clinical violence. They were asked to rate their susceptibility to violence in their clinical placements, the extent of their concern about clinical violence, whether they perceived it to be a part of the nursing job and their satisfaction with the training provided by their study programmes. In addition, they were asked to identify the workplace factors contributing to clinical violence, such as patients or visitors under the influence of alcohol or drugs. Furthermore, they were asked to indicate if they had witnessed or experienced physical violence and/or verbal abuse.

Sections 2 and 3 of the questionnaire covered the experiences of physical violence and verbal abuse, respectively, in the clinical placement. The NSs were required to complete either or both sections if they had experienced physical violence and/or verbal abuse. Each section contained 32 items covering four areas: (1) information about the violence (either physical or verbal) experienced, including frequency during the study period and the prior 12 months, place of the occurrence of violence, shift involved and the perpetrators; (2) actions taken in responding to the violence; (3) reporting behaviours; and (4) impact of the violence on personal emotions, clinical performance, how much they were disturbed by the violence and their intention to leave the nursing profession. The impact on personal emotions was assessed by 10 items asking their feelings about the incident, such as frustration, anger, fear, irritability, sadness, headache, difficulty in sleeping, shame, depression or low

self-esteem. The effect on clinical performance was evaluated by four items asking if they had lost confidence, had difficulty concentrating, provided poor nursing care to patients or experienced decreased grades for clinical placement. Furthermore, the participants were asked how disturbed they were by the violence, using four items; repeated, disturbing thoughts or images of the violence; avoiding thinking about the violence; being 'super-alert'; and feeling tired and needing to make an effort to do everything. These three subscale impact items were rated using 5-point Likert scales (ie, 1=not at all to 5=extremely). The average of each subscale was used for the data analyses. Higher scores indicated greater impact. Last, the participants were asked to evaluate their intentions to leave the nursing profession before and after the violence, using a 5-point Likert scale (ie, 1=never thought to 5=always thought).

The study questionnaire was validated by a panel of four local and overseas experts in the field of clinical violence and occupational health. The content validity index was 0.98, which was considered acceptable.[30] Furthermore, the reliability of the questionnaire was tested using the 2-week test–retest method with 30 NSs. The reliability coefficient was 0.73, which was also considered acceptable.[30]

Data analysis

The data were analysed using IBM SPSS Statistics V.23. Descriptive statistics were used to present the frequencies, percentages, means and SD of the variables under study. Missing data were not replaced because the maximum percentage of missing data for the study variables was 0.07%. χ^2 and independent t-tests were used to examine the factors (personal and workplace), associated with physical violence and/or verbal abuse. For the participants who had experienced both physical violence and verbal abuse, dependent t-tests and Wilcoxon signed-ranks test were used to determine the differences in characteristics (such as responses to the incidents and reasons for not reporting them formally) between physical violence and verbal abuse, as well as changes in their intentions to leave before and after the experiences of clinical violence. A p value of <0.05 was considered statistically significant.

Patient and public involvement

Patients were not involved in this study.

RESULTS

A total of 1297 questionnaires was distributed and 1017 completed questionnaires were returned, with a response rate of 78.41%.

Characteristics of the participants and associated factors of clinical violence

Table 1 summarises the participants' characteristics. The gender ratio of 70.4% (female) to 29.6% (male) was consistent with the ratio of the overall numbers of students enrolled in the programmes (68% to 32%). The distribution of NSs across different years of study was an average of 25% per year. In general, about 50% of the NSs perceived low susceptibility to and low concerns about clinical violence. These perceptions might have been due to their thinking that clinical violence is not a part of the nursing job (73.3%, n=737). On the other hand, close to two-thirds of the NSs considered their training for coping with violence was not adequate. Patient-related factors and heavy workloads of nursing staff were frequently stated as the factors associated with clinical violence.

However, the participants' characteristics changed if they had experienced either physical violence, verbal abuse or both. For instance, their perceived susceptibility to clinical violence (p<0.001; χ^2 60.59) and concerns about it (p=0.002; χ^2 20.44) increased incrementally; the lowest ratings were made by those who had not experienced any physical violence or verbal abuse, followed by those who had been exposed to physical violence only, those who had suffered verbal abuse only and then those having both experiences. The perceived associated factors of clinical violence also changed based on the NSs' experiences. Those experiencing both physical violence and verbal abuse were more likely to perceive confused patients as the associated factor. On the other hand, those experiencing only physical violence were more likely to consider high patient volume as the associated factor. In addition, the NSs receiving only verbal abuse were more likely to perceive staff shortages as the factor. Interestingly, those without any experience of either type of violence were more likely to identify alcohol, drug influence and uncaring nursing behaviours as the factors. Furthermore, as expected, year 4 NSs had experienced more clinical violence than those in other years (p<0.001; χ^2 233.17). Tukey's post hoc tests further indicated that those without any clinical violence experience were younger than those with such experience (F_{3991} 31.78; p<0.001).

Prevalence and perpetrators of physical violence and verbal abuse

Table 2 shows the comparisons of the prevalence and the perpetrators of clinical violence. Of the 1017 NSs, 168 (16.5%) and 311 (30.6%) had personally experienced physical violence and verbal abuse, respectively, in their clinical placements. Of these, 100 (9.8%) had experienced both physical violence and verbal abuse. Thus, a total of 379 participants (37.3%) had experienced clinical violence during their nursing studies. However, the NSs had witnessed more physical violence (25.5%, n=259), verbal abuse (43.9%, n=446) or both (17.6%, n=179) than they had actually experienced personally. Furthermore, it was alarming to observe that 4.0% (n=15) of the participants had experienced verbal abuse all the time (ie, almost every day during clinical placement). Six (1.6%) had experienced physical violence with physical injuries requiring formal treatment.

For the 100 participants who had experienced both physical violence and verbal abuse, the frequency of

Table 1 Characteristics of participants and the differences in associated factors reported by those with/without either or both physical violence and verbal abuse (N=1017)

Characteristics	All participants (N=1017) n (%)	No experience (N=638) n (%)	Physical violence only (N=68) n (%)	Verbal abuse only (N=211) n (%)	Both physical and verbal (N=100) n (%)	P value (χ^2; df; Phi)
Gender	N=1008	N=634	N=68	N=206	N=100	0.68 (1.51; 3; 0.04)
Male	298 (29.6)	191 (30.1)	16 (23.5)	63 (30.6)	28 (28.0)	
Female	710 (70.4)	443 (69.9)	52 (76.5)	143 (69.4)	72 (72.0)	
Programme of study	N=1017	N=638	N=68	N=211	N=100	0.59 (1.96; 3; 0.04)
Higher diploma	420 (41.3)	273 (42.8)	27 (39.7)	79 (37.4)	41 (41.0)	
Bachelor	597 (58.72)	365 (57.2)	41 (60.3)	132 (62.6)	59 (59.0)	
Year of study	N=1017	N=638	N=68	N=211	N=100	<0.001 (231.31; 9; 0.48)
Year 1	226 (22.2)	201 (31.5)	4 (5.9)	17 (8.1)	4 (4.0)	
Year 2	236 (23.2)	172 (27.0)	11 (16.2)	47 (22.3)	6 (6.0)	
Year 3	229 (22.5)	152 (23.8)	8 (11.8)	56 (26.5)	13 (13.0)	
Year 4	326 (32.1)	113 (17.7)	45 (66.2)	91 (43.1)	77 (77.0)	
Perceived susceptibility to violence	N=1009	N=631	N=68	N=210	N=100	<0.001 (60.59; 6; 0.25)
Not at all/a little bit	564 (55.9)	404 (64.0)	34 (50.0)	93 (44.3)	33 (33.0)	
Moderately	253 (25.1)	142 (22.5)	21 (30.9)	59 (28.1)	31 (31.0)	
Quite a bit/extremely	192 (19.0)	85 (13.5)	13 (19.1)	58 (27.6)	36 (36.0)	
Concern about violence	N=1015	N=637	N=68	N=210	N=100	<0.002 (20.44; 6; 0.14)
Not at all/a little bit	461 (45.4)	317 (49.8)	28 (41.2)	82 (39.0)	34 (34.0)	
Moderately	311 (30.6)	189 (29.7)	26 (38.2)	63 (30.0)	33 (33.0)	
Quite a bit/extremely	243 (23.9)	131 (20.6)	14 (20.6)	65 (31.0)	33 (33.0)	
Clinical violence as a part of nursing job	N=1006	N=631	N=165	N=209	N=100	0.05 (7.70; 3; 0.09)
Yes	269 (26.7)	151 (23.9)	20 (30.3)	63 (30.1)	35 (35.0)	
No	737 (73.3)	480 (76.1)	46 (69.7)	146 (69.9)	65 (65.0)	
Appropriate coping training on violence	N=1014	N=637	N=68	N=209	N=100	0.29 (7.28; 6; 0.09)
Not at all/not very well	756 (74.6)	486 (76.3)	47 (69.1)	149 (71.3)	74 (74.0)	
Satisfactorily	226 (22.3)	136 (21.4)	16 (23.5)	52 (24.9)	22 (21.0)	
Well/verywell	32 (3.2)	15 (2.4)	5 (7.4)	8 (3.8)	4 (4.0)	
Contributing factors	N=1012	N=633	N=68	N=211	N=100	
Confused patients	852 (84.2)	521 (82.3)	58 (85.3)	176 (83.4)	97 (97.0)	0.003 (14.17; 3; 0.12)
Patients/visitors with alcohol influence	476 (47.0)	326 (51.5)	29 (42.6)	84 (39.8)	37 (37.0)	0.003 (14.06; 3; 0.12)
Patients/visitors with drug influence	475 (46.9)	329 (52.0)	28 (41.2)	78 (37.0)	40 (40.0)	0.001 (17.71; 3; 0.13)
Shortage of staff	464 (45.8)	274 (43.3)	26 (38.2)	112 (53.1)	52 (52.0)	0.03 (9.23; 3; 0.10)
High patient volume	329 (32.5)	179 (28.3)	28 (41.2)	82 (38.9)	40 (40.0)	0.003 (13.81; 3; 0.12)
NSs are uncaring	270 (26.7)	184 (29.1)	9 (13.2)	58 (27.5)	19 (19.0)	0.01 (11.21; 3; 0.11)
Ward design	130 (12.8)	72 (11.4)	9 (13.2)	32 (15.2)	17 (17.0)	0.29 (3.79; 3; 0.06)

Continued

Table 1 Continued

	Mean±SD (range)	Mean±SD (range)	Mean±SD (range)	Mean±SD (range)	Mean±SD (range)	One-way ANOVA
	N=995	N=628	N=65	N=208	B=94	
Age	21.53±1.55 (19–30)	21.18±1.51 (19–27)	22.12±1.13 (19–24)	22.07±1.47 (19–26)	22.27±1.58(19–30)	P value <0.001 (F_{3991} 31.78)

0%–0.06% of missing data.
ANOVA, analysis of variance.

occurrence of verbal abuse was more than that of physical violence (p<0.001). Patients' relatives, university supervisors, hospital clinical instructors and ward supervisors were more significantly identified as the perpetrators of verbal abuse than of physical violence.

Responses to and impacts of physical violence and verbal abuse

Table 3 shows that most participants did not take action about the clinical violence or formally report the incidents. Their reasons for not reporting were mainly because they thought it was not important or useless to do so, they did not know who to report to or no one encouraged them to report the incident. The 100 participants who had experienced both physical violence and verbal abuse responded to physical violence and verbal abuse in significantly different ways. Those who had experienced verbal abuse were more likely not to take action, to ask the perpetrators to stop, to try to defend themselves physically or to report the incident, but they were more likely to tell their friends or family (p<0.05). They perceived that physical violence could be more preventable than verbal abuse (p<0.001). Although none of the verbal abuse led to formal treatment, there was significantly more sick leave taken after verbal abuse than after physical violence experiences (p<0.05). The sick leave lasted from 1 to 10 days. Furthermore, the negative effects on their personal feelings and clinical performances and the extent to which they were disturbed by the clinical violence were significantly greater for verbal abuse than for physical violence (p<0.05). The intention to leave the nursing profession after the clinical violence was consistently higher than before its occurrence for participants who had experienced either physical violence, verbal abuse or both (p<0.001).

DISCUSSION

To our knowledge, this has been the first study of clinical violence with a large sample of NSs in a South East Asian country. Several significant findings have emerged.

Prevalence of clinical violence

Our study showed that, while 37.3% of the NSs had experienced clinical violence during their nursing studies, the prevalence of verbal abuse (30.6%) was significantly greater than that of physical violence (16.5%). This indicates that the overall clinical violence and verbal abuse rate was moderately high for these NSs. Our findings were, to some extent, comparable to those of studies conducted in other countries, where overall prevalence rates have been reported as 34% in Italy,[14] 35.3% in Iran,[15] 42.2% in UK[2] and 50.3% in Turkey.[13] However, several studies reported much higher prevalence of verbal abuse of NSs, such as 91.6% in Turkey,[13] 76% in Italy,[14] 73.3% in Iran[15] and 45.1% in the UK.[11] The relatively higher rate in the other studies could be explained partly by the differences in the definitions of clinical violence and socioeconomic

Table 2 Prevalence and perpetrators of clinical violence, and the differences for participants with either physical violence, verbal abuse or both (N=379)

Characteristics	Physical violence only	Verbal abuse only	Students experienced both physical violence and verbal abuse		Wilcoxon signed-ranks test
			Physical violence	Verbal abuse	
	n (%)	n (%)	n (%)	n (%)	P value (χ^2; df)
Frequency of experience	N=68	N=211	N=100	N=100	
All the time	0 (0.0)	1 (0.5)	0 (0.0)	14 (14.0)	<0.001 (24.02; 1)
Sometimes	29 (42.6)	130 (61.6)	64 (64.0)	73 (73.0)	
Once	39 (57.4)	80 (37.9)	36 (36.0)	13 (13.0)	
Physically injured	N=67		N=99		
No	47 (70.1)	NA	73 (73.7)	NA	
Yes	20 (29.9)	NA	26 (26.3)	NA	
Formal treatment	3 (15.0)	NA	3 (11.5)	NA	
Typical violence in NSs	N=65	N=200	N=93	N=99	
No	30 (46.2)	63 (31.5)	39 (41.9)	32 (32.3)	0.07 (3.24; 1)
Yes	35 (53.8)	137 (68.5)	54 (58.1)	67 (67.7)	
Attacked by	N=67	N=205	N=99	N=100	
Patient	61 (91.0)	137 (66.8)	91 (91.9)	92 (92.0)	1.00 (0.00; 1)
Relative	0 (0.0)	27 (13.2)	1 (1.0)	22 (22.0)	<0.001 (21.00; 1)
University supervisor	1 (1.5)	33 (13.4)	0 (0.0)	8 (8)	0.005 (8.00; 1)
Hospital clinical instructor	1 (1.5)	31 (15.1)	3 (3.0)	17 (17.0)	0.001 (10.89; 1)
Ward supervisor/senior manager	3 (4.5)	30 (14.6)	1 (1.0)	12 (12.0)	0.002 (9.31; 1)
Physician	1 (1.5)	8 (3.9)	0 (0.0)	2 (2.0)	0.16 (2.00; 1)
Other nursing student	0 (0.0)	2 (1.0)	0 (0.0)	1 (1.0)	0.32 (1.00; 1)
Time of occurrence	N=66	N=203	N=99	N=99	
A shift	39 (59.1)	159 (78.3)	60 (60.6)	65 (65.7)	0.09 (2.94; 1)
P shift	20 (30.3)	38 (18.7)	25 (25.3)	27 (27.3)	
Night shift	7 (10.6)	6 (3.0)	14 (14.1)	7 (7.1)	
Area of occurrence	N=68	N=202	N=99	N=100	
Medical	43 (63.2)	101 (50.0)	56 (56.6)	61 (61.0)	0.40 (0.71; 1)
Surgical	12 (17.6)	42 (20.8)	19 (19.2)	20 (20.0)	
Others (rehabilitation, psychiatric, and so on)	13 (19.2)	59 (29.2)	24 (24.2)	19 (19.0)	
	Mean±SD (range)	Mean±SD (range)	Mean±SD (range)	Mean±SD (range)	Pair t-test, p value (t; df)
No of times during nursing study	N=68	N=211	N=100	N=100	
	1.69±1.12 (1–6)	3.00±3.22 (1–20)	2.84±2.81 (1–20)	8.92±27.99 (1–200)	0.03 (−2.16; 99)
No of times during previous 12 months	N=68	N=210	N=99	N=100	
	1.04±1.00 (0–6)	1.74±2.36 (0–20)	1.79±1.83 (0–10)	5.23±14.21 (0–100)	0.18 (−2.41; 98)

0%–0.07% of missing data.

Table 3 Responses to and impacts of clinical violence, and the differences for those with either physical violence, verbal abuse or both (N=379)

Responses after the clinical violence	Physical violence only n (%)	Verbal abuse only n (%)	Students experienced both physical violence and verbal abuse		Wilcoxon signed-ranks test P value (χ²; df)
			Physical violence n (%)	Verbal n (%)	
Responses to the incident	N=68	N=204	N=99	N=100	
Took no action	21 (69.1)	108 (52.9)	28 (28.3)	60 (60.0)	<0.001 (27.46; 1)
Tried to pretend it never happened	3 (4.4)	53 (26.0)	12 (12.1)	19 (19.0)	0.11 (2.58; 1)
Told the person to stop	22 (32.8)	29 (14.2)	54 (54.5)	28 (28.0)	<0.001 (19.88; 1)
Told friends/family	11 (16.2)	51 (25.0)	14 (14.1)	28 (28.0)	0.006 (7.54; 1)
Tried to defend myself physically	18 (26.5)	14 (6.9)	26 (26.3)	16 (16.0)	0.03 (4.55; 1)
Sought counselling	2 (2.9)	11 (5.4)	1 (1.0)	0 (0.0)	0.32 (1.00; 1)
Reported incident to a senior staff member	24 (35.3)	24 (11.8)	24 (24.2)	12 (12.0)	0.01 (6.00; 1)
Sought help from University	2 (2.9)	5 (2.5)	1 (1.0)	0 (0.0)	0.32 (1.00; 1)
Completed incident/accident form	3 (4.4)	0 (0.0)	1 (1.0)	0 (0.0)	0.32 (1.00; 1)
Took time off	N=68	N=203	N=98	N=100	
No	69 (100.0)	183 (90.1)	98 (100.0)	96 (96.0)	0.046 (4.00; 1)
Yes	0 (0.0)	20 (9.9)	0 (0.0)	4 (4.0)	
Incident could be prevented	N=66	N=204	N=96	N=100	
No	35 (53.0)	138 (67.6)	58 (60.4)	87 (87.0)	<0.001 (18.78; 1)
Yes	31 (47.0)	66 (32.4)	38 (39.6)	13 (13.0)	
Formally reported the incident	N=67	N=209	N=98	N=95	
No	61 (91.0)	198 (94.7)	94 (95.9)	88 (92.6)	0.18 (1.80; 1)
Yes	6 (0.0)	11 (5.3)	4 (4.0)	7 (7.4)	
Reasons for not formally reporting	N=57	N=187	N=91	N=83	
It was not important	43 (75.4)	104 (55.6)	58 (63.7)	54 (65.1)	0.51 (0.43; 1)
Felt ashamed	3 (5.3)	3 (1.6)	4 (4.4)	3 (3.6)	0.71 (0.14; 1)
Felt guilty	1 (1.8)	3 (1.6)	2 (2.2)	2 (2.4)	1.00 (<0.001; 1)
Useless	11 (19.3)	87 (46.5)	37 (40.7)	37 (44.6)	0.29 (1.14; 1)
Afraid of negative consequences	2 (3.5)	26 (13.9)	3 (3.3)	7 (8.4)	0.10 (2.78; 1)
Did not know who to report	6 (10.5)	31 (16.6)	12 (13.2)	8 (9.6)	0.56 (0.33; 1)
No one encourages me to report	9 (15.8)	29 (15.5)	7 (7.7)	6 (7.2)	0.25 (1.33; 1)
Effect of the clinical violence	**Mean±SD (range)**	**Mean±SD (range)**	**Mean±SD (range)**	**Mean±SD (range)**	**Pair t-test, p value (t; df)**
Negative feeling (average score of 10 items ranged from 1 to 5)	N=65 1.49±0.50 (1–3)	N=209 2.04±0.89 (1–5)	N=100 1.59±0.63 (0–4)	N=100 1.81±0.88 (1–4)	0.006 (−2.81; 99)
Negative effects on clinical performance (average score of 4 items ranged from 1 to 5)	N=65 1.34±0.50 (1–3)	N=210 1.94±1.00 (1–5)	N=100 1.39±0.64 (1–3.75)	N=100 1.65±0.97 (1–5)	0.008 (−2.70; 99)
Disturbed by the incident(s) (average score of 4 items ranged from 1 to 5)	N=65 1.38±0.51 (1–3)	N=209 1.95±0.99 (1–5)	N=100 1.42±0.62 (1–4.25)	N=100 1.61±0.85 (1–4.5)	0.02 (−2.39; 99)

Table 3 Continued

Effect of the clinical violence	Mean±SD (range)	Pair t-test, p value (t; df)	Mean±SD (range)	Pair t-test, p value (t; df)	Mean±SD (range)	Pair t-test, p value (t; df)	Mean±SD (range)	Pair t-test, p value (t; df)
Intention to leave before the violence	N=66		N=210		N=100		N=100	
	1.48±0.75 (1–4)		1.68±0.55 (1–5)		1.47±0.69 (1–3)		1.61±0.85 (1–5)	
Intention to leave after the violence	N=66		N=210		N=100		N=100	
	1.73±0.90 (1–4)		2.18±1.19 (1–5)		1.69±0.96 (1–5)		1.99±1.20 (1–5)	
Difference between intention to leave before and after the violence (before–after)	<0.001 (−4.23, 65)		<0.001 (−8.65, 209)		<0.001 (−4.36; 99)		<0.001 (−4.98; 99)	

0%–0.05% of missing data.

cultural variations in the studied populations. For instance, Tee *et al*,[2] in the UK, included racism as a form of abuse. Furthermore, because of cultural values and norms, Chinese NSs are likely to be more obedient and respectful to their seniors,[24] which may potentially result in lower rates of clinical violence specifically by hospital and/or university staff.

Perpetrators and associated factors of clinical violence

We found that the perpetrators of the verbal abuse experienced by the NSs were predominantly patients (66.8%), followed by hospital staff (29.7%), university supervisors (13.4%) and patients' relatives (13.2%). Patients (91.0%) were the greatest perpetrators of physical assaults. Our results were largely in agreement with the studies of Ferns and Meerabeau[11] and Magnavita and Heponiemi[14] but were inconsistent with others.[2 15] For instance, Tee *et al*[2] found that British NSs were confronted more frequently by hospital staff, including nurses, hospital care assistants and managers (31.1%) and less frequently by patients and relatives (4.9%–1.2%, respectively). Despite nursing being caring profession, it is a great concern that there is vertical violence inflicted by hospital staff and university supervisors/teachers. However, the reasons for such vertical violence are not well understood. Future research is necessary to elucidate the contributing factors for such vertical clinical violence. Besides, our findings confirmed that it is not uncommon for NSs to encounter verbal and physical abuse from patients and their relatives. Future research is also needed to understand the characteristics of perpetrators, victims and organisations related to clinical violence towards NSs, and to study the relationships between these variables to elucidate appropriate tailored initiatives and intervention approaches to mitigate workplace violence. Research-based knowledge about the causes and escalating nature of violence incidences would facilitate the planning of interventions.[31]

An interesting result was found in our study: there were significant differences between NSs with and without clinical violence experiences on perceived susceptibility of, concern about and associated factors with clinical violence. NSs with clinical violence experiences commonly believed that the reasons for clinical violence were the hospital system (such as staff shortages and high patient volume) and confused patients, while those without such experiences blamed NSs' uncaring attitudes or patients/visitors under the influence of drugs/alcohol. These differences concur with the health belief model.[32] A person's perceived susceptibility and assessment of the severity of an event (such as clinical violence) are affected by his/her knowledge and experience of that event. Our study found that NSs who had experienced clinical violence perceived themselves to be more susceptible and the violence to be more severe than did their counterparts. As well, the majority of NSs (74.6%) recognised that their training about clinical violence was inadequate and inappropriate. The results of the study echoed the claims in the existing literature that clinical violence towards

nurses is associated with understaffing, patient-risk factors and lack of assault management training.[33] Thus, incorporating training programmes for NSs in violence prevention and management can be a fundamental strategy to decrease clinical violence. Although all graduating NSs in our university do undergo violence prevention and management training, our study results can inform the revision of the training programme to include how to assess and communicate with confused patients in an understaffed clinical environment. Future study is also needed to examine whether such training would enhance NSs' competence in managing clinical violence. According to the Framework Guidelines for addressing workplace violence in the health sector,[16] the areas that should be considered include early recognition of escalating behaviours and situations, de-escalating techniques in interpersonal and communication skills and enhanced knowledge about medications to control patients' agitation better. Initiating antiviolence policies, together with crisis interventions, to reduce workplace violence, may play a critical role in violence prevention strategies as well as improvements to workplace safety. Appropriate policies against workplace violence, with priorities given to work ethics, safety, mutual respect, tolerance, equal opportunity and cooperation, should be developed and implemented to address workplace violence.[16] Research evidence has demonstrated that early intervention with verbal-escalation conducted by multidisciplinary assault reduction teams can be effective in resolving violent incidences and decreasing nursing staff injuries by 47% in hospital settings.[34] The multidisciplinary assault reduction team is formulated by the nursing supervisor, security personnel, the primary physician and nurse and others involved in the patient's direct care. All team members have undergone specialised verbal de-escalation training.

Impact of clinical violence

Notably, clinical violence has detrimental effects on NSs. It is noteworthy that all of these negative effects on emotion, clinical performance and the extent to which the respondents were disturbed by the incidents, were significantly greater for verbal abuse than for physical violence. Additionally, clinical violence deterred our future nurses from staying in the profession. Their intention to leave the nursing profession after experiencing clinical violence was significantly higher than it was before the experience (p<0.001). Moreover, verbal abuse resulted in students' absenteeism from work (9.9%). In our study, the NSs who had experienced verbal abuse (78.9%) were more likely than those who had experienced physical violence (73.5%) to take no action or to pretend the violence had not happened (table 3). These incidences were rarely reported because the students felt that they were either trivial or that reporting would be futile. Our results were congruent with other studies.[2 13 14] Violence against NSs not only causes psychological harm but also can affect their clinical performances, compromising the quality of patient care; more importantly, it may lead them to abandon their profession as the result of the violence. Our findings highlight the gaps in current strategies and interventions available to alleviate clinical violence, particularly to address verbal abuse from authority figures so as to protect NSs from being victims.

According to the International Labour Organization's framework guidelines for addressing workplace violence in the health sector,[16] clinical violence reduction initiatives and strategies are essential and can be presented by both individual and system approaches in hospital settings. It is suggested that assertiveness empowerment training and self-defence should be provided for NSs as individual-focused interventions. To improve coping with workplace violence, general well-being should be promoted by maintaining physical fitness and emotional stability. As a caring profession, it is necessary at management level (both educational and clinical) to establish protocols for reporting, documenting and responding to incidents of violence. Increasing NSs' awareness about how and where to report without fear of criticism or reprisal would help to unveil violence incidents and tailor appropriate preventive and management strategies. Reported cases can be referred to counselling services for emotional support and improved coping strategies.

CONCLUSIONS

Our survey found a moderately high prevalence of clinical violence towards NSs during clinical placement. This finding adds to the literature showing that the prevalence of and negative impacts from verbal abuse were significantly higher than physical violence. Our study also revealed that experiences of clinical violence heightened students' intentions to leave the nursing profession. Provision and/or reinforcement of appropriate training about clinical violence are necessary and can be achieved by incorporating violence prevention and management programmes and crisis interventions into nursing curricula. In the clinical setting, the initiation of antiviolence policies would be a step towards reducing workplace violence.

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