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Minnesota Nurses' Study: Perceptions of Violence and the Work Environment

Nancy M. NACHREINER*, Susan G. GERBERICH, Andrew D. RYAN and Patricia M. McGOVERN

University of Minnesota, Minneapolis, Minnesota, USA

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Abstract: Work-related violence is an important problem worldwide, and nurses are at increased risk. This study identified rates of violence against nurses in Minnesota, USA, and their perceptions of the work environment. A sample of 6,300 randomly selected nurses described their experience with work-related violence in the previous year. Differences in perceptions of the work environment and work culture were assessed, based on a nested case-control study, comparing nurses who experienced assault to non-assaulted nurses. Annual rates of physical and non-physical assault, per 100 nurses, were 13.2 (95% CI: 12.2–14.3), and 38.8 (95% CI: 37.4–40.4). Cases were more likely than controls to report: higher levels of work stress; that assault was an expected part of the job; witnessing all types of patient-perpetrated violence in the previous month; and taking corrective measures against work-related assault. Controls versus cases were more likely to perceive higher levels of morale, respect and trust among personnel, and that administrators took action against assault. Nurses frequently experienced work-related violence, and perceptions of the work environment differed between nurses who had experienced physical assault, and those who had not. Employee safety, morale, and retention are particularly important in light of the nursing shortage, and knowledge of nurses' perceptions will assist in tailoring interventions aimed at reducing the substantial risk of physical assault in health care settings.

Key words: Physical assault, Non-physical violence, Work-related violence, Nurses, Occupational

Introduction

Work-related violence was not apparently identified as an important public health problem in the United States until 1991[1]. In the United States, homicide was the fourth leading cause of occupational fatality in 2005[2], and approximately 1.7 million non-fatal acts of work-related violence occurred annually in the United States between 1993 and 1999[3]. However, work-related violence is not contained within national borders. Chappell and Di Martino[4] document international studies of work-related violence occurring in: Australia, Brazil, Bulgaria, France, Germany, Japan, Lebanon, Portugal, South Africa, Spain, Thailand, the United Kingdom, and the United States. In addition, many studies on work-related violence also exist outside the previously mentioned locations, including: Canada[5]; Sweden[6]; Nigeria[7]; Jamaica[8]; Taiwan[9]; Ireland[10]; and Turkey[11]. Specific industries or groups of workers appear to be at increased risk for violence. Hospital and health care workers, particularly nurses, are at high risk for non-fatal violence[12–14]. Between 1993 and 1999 in the United States, nurses experienced work-related violence at the highest rate (22 per 1000 workers) among all types of health care workers[3]. The purpose of this study was to identify the perceptions of violence and the work environment among nurses in Minnesota, USA.

Subjects and Methods

Study population

The target population for this study was all Registered

*To whom correspondence should be addressed.

Nurses (RNs) (57,388) and Licensed Practical Nurses (LPNs) (21,740) licensed in the state as of October 1, 1998[15]. Eligible participants worked in Minnesota, USA during the 12 months prior to the date they completed the survey. A sample of 220 nurses was selected for pilot testing, and 6,300 nurses were randomly sampled for the full study. Approval to conduct the study was provided by the University of Minnesota Institutional Review Board.

Definitions

Consistent with the definition used by the U.S. National Institute for Occupational Safety and Health[16], physical assault was defined as being hit, slapped, kicked, pushed, choked, grabbed, sexually assaulted, or otherwise subjected to physical contact intended to injure or harm. Non-physical violence included threats, sexual harassment, and verbal abuse. Violence was considered to be work-related if it occurred in the work environment or during any activities associated with the job. This included work-related travel.

Selection of cases and controls

After completion of the pilot study, 6,300 nurses were mailed the Phase 1 questionnaire to establish employment status and the incidence and consequences of work-related violence. Based on the 78% response from Phase 1, 475 cases (working nurses who reported at least one event of physical assault during the previous 12 months) and 1,425 controls (working nurses who did not experience physical assault) were included in Phase 2 to identify risk and protective factors for work-related physical assault. Factors assessed included various characteristics of the nurse (age, gender, years worked in that department, etc.); the perpetrators (impairment status, gender, etc.); and the work environment (type of facility, department, environmental characteristics—lighting, accessible exits, etc.). The descriptive factors included in this manuscript are based on the nurses' perceptions of expectations of violence, corrective measures taken against violence, and the witnessing of patient-perpetrated violence.

Data collection

For both the Phase 1 survey and the Phase 2 case-control study, a maximum of four follow-up mailings were sent. The initial mailing and first three follow-up mailings included full surveys; the fourth follow-up mailing contained a condensed, one-page survey. These mailings included a cover letter providing informed consent, the survey instrument, and a postage-paid return envelope.

Analyses

Rates of violence were calculated based on data from the Phase 1 study, including both physical and non-physical violence. Descriptive factors of cases and controls are restricted to physical assault perpetrated by patients, which accounted for approximately 96% of cases (n=310). Descriptive analyses were performed using SAS (version 8.2).

Limitations

A potential limitation of this study is that nurses self-reported information on their written surveys. An attempt to minimize recall bias was made by limiting reporting to events which occurred in the previous year, in the first phase of the study, and limiting recall to one specific month in the past year, for the second phase of this study. This method has been used successfully in previous studies[10, 17]. Nurses were contacted to clarify missing or unclear information in an attempt to minimize information bias. Additionally, the associations reported were the results of bivariate tests and, thus, are preliminary findings that suggest a need for subsequent multivariate estimations.

Results

Phase 1

Based on the Phase 1 survey, the majority of respondents were women (96%), RNs (75%), and the average age was 46 yr (±SD, 10.1). The annual physical assault rate was 13.2 per 100 nurses (95% CI 12.2–14.3); the non-physical violence rate was 38.8 (95% CI; 37.4–40.4)[18].

Phase 2

Response for the Phase 2 (case-control) study was 67%. The majority of respondents were female RNs, age 40 to 49. Most cases worked in nursing homes or long term care facilities, while controls worked in hospital in-patient facilities[19]. Cases also most frequently worked in long-term care departments within these facilities, with a geriatric population, compared to controls who worked in medical/surgical departments with an adult (non-geriatric) population[19]. Cases and controls described their perceived work environment (See Table 1). Both groups described high levels of work stress (77% and 63% respectively); however, the majority of nurses also reported positive levels of "respect and trust among personnel" (75% and 83% respectively). Despite high levels of trust among personnel, 59% of cases and 46% of controls reported the overall quality of morale as poor or fair. The majority of nurses rated supervisor support (prior to the assault for cases, and a

Table 1. Work environment perceptions

	% Cases (n=310)	% Controls (n=946)	χ^2 *p* value
Work Stress			
No or some stress	21	36	<0.01
Moderate or a lot of stress	77	63	
Quality of respect/trust among personnel			
Poor or Fair	24	17	0.03
Good, Very good or Outstanding	75	83	
Quality of morale among personnel			
Poor or Fair	59	46	<0.01
Good, Very good or Outstanding	40	53	
Supervisor showed concern for those supervised			
Disagree or Strongly disagree	25	21	0.17
Agree or Strongly agree	68	73	
Supervisor paid attention to what I said			
Disagree or Strongly disagree	24	20	0.04
Agree or Strongly agree	70	75	
Administration expected assault as a possible consequence of the job			
Disagree or Strongly disagree	32	57	<0.01
Agree or Strongly agree	61	34	
Administration took corrective/preventive measures against workplace assault			
Disagree or Strongly disagree	41	27	<0.01
Agree or Strongly agree	46	60	
Coworkers expected assault as a possible consequence of the job			
Disagree or Strongly disagree	20	54	<0.01
Agree or Strongly agree	76	39	
Coworkers took corrective/preventive measures against workplace assault			
Disagree or Strongly disagree	20	28	<0.01
Agree or Strongly agree	71	58	
I expected assault as a possible consequence of the job			
Disagree or Strongly disagree	21	55	<0.01
Agree or Strongly agree	77	42	
I took corrective/preventive measures against workplace assault			
Disagree or Strongly disagree	16	24	<0.01
Agree or Strongly agree	81	67	
Frequency witnessing patients perpetrating physical assault in previous month			
Never	13	63	<0.01
1 to 3 times	44	27	
4 to 10 times	20	5	
More than 10 times	23	4	
Frequency witnessing patients perpetrating threats in previous month			
Never	19	55	<0.01
1 to 3 times	32	30	
4 to 10 times	24	8	
More than 10 times	24	5	
Frequency witnessing patients perpetrating sexual harassment in previous month			
Never	52	78	<0.01
1 to 3 times	29	17	
4 to 10 times	8	3	
More than 10 times	10	2	
Frequency witnessing patients perpetrating verbal abuse in previous month			
Never	5	33	<0.01
1 to 3 times	26	39	
4 to 10 times	23	15	
More than 10 times	45	14	

randomly selected month for controls) in a positive manner. Of cases, 68% agreed or strongly agreed their supervisor showed concern for those he/she supervised; the corresponding percentage for controls was 73%. Additionally, most nurses felt supervisors paid attention to those they supervised (cases: 70%, controls: 75%).

Nurses were asked about whether assault was expected as a consequence of the job, and whether corrective measures were taken against workplace assault. Perceptions of these characteristics were assessed on three levels: 1) self-ratings by the nurses; 2) the nurses' perceptions of administration; and 3) the nurses' perceptions of co-workers. Cases more frequently than controls perceived that expectations of experiencing assault on the job existed at all levels—administrative, coworker, and personal. Approximately 77% of cases agreed or strongly agreed that they expected assault as a possible consequence of the job, compared to 42% of controls. When asked whether corrective or preventive measures were taken against possible work-related assault, the cases perceived they and their coworkers took action more frequently than the controls; 81% of cases reported taking action, compared to 67% of controls. In contrast, controls were more likely than cases to perceive that their administrators took preventive or corrective action against assaults (cases 46%, controls 60%) (Fig. 1).

For all types of violence (physical assault, threat, sexual harassment, and verbal abuse), cases reported higher frequencies of witnessing patient-perpetrated violence in the past month, with verbal abuse being the most frequently witnessed type of violence.

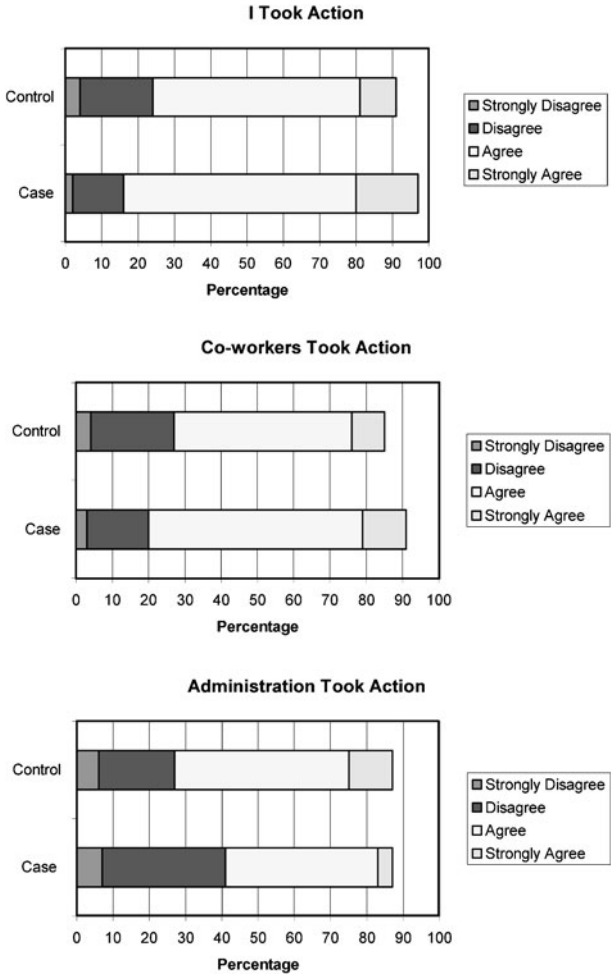

Fig. 1. Perceptions of preventive/corrective actions taken by self, co-workers and administration.

Discussion

Rates of violence are a concern for this population of Minnesota nurses, with over 13 per 100 nurses reporting at least one episode of physical assault in the past year, and at least 38 per 100 nurses reporting at least one episode of threat, sexual harassment or verbal abuse. The importance of this finding confirms some previous reports with high levels of violence[12–14]. In 2000, a joint group including the International Labour Office (ILO), the International Council of Nurses (ICN), the World Health Organization (WHO), and Public Services International (PSI) commissioned several country-wide studies of work-related violence in the health care sector[20]. Although study methods and definitions differed from the current study, it is interesting to compare the Di Martino results to the findings in the current paper (See Table 2).

Nurses, both cases and controls, perceived a high level of work-related stress. Both groups ranked the quality of respect and trust among personnel as good, very good, or outstanding, and also ranked supervisor support highly, but, in contrast, felt that the morale among personnel was poor or fair. Di Martino[20, 21] reported (p. 26), "When stress and violence interact in the workplace as they often do, their negative effects cumulate rapidly and activate a vicious circle which is very difficult to unravel." In comparison, in an online survey of Registered Nurses (RNs), Ulrich *et al*.[22] found that 72% of American RNs reported "Excellent" or "Good" quality of communication among nurses. In addition, these same researchers noted that the quality of collaboration among RNs was reported as "Excellent" or "Good" by 75% of nurses. Ulrich *et al*.[22], noted that little research specifically addresses how nurses define "respect" and what behaviors are associated with "respect." However, the current findings suggest that while peer relationships are positive, nursing

Table 2. Health care workers reporting violence in the previous year[20]

Country	Physical assault in past year	Psychological violence in past year
Thailand	10.5%	47.7%
South Africa	9.0% (private sector)	60.1% (public sector)
	17.0% (public sector)	
Bulgaria	7.5%	32.2%
Brazil	6.4%	39.5%
Lebanon	5.8%	40.9%
Portugal	3.0%	51% (health centre complex)
		27.4% (hospital)
Australia	(not available)	67%

morale, which may include feelings of confidence and enthusiasm about one's job or employer, may suffer in association with work-related assault.

Di Martino[21] noted that the general culture of the work environment must be taken into consideration when assessing the risk of work-related violence. He noted that a participatory working environment, with open dialogue and communication may defuse the risk of violence. Callaghan[23], in a qualitative study of nurses in Scotland, reported very low morale, based primarily on issues of low pay, lack of support for education, limited opportunity for promotion, and job insecurity. Di Martino[21] (p. 23) noted that job security is, "always associated with stress and the risk of violence at work." Supervisor support may decrease the amount of stress and violence in the workplace. Findorff *et al*.[24] noted that increased supervisor support decreased the odds of physical and non-physical violence against nurses. Hansen *et al*.[25] also found that bullied employees had lower social support from coworkers and supervisors. Multivariate tests of the association between stress and violence are needed to confirm or reject the effect on morale, given the current nursing shortage and the importance of nursing morale to job retention.

Nurses' perceptions regarding expectations of violence identified important trends in this study. Many nurses agreed or strongly agreed that violence was an expected part of their job. These perceptions are consistent with opinions from other researchers. For example, Trossman[26] quoted Kingma, a consultant for the International Council of Nurses (p. 6), "Nurses are expected to deal with conflicts, so if they are harmed by a patient, they feel it reflects badly on their performance". Nurses may not wish to admit to experiencing violence, as they may feel that the situation occurred through some fault of their own. As McPhaul and Lipscomb[27] (p. 1) described: work-related violence is a complex problem, partly because of "a health care culture resistant to the notion that health care providers are at risk for patient-related violence, combined with the complacency that violence, if it exists, is a part of the job". Cases more often than controls reported they expected assault as a possible consequence of the job. They also were more likely to perceive that coworkers and administration shared this expectation. It is likely that nurses' belief that violence is an expected consequence of the job may result in underreporting of violence in other studies[24] and may contribute to a diminishment of the scope of the problem by health care administrators.

When comparing perceptions that corrective or preventive steps had been taken against physical assault, controls were more likely than cases to perceive administration was taking action; however, cases were more likely than controls to perceive that they personally made changes or that their coworkers made changes to correct or prevent work-related assault. It may be that assaulted nurses personally feel they must take action to prevent future violence, while non-assaulted nurses may perceive they do not need to institute protective measures on their own, because they are confident administration is working on their behalf to protect them. Alternatively, it may be that institutions whose top administrators are known by staff to take preventive or corrective action against assaults subsequently experience relatively fewer work-related assaults. Multivariate tests of this association are needed to test this association as nurses' perceptions of their administrators' responsiveness to work-related violence has implications for employee safety and morale as described above. Chapman and Styles[28] noted that it is essential that nurses, government, and the community refuse to accept that violence and aggression are 'just part of the job.'

Cases were also more likely than controls to report witnessing a higher level of violent behavior being perpetrated by patients in the work environment. This

included all types of violence—physical and non-physical. This is especially important, given that work-related violence has been cited as one reason nurses choose to leave the profession, and because a significant nursing shortage in the United States is expected by 2020[29]. Ulrich *et al*.[22] noted that 20% of American nurses plan to leave their current position in the next 12 months, and over 28% indicated planning to leave their position within the next three years. It is important to further understand the role of work-related violence as it relates to nurses choosing to leave the profession, so that interventions can be tailored to decrease these risks, and to encourage retention, of nurses.

Conclusion

Work-related violence appears to be an important problem for Minnesota nurses. Although nurses perceived a high level of quality of respect and trust among personnel, they reported high levels of work-related stress, witnessing of patient-perpetrated violence, and high expectations of assault as a consequence of the job within their environments. This knowledge of nurses' perceptions will assist in tailoring interventions aimed at reducing the substantial risk of physical assault in health care settings.

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