

Multiple Risk Factors for Violence to Seven Occupational Groups in the Swedish Caring Sector

Les facteurs de risque de violence envers sept groupes professionnels du secteur des soins de santé en Suède

Factores múltiples de riesgo de violencia en siete grupos ocupacionales del sector salud en Suecia

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Résumé de l'article

La violence au travail est un sujet qui a retenu l'attention croissante à l'échelle internationale. Le personnel du secteur de la santé et du bien-être semble plus exposé que d'autres catégories de personnels. Dans le passé, la violence liée au travail dans le secteur des soins de santé a fait l'objet d'étude plus particulièrement dans les domaines des soins psychiatriques et médicaux graves. D'autres domaines de ce secteur, tels que les services aux personnes en perte d'autonomie, aux plus âgées et à celles physiquement malades ont beaucoup moins retenu l'attention des chercheurs. On a fait état des effets d'ordre physique, psychologique et comportemental reliés à une forme ou l'autre d'agression, alors que la violence peut avoir également une influence sur les conditions de travail et sur la qualité des soins à donner aux patients.

De nombreuses études ont fait référence aux caractéristiques des patients à titre d'explications au phénomène de la violence au travail ou encore à un facteur de risque auquel le personnel serait exposé, alors que l'analyse systématique de d'autres facteurs de risque se fait attendre. Ces facteurs peuvent être de l'ordre, par exemple, des caractéristiques personnelles des travailleurs, c'est-à-dire l'âge, le sexe et l'expérience de travail. De plus, des différences au plan des conditions de travail qui prévalent dans certaines catégories d'emploi peuvent donner lieu à des degrés différents de risque. Ainsi, des particularités reliées au travail, telles que le lieu physique des soins, le type d'emploi (plein temps ou temps partiel), les heures de travail, les conditions de travail (contacts fréquents ou non avec les bénéficiaires, le fait de travailler à la résidence des patients ou de travailler seul), le changement organisationnel (réduction de la taille de l'établissement) et la charge de travail sont autant de facteurs qui peuvent accroître ou diminuer le risque.

La connaissance limitée de la violence et des menaces dans le secteur des soins de santé et du bien-être est devenue avec le temps un terrain propice à la recherche dans ce domaine. Cette étude fait justement partie d'un vaste projet de recherche dont les objectifs sont de vérifier dans quelle mesure les menaces et la violence visent certains groupes professionnels ou occupationnels dans le secteur de la santé et du bien-être en Suède et de répertorier les facteurs reliés à la personne ou à l'environnement de travail en regard du risque. L'échantillon retenu dans cette étude provient de sept groupes professionnels les plus importants dans le secteur municipal de la santé et du bien-être en Suède : les administrateurs, les spécialistes des soins infirmiers, les surveillants, le personnel infirmier (soins directs), le personnel infirmier auxiliaire, le personnel d'aides infirmiers et les préposés. Sur un total de 172 881 employés, 400 furent choisis au hasard dans chaque catégorie occupationnelle. Les données ont été recueillies par voie de questionnaires postaux comprenant 29 questions impliquant des réponses sous forme de choix forcé. Le taux de réponse définitif a été de 85 % de l'échantillon total. Pour les fins de cette étude, la violence au travail a été définie d'une manière large englobant l'agression à la fois verbale et physique à l'endroit du personnel de la part principalement des patients. On fit appel à des tests de chi-carré pour apprécier les écarts entre les différentes catégories occupationnelles eu égard au degré d'exposition aux menaces et à la violence; également eu égard à la fréquence de l'exposition. On a aussi retenu les tests de chi-carré pour vérifier si des caractéristiques individuelles ou reliées au travail chez le personnel exposé pouvaient varier selon les catégories occupationnelles. Pour l'identification des facteurs de risque d'exposition aux menaces et à la violence, on a utilisé la régression logistique en recourant à des analyses distinctes pour les sept catégories occupationnelles. Dans chacun des cas, la variable dépendante était l'exposition à la menace ou à la violence, alors que les variables indépendantes comprenaient des ensembles de caractéristiques individuelles et reliées au travail. On a aussi fait appel à l'analyse de régression multiple pour évaluer la fréquence à laquelle le personnel des soins de santé était exposé aux menaces et à la violence dans le secteur municipal en Suède. La fréquence d'exposition était la variable dépendante, alors que les variables indépendantes étaient de nouveau un ensemble de caractéristiques reliées à la personne ou associées au travail. Les analyses ont été effectuées de façon séparée pour chaque catégorie occupationnelle.

Environ la moitié des répondants (50 %) ont mentionné qu'ils avaient été victimes de violence ou de menace de violence au travail à un moment donné au cours de l'année précédente. La grande majorité des répondants ont fait état d'avoir été victimes de violence originant des patients ou des clients (96 %). Les sortes de violence les plus mentionnées consistaient en des menaces verbales (72 %), des actions de pincer ou de griffer (65 %), de taper (49 %) et de cracher (36 %). Les occupations les plus exposées entrent dans la catégorie des soins directs (infirmières) (61,6 %) et des aides infirmières (60,7 %). Plus du tiers des répondants exposés ont dit avoir fait face à des menaces ou à de la violence au travail à la fréquence soit d'une fois par mois (11,7 %), une fois par semaine (17,7 %) ou sur une base presque quotidienne (9,3 %). Les fréquences d'exposition quotidienne se retrouvaient dans la catégorie des soins directs, des aides infirmières et des préposés. En tout, l'âge moyen des personnes exposées se situait à 42,1 années et la plupart étaient des femmes. Seulement 11,2 % ont rapporté une faible ancienneté et 23,6 % ont mentionné être dans leur établissement actuel depuis une courte période de temps. Dans le groupe à l'étude pris dans son ensemble, 71,2 % étaient affectés aux soins gériatriques. La plupart (76,6 %) travaillaient dans des résidences pour personnes âgées. Moins d'un tiers des personnes travaillaient dans la demeure du bénéficiaire ou l'équivalent. Légèrement un peu plus du tiers travaillaient habituellement à temps plein et 58 % le faisaient durant le jour. La grande majorité (91,1 %) des répondants était en contact direct avec les bénéficiaires pendant leur temps de travail. Près de la moitié du personnel exposé passait la plupart de leurs heures de travail à l'intérieur des maisons de leurs clients et 42,1 % demeuraient avec les clients pour plus de la moitié de leur temps de travail. Environ la moitié du personnel exposé avait été témoin d'une restructuration au cours de l'année antérieure. Un tiers mentionnait que la charge de travail était extrêmement lourde au cours de cette période.

Néanmoins, les résultats obtenus s'avèrent consistants avec ceux des recherches antérieures. Chacune des sept catégories professionnelles a été exposée à de la violence sur le lieu de travail, mais la fréquence de l'exposition varie. Des facteurs d'ordre individuel tout comme des caractéristiques reliées au travail sont associés au risque d'une exposition à la violence. Les données indiquent que les menaces et la violence dans les lieux de soins de santé constituent un enjeu important de l'environnement de travail. Des remèdes d'ordre organisationnel et environnemental en vue de gérer et de réduire la violence au travail sont recommandés.

Multiple Risk Factors for Violence to Seven Occupational Groups in the Swedish Caring Sector

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Violence towards health-care personnel represent an increasing problem, but little is known in terms of how different occupational groups are affected. A questionnaire was sent to a stratified sample of 2,800 of 173,000 employees in the Swedish municipal health and welfare sector. Seven major groups working with the elderly or persons with developmental disabilities were considered: administrators, nursing specialists, supervisors, direct carers, nursing auxiliaries, assistant nurses, and personal assistants. The response rate was 85 percent. Fifty-one percent of respondents reported exposure to violence or threats of violence over one year. The most vulnerable groups were assistant nurses and direct carers (usually of the developmentally disabled). Individual characteristics, such as age and organizational tenure, were related to exposure. Work-related characteristics, such as type of workplace, working full-time with clients, organizational downsizing, and high workload, were also associated with risk. Greater knowledge of impacts on different professional groups and relevant prevention are required.

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Violence at work is a topic that has received growing international attention in recent years (Chappell and Di Martino 1998). Personnel in the health-and-welfare sector seem to be more exposed than other workers are (Barab 1996; Peek-Asa 2001). Recent research indicates that violence, including serious acts of violence, against psychiatric staff is on the increase (Soares, Lawoko and Nolan 2000; Whittington 1997). In Sweden, caring personnel are among those workers most subject to threats and violence at work. The sector accounts for over half of all reported work injuries caused by violence, with a substantial increase in the rate of such injuries having been recorded during the 1990s (Nordin 2000).

Traditionally, work-related violence in the caring sector has been investigated specifically in the arenas of psychiatric and acute medical care. Other areas within the health-care and welfare sector, such as services to persons with developmental disabilities, the elderly and physically ill, have received far less research attention (Wynne et al. 1997; Saveman et al. 1999). In fact, only a handful of studies can be found in these areas (e.g. Colenda and Hamer 1991; Dougherty et al. 1992; Ghaziuddin and Ghaziuddin 1992; Lusk 1992; Gage and Kingdom 1995; Kendra 1996; Kendra et al. 1996; Kiely and Pankhurst 1998; Gates, Fitzwater and Meyer 1999; Lee et al. 1999; Fazzone et al. 2000), and very few are concerned with Sweden in particular (e.g. Saveman et al. 1999; Menckel, Carter and Viitasara 2000; Menckel and Viitasara 2002).

Some occupational groups are more exposed than other groups. Carers who have direct, everyday contact with patients or clients seem to be the most heavily exposed (Arnetz, Arnetz and Söderman 1998), but registered nurses, doctors and personnel who make occasional visits to the homes of care recipients also report significant exposure to threats and violence (Arnetz, Arnetz and Söderman 1998; Nolan et al. 1999). A further exposed group consists of home-care personnel, who also provide health services and other forms of assistance (Kendra 1996; Kendra et al. 1996; Fazzone et al. 2000; Riopelle et al. 2000). Among Swedish carers, both older and younger workers, and both men and women, are affected, but women appear to be more exposed than men in all age groups (SWEA 2001). The difference between the genders increases with age. In recent years, an increased number of reported injuries due to violence is also evident among nursing auxiliaries, assistant nurses, registered nurses, personal assistants, and home carers in general (SWEA 2001).

There are several definitions of workplace violence. For instance, the literature makes a distinction between direct (personal exposure) and indirect (witnessing) violence (Barling 1996; Wynne et al. 1997). The literature also makes a distinction between psychological and physical violence (Wynne et al. 1997; Chappell and Di Martino 1998). Accordingly, a

definition of violence may include acts of both verbal and physical aggression. In recent years, the definition of workplace violence also includes bullying or mobbing and sexual harassment (Chappell and Di Martino 1998).

Work-related violence can have consequences for both individuals and the work environment. Physical, psychological and behavioral effects of assault have all been reported (Chou, Kaas and Richie 1996). Exposure to violence can lead to burnout (Colenda and Hamer 1991) and other stress reactions (Lusk 1992; Arnetz and Arnetz 2001), and may also have consequences for leisure time. Symptoms such as irritation, fatigue, sleep disturbance, anxiety and apathy are common (Menckel, Carter and Viitasara 2000). Violence may also impact on work conditions and patient care (Chou, Kaas and Richie 1996; Kendra et al. 1996; Arnetz and Arnetz 2001; Duncan et al. 2001). Further possible effects of work-related violence are absenteeism and reduced work motivation (Gates 1995; Barling, Rogers and Kelloway 2001).

Several studies have referred to patient characteristics as an explanation for work-related violence or as a risk factor to which personnel are exposed (Petrie, Lawson and Hollender 1982; Colenda and Hamer 1991; Dougherty et al. 1992), but systematic analysis of other possible risk factors related to workplace violence is lacking. Such factors might include, for example, demographic characteristics of care providers with regard to age, gender or occupational experience (Whittington and Wykes 1994; Arnetz, Arnetz and Petterson 1996; Whittington, Shuttleworth and Hill 1996; Cole et al. 1997; Kiely and Pankhurst 1998; Gates, Fitzwater and Meyer 1999; Lee et al. 1999; Nolan et al. 1999; Fazzone et al. 2000; Soares, Lawoko and Nolan 2000).

Further, differences in the work conditions under which various occupational groups operate may give rise to differential exposure. Work-related characteristics, such as type of caring setting, form of employment (full-time or part-time working), working hours, work conditions (e.g. frequency of contact with care recipients, working in the homes of clients, working alone), organizational change (e.g. downsizing), and workload are factors that may decrease or increase exposure and risk. A handful of studies have attempted to relate one or several of these factors to workplace violence (Cole et al. 1997; Arnetz, Arnetz and Söderman 1998; Nolan et al. 1999, 2001; Arnetz and Arnetz 2000, 2001; Soares, Lawoko and Nolan 2000). However, the literature lacks studies that clearly define the prevalence of the problem of violence for specific groups of health-care professionals (Arnetz, Arnetz and Söderman 1998).

The limited knowledge of threats and violence within the health-care and welfare sector formed the background to an initiative taken by Sweden's

National Institute for Working Life, together with the Swedish Association of Local Authorities and employees' trade unions, for a research project on the area (see Menckel and Viitasara 2002). The present study is one part of the project.

Aims of the Study

The aims of the study are to examine the extent of threats and violence aimed at various professional (i.e. occupational) groups in the Swedish municipal health-care and welfare sector, and to analyze individual and work-environment factors with regard to risk. More specifically, we raise the following questions:

- 1) Are some occupational groups more exposed than others? In such case, which are the most heavily exposed groups and what are their rates of exposure?
- 2) Which individual and work-related characteristics do the exposed employees (i.e. victims of violence) possess? Do these differ between occupational groups?
- 3) Which individual and work-related characteristics predict exposure to threats and violence among different occupational groups?
- 4) Which individual and work-related characteristics predict frequency of exposure to threats and violence among different occupational groups?

METHOD

Subjects and Procedures

The study sample was drawn from the seven largest occupational groups in the municipal health-care and welfare sector in Sweden: administrators, nursing specialists, job supervisors, direct carers, nursing auxiliaries, assistant nurses, and personal assistants. From a total of 172,881 employees on monthly pay in the employment register of the Swedish Association of Local Authorities of November 1998, 400 individuals were randomly sampled from each stratum (occupational category). The group of personal assistants was also stratified by gender, so that 200 men and 200 women were included in the sample. Data were weighted in order to make each stratum representative of the population from which it was drawn, and in order to calculate correct overall estimates. Table 1 presents population size, sample size, response rate, and weight by occupational group.

TABLE 1
Sampling Characteristics, Response Rates and Weights for the Seven Occupational Groups

	<i>Adminis- trators</i>	<i>Nursing specialists</i>	<i>Super- visors</i>	<i>Direct carers</i>	<i>Nursing auxiliaries</i>	<i>Assistant nurses</i>	<i>Personal assistants</i>	<i>Total</i>
Population size	2347	13418	5083	24198	75775	45109	6951	172881
Sample size	400	400	400	400	400	400	400	2800
Participants	338	347	345	350	351	344	316	2391
Response rate (%)	84	87	86	88	88	86	79	85
Weight	6.94	38.67	14.73	69.14	215.88	131.13	22.00	
Weighted N	2347	13418	5083	24198	75775	45109	6951	172881

Data were collected by postal questionnaire, administered by Statistics Sweden (SCB). Questionnaires were mailed to subjects' home addresses, accompanied by a cover letter outlining the general purpose of the study, assuring the confidentiality of responses, and explaining that participation was voluntary. Two follow-up mailings were made to non-respondents. In addition, a telephone follow-up was conducted with the two occupational groups (nursing auxiliaries and personal assistants) that had the lowest response rates after the reminder letters (61% and 59%, respectively). The final response rate was 85 percent for the total sample, ranging by occupational group from 79 percent (for personal assistants) to 88 percent (for nursing auxiliaries and direct carers).

Exposure to Violence

For this study, workplace violence was defined as both verbal (e.g. threat, screaming, telephone threat) and physical (e.g. scratch/pinch, slap, spit, shove/push) aggression towards personnel (see Menckel and Viitasara 2002). This definition has been used in several Swedish studies of threats and violence in health-care work (e.g. Arnetz, Arnetz and Söderman 1998; Soares, Lawoko and Nolan 2000). The present study focuses only on direct violence. A victim of violence is a member of health-care and welfare personnel who has been personally exposed to some or both types of these aggressions. Violent acts are typically committed by patients/clients, but sometimes also by the relatives and/or acquaintances of patients, or colleagues.

Measures

The survey was based on a questionnaire that had previously been employed in a large investigation of violence in Swedish hospitals (Arnetz, Arnetz and Söderman 1998; Arnetz and Arnetz 2000, 2001). The questions, which were modified to reflect the provision of care and welfare services in a municipal setting, referred to the year preceding data collection. There was a total of 29 items, all with forced-response alternatives. The variables used for the present study fell into three major categories: (1) violence and threats of violence (exposure, frequency of exposure), (2) individual characteristics (occupational and organizational tenure), and (3) work-related characteristics (e.g. workplace characteristics, nature of employment contract, working hours, job characteristics). The questionnaire also contained questions on types of consequences of violence and preventive strategies taken by the organization (for details of the full questionnaire, see Menckel and Viitasara 2002). Data from the questionnaire were supplemented by information on age and gender taken from the employment register of the Swedish Association of Local Authorities. Definitions and response codes for the variables used in the present study are presented in Table 2.

Statistical Analyses

Chi-square tests were used to test for differences between occupational groups with regard to exposure to threats or violence (based on the total material), and also frequency of exposure (based on those who had been exposed to violence at least once over the preceding year) (Research Question 1). Chi-square testing was also used to establish whether individual and work-related characteristics of exposed staff differed between occupational groups (Research Question 2). To address the third research question, concerning the identification of risk factors for exposure to threats or violence, logistic regression—with separate analyses for the seven occupational groups—was applied. In each case, the dependent variable was exposure to threat or violence, while the independent variables consisted of the sets of individual and work-related characteristics. Multiple regression analysis was employed to identify the factors associated with how often personnel in the Swedish municipal health-care and welfare sector were exposed to threats or violence (Research Question 4). The dependent variable was frequency of exposure, while again the independent variables were the sets of individual and work-related characteristics. The analyses were run separately for each occupational group.

TABLE 2
Overview of the Variables Used

<i>Variable</i>	<i>Operationalization</i>
<i>Violence</i>	
Exposed to violence	Been exposed to violence or threats of violence during the preceding year (0 = no; 1 = yes)
Frequency of exposure	Number of times exposed to violence/threats during the preceding year (1 = once; 2 = occasionally; 3 = once a month; 4 = once a week; 5 = virtually every day)
<i>Individual characteristics</i>	
Age	Age in years (from records)
Gender (female)	0 = man; 1 = woman (from records)
Short occupational tenure	0 = more than 5 years; 1 = less than 5 years
Short organizational tenure	0 = more than 2 years; 1 = less than 2 years
<i>Work-related characteristics</i>	
Geriatric care	0 = working in other areas; 1 = working in geriatric care
Sheltered residences	0 = working in other institutions; 1 = working in sheltered residences
Full-time work	0 = part-time; 1 = full-time
Day-time work	0 = irregular work hours/nights; 1 = day-time work only
All time with clients	0 = less frequent contact with clients; 1 = almost all the time working in direct contact with clients
All time in clients' homes	0 = less frequently working in the homes of clients; 1 = almost all the time working in the homes of clients
A lot of work alone	0 = working alone with clients less than half of the time; 1 = working alone with clients more than half of the time
Downsizing	0 = no downsizing of the workplace over the preceding year; 1 = experienced downsizing (personnel reduction and/or increased number of clients) over the preceding year
High workload	0 = low, moderate or high experienced workload in the workplace over the past year; 1 = very high workload

RESULTS

Exposure to Violence

Table 3 presents the proportion of employees within each occupational category who had personally been exposed to threats and/or violence. Around half of the respondents (50.7%) reported that they had been subjected to violence or threats of violence at work at some time during the preceding year. The vast majority of respondents reported that they had been victims of violence conducted by patients/clients (96%), and the most frequently reported types of violence were verbal threats (72%), scratch/pinch (65%), slap (49%), and spit (36%) (for further details, see Menckel and Viitasara 2002). Chi-square testing revealed that proportions varied significantly between occupational groups ($\chi^2[6] = 4918.96, p < .001$). The two most exposed occupations were direct carers (61.6%) and assistant nurses (60.7%).

TABLE 3
Exposure and Frequency of Exposure to Threat/Violence for the Seven Occupational Groups (%)

	Adminis- trators	Nursing specialists	Super- visors	Direct carers	Nursing auxiliaries	Assistant nurses	Personal assistants	Total
<i>Exposure to threats/violence^a</i>								
Proportion exposed	31.7	46.3	40.5	61.6	44.5	60.7	36.2	50.7
<i>Frequency of exposure^b</i>								
1. Once	17.8	12.2	18.9	6.6	6.2	3.6	14.1	6.5
2. Occasionally	65.6	63.3	58.2	53.0	56.6	52.1	42.9	54.8
3. Once a month	12.1	10.9	9.0	13.6	9.7	13.5	13.8	11.7
4. Once a week	3.4	10.2	9.8	15.2	18.5	20.9	15.7	17.7
5. Virtually every day	1.1	3.4	4.1	11.6	9.0	9.9	13.5	9.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

^a $\chi^2(6) = 4918.96, p < .001$ (weighted N = 159,843).

^b $\chi^2(24) = 2780.53, p < .001$ (weighted N = 80,479).

Table 3 also presents frequencies of exposure to threats or violence over the preceding year. Among persons who had been exposed to violence over the preceding year, a majority (54.8%) reported their exposure as “occasional,” while a small minority (6.5%) had been exposed only once. More than a third of the exposed respondents reported having encountered threats or violence at work frequently—either once a month (11.7%), once a week (17.7%), or on virtually a daily basis (9.3%). Here as well, there

were significant differences between occupational groups ($\chi^2[24] = 2780.53, p < .001$). Administrators, nursing specialists and job supervisors were least frequently exposed, while the highest daily exposure frequencies involved direct carers, assistant nurses and personal assistants.

Characteristics of the Exposed

Table 4 presents the individual and work-related characteristics of employees exposed to threats or violence, and also a comparison between occupational groups in these respects.

In total, the mean age of the exposed was 42.1, most of whom were women. Only 11.2 percent reported short occupational tenure, but 23.6 percent stated that they had been in their current organization for only a short period of time. Of the study group as a whole, 71.2 percent worked with geriatric care. Most (76.6%) worked in sheltered dwellings (homes for the elderly, nursing homes, or other forms of specialized residences for old people). Just less than a third had a regular dwelling as their workplace (an ordinary apartment, the client's home, or equivalent). Slightly over a third generally worked full-time, and 58% largely worked during day-time. The vast majority (91.1%) were in direct contact with care recipients during working time. Close to half of exposed staff spent almost all of their working hours in the homes of their clients, and 42.1 percent were with clients more than half of their working time. Around half of exposed personnel had experienced organizational downsizing over the preceding year. One third reported that their workload had been extremely high during this period.

Exposed administrators proved to be somewhat older than those exposed in the study group as a whole. Most were women with long occupational tenure, and most had long experience within the caring sector. This occupational group was largely involved with the administration of geriatric care (75.8%)—in both regular and sheltered residences; they were usually full-time workers with day-time responsibilities. The administrators reported that they had direct contact with clients during only a small part of their working time; half of them did not work at all with care recipients or alone with them. In terms of organizational change in the workplace over the previous year, 68.5 percent had experience of downsizing. Workload over the same period was reported as very high by just over half of the administrators.

The exposed among nursing specialists were somewhat older than the study group as a whole; most were women (94%) with long occupational tenure who had spent a long time in their current workplace. The exposed nursing specialists worked largely with geriatric care (70.5%), and often in sheltered residences (78.6%). Half of them were full-time employees,

TABLE 4
Individual and Work Related Characteristics of Exposed Employees in the Seven Occupational Groups

Characteristic	Adminis- trators	Nursing specialists	Super- visors	Direct carers	Nursing auxiliaries	Assistant nurses	Personal assistants	Total	df	F/ χ^2
<i>Individual characteristics</i>										
Mean age	45.7	43.8	46.8	40.4	43.3	41.3	35.0	42.1	6,81011	432.02***
Gender (woman) (%)	95.6	94.0	88.7	88.6	97.2	97.9	76.2	95.0	6	3765.48***
Short occupational tenure (%)	5.7	9.5	5.0	13.0	9.8	10.1	42.7	11.2	6	2459.53***
Short organizational tenure (%)	32.9	37.2	23.2	26.2	20.0	20.9	51.5	23.6	6	1947.89***
<i>Work related characteristics</i>										
Geriatric care (%)	75.8	70.5	50.4	3.5	89.0	92.7	16.3	71.2	6	45146.24***
Sheltered residences (%)	43.5	78.6	66.4	63.4	77.2	88.0	28.3	76.6	6	6321.52***
Full-time work (%)	80.0	50.3	88.6	37.5	31.0	38.3	51.2	38.0	6	3621.22***
Day-time work (%)	95.6	67.6	92.0	40.1	62.2	57.6	53.8	58.0	6	3529.06***
All time with clients (%)	15.3	68.5	25.8	94.1	94.4	96.9	95.4	91.1	6	19668.83***
All time in clients' homes (%)	1.1	24.5	9.7	62.7	55.7	39.9	67.4	48.6	6	5767.93***
A lot of work alone (%)	16.8	43.4	14.7	47.5	44.1	36.6	68.9	42.1	6	1869.12***
Downsizing (%)	68.5	59.7	61.3	44.1	51.7	51.8	28.2	50.7	6	1069.77***
High workload (%)	56.0	36.0	42.7	17.9	36.6	31.8	30.6	31.9	6	1877.40***

*** p < .001 (weighted N = 81018).

and most had a day-time work schedule (67.6%); 68.5 percent worked full-time with care recipients, but only a quarter worked full-time in the homes of clients; 43.4 percent worked half-time or more on their own with care recipients. Over half reported experience of downsizing during the preceding year. A third reported workload as having been very high during this period.

The mean age of exposed job supervisors was somewhat higher than the mean age of victims of violence in the study group as a whole, and the proportion of women somewhat lower. Five percent had short occupational tenure, and 23.2 percent had worked in their current organization for a relatively brief period. Half of the supervisors (50.4%) worked primarily with geriatric care. They mainly worked in sheltered residences, i.e. homes for the elderly, group accommodation, and blocks of service apartments. Most worked full-time on a day-time schedule. Only one tenth had worked in the homes of their clients half their working time or more over the preceding year. Just a few (14.7%) worked more than half of the time alone with care recipients. Over half of the exposed supervisors (61.3%) had experienced downsizing during the year. For that year, workload was reported to have been very high by 42.7 percent.

The exposed direct carers were somewhat younger, and the proportion of women lower (88.6%) than in the total sample of victims of violence. The proportions with short occupational tenure (13%), and with short organizational tenure (26.2%) were somewhat higher than for the material as a whole. Only 3.5 percent of exposed direct carers worked principally with geriatric care. Over half (63.4%) worked in sheltered accommodation. Only 37.5 percent worked full-time, and 40.1 percent had day-time work. Workload was reported to have been very high during the preceding year by 17.9 percent of the direct carers.

The average age of exposed nursing auxiliaries was 43.3, and the proportion of women 97.2 (somewhat higher than for the study group as a whole). The proportion with short occupational tenure was 9.8%, and that for short experience within the organization 20% (lower than for the total sample). Most of the nursing auxiliaries (89%) worked within geriatric care. Most exposed auxiliaries spent all their working time with their clients; 31 percent worked full-time, and 62.2 percent only during the days. Over half (55.7%) worked virtually all the time in the homes of care recipients, and 44.1 percent reported working nearly all their time on their own with them. Half (51.7%) reported experience of downsizing during the preceding year, and 36.6 percent regarded their workload as having been very high during that period.

The exposed assistant nurses had a somewhat higher average age (41.3) than that of the total sample, and were virtually all female (97.9%);

10.1 percent had short occupational tenure, and 20.9 percent relatively brief experience of their current workplace (a slightly lower proportion than for the entire study group). The exposed assistant nurses worked largely with geriatric care (92.7%) and within sheltered accommodation (88%), encompassing homes for the elderly, nursing homes, and other forms of dwellings. In other respects, the group of exposed assistant nurses was similar to the total group of exposed personnel.

At 35, the average age of exposed personal assistants was somewhat lower than the average ages of the other personnel groups, and the proportion of women in the group (76.2%) was slightly lower. Occupational tenure was short for as many as 42.7 percent, and time spent in the current organization relatively brief. Exposed personal assistants worked to a lesser extent within geriatric care (16.3%), and in sheltered dwellings (28.3%). Just over half worked both full-time and day-time. Most worked virtually all their time in direct contact with their clients; over 60 percent worked in the homes of their care recipients, and without co-workers during more than half their working hours. A third had experienced downsizing during the preceding year, and the same proportion reported that workload had been very high during that time period.

Likelihood of Exposure

Table 5 summarizes the results of the logistic regression analyses for the seven occupational groups, presenting odds ratios for the predictors of exposure to violence.

In the case of administrators, two individual characteristics emerged as significant predictors of exposure. There was a small but significant effect of age, in that being older was associated with a slightly lower risk of exposure to threats or violence. Further, short occupational tenure (< 5 years) involved a doubling of the risk. Among the work-related characteristics, four emerged as significant. Working with the elderly reduced the risk of exposure. By contrast, frequent contacts with clients, having experienced downsizing during the preceding year, and high workload were all associated with increased likelihood of experience of violence. Taking all variables together, the model resulted in 71% correct classifications, which should be compared with the 50 percent correct classifications that would be expected from a random model (i.e. by chance).

In the case of nursing specialists, all variables but one, namely short occupational tenure, emerged as significant. Among the individual characteristics, age, being a woman, and having short organizational tenure (< 2 years) were all associated with a lower likelihood of threats or violence. Among the work-related characteristics, working in geriatric care

TABLE 5
Odds Ratios from Logistic Regression Predicting Exposure to Threats/Violence

Predictor	Adminis- trators	Nursing specialists	Super- visors	Direct carers	Nursing auxiliaries	Assistant nurses	Personal assistants
<i>Individual characteristics</i>							
Age	0.97***	0.96***	0.98***	0.96***	0.96***	0.99***	0.95***
Gender (woman)	1.33	0.57***	1.16	0.76***	1.83***	1.75***	0.93
Short occupational tenure	2.12**	1.17	1.04	0.94	0.47***	2.87***	0.90
Short organizational tenure	0.90	0.74***	1.23*	0.95	2.69***	0.79***	1.10
<i>Work-related characteristics</i>							
Geriatric care	0.70*	1.43***	0.64***	0.66***	0.94	0.74***	0.51***
Sheltered residences	0.95	1.64***	1.70***	0.87***	4.60***	4.22***	2.97***
Full-time work	1.29	0.88**	1.51***	0.98	0.91***	1.20***	2.00***
Day-time work	1.00	0.64***	1.08	0.87***	0.90***	0.76***	0.98
All time with clients	2.46***	2.30***	1.64***	1.50***	1.07	3.59***	1.49*
All time in clients' homes	0.00	1.16**	2.04***	1.01	1.40***	0.66***	0.79**
A lot of work alone	1.27	0.47***	1.09	0.83***	0.92***	0.90***	0.71***
Downsizing	2.34***	1.68***	1.75***	0.95	1.20***	1.00	1.90***
High workload	1.63***	1.84***	1.36***	2.47***	2.41***	1.12***	6.06***
Nagelkerke R ²	0.14	0.19	0.10	0.08	0.24	0.17	0.31
Model χ^2 (df = 13)	157.57***	1651.36***	301.40***	333.32***	12869.44***	5043.00***	1393.26***
Correct classifications (%)	71.10	63.60	63.20	63.60	65.00	68.30	75.50
Weighted N	1514	10827	3964	21087	64765	38028	5339

* p < .05, ** p < .01, *** p < .001.

and in sheltered residences both resulted in reduced risk. Similarly, working full-time with or in the homes of clients, having experienced downsizing, and having a high workload were all associated with a greater risk of exposure. By contrast, only working day-time, having full-time employment, and working a great deal of time alone were all associated with a reduced risk of violence among nursing specialists. Taking all variables together, the model resulted in 64 percent correct classifications.

Two of the individual characteristics predicted exposure to violence among job supervisors. Age was associated with a slightly reduced risk, whereas short organizational tenure was related to increased risk. Among the work-related characteristics, sheltered accommodation, full-time working, working all the time with clients, and all the time in the homes of clients were all associated with increased risk of exposure. Further, as in the cases of the previous occupational groups, downsizing and high workload generated odds ratios greater than one. Working in geriatric care was associated with reduced risk for supervisors, while day-time work and working alone a great deal of the time showed no significant association. The proportion of correct classifications was 63 percent.

In the case of direct carers, two of the individual characteristics proved to be significant; both higher age and being a woman were associated with a lower risk of exposure. Among the work-related characteristics, working all the time with clients and high workload increased the likelihood of being exposed to violence. Working in geriatric care, in a sheltered residence, in a day-time job, and very much alone all showed odds ratios less than 1, thereby indicating reduced risk of exposure. Downsizing was not significant for this occupational group, nor was full-time working or working all the time in the homes of clients. A total of 64 percent of subjects were correctly classified on the basis of the model.

In the case of nursing auxiliaries, all individual characteristics emerged as significant predictors. Age and short occupational tenure reduced the risk of exposure, whereas being a woman and having short organizational tenure (having only been in the current workplace for a relatively brief period of time) were associated with increased risk. Working in sheltered residences was the most dramatic risk factor for this occupational group, but working all the time in the homes of clients, downsizing in the workplace, and high workload were all associated with increased risk of exposure. By contrast, working full-time, day-time only, and very much alone all involved a reduced likelihood for exposure among nursing auxiliaries. The model correctly classified 65 percent of subjects.

In the case of assistant nurses, all variables except downsizing were significantly related to exposure. Among the individual characteristics, age and short organizational (workplace) tenure decreased risk of exposure,

whereas being a woman and having short occupational tenure were associated with increased likelihood of being subjected to violence. Working in sheltered residences and all the time with care recipients were the most important risk factors (as reflected in high odds ratios). Further, full-time working and high workload increased the risk of violence. Working in geriatric care, having a day-time job, working all the time with clients, and working a great deal alone all involved a reduced likelihood of exposure. Downsizing was found to be unrelated to exposure. The full model accounted for 68 percent correct classifications.

Personal assistants were less likely to experience violence if they were relatively young, but none of the other individual characteristics showed a significant relationship. Among the work-related characteristics, high workload was the most important risk factor. Further, working in sheltered residences, having a full-time job, and working all the time with clients were associated with a higher risk of exposure. Working in geriatric care, all the time in the homes of clients, and a great deal of time alone all reduced the likelihood of being subjected to violence. Three-quarters of personal assistants were correctly classified on the basis of the full model.

Predicting Frequency of Exposure

The following set of analyses focused on the frequency of exposure among employees who had been subject to threats or violence at least once during the preceding year. The results of the multiple regression analyses for the seven occupational groups are shown in Table 6.

In the case of administrators, three of the individual characteristics were significantly related to frequency of exposure to threats or violence. Age and being a woman were negatively associated with frequency of exposure, whereas short organizational (workplace) tenure was positively related. Among the work-related characteristics, working in geriatric care showed a negative regression coefficient, whereas having a full-time job and experiencing high workload were both associated with more frequent experiences of exposure. None of the other variables reached significance. Taking all variables together, the model accounted for 18 percent of the variation in exposure frequency.

The pattern of predictors was somewhat different in the case of nursing specialists. For this group, being a woman and having short organizational tenure showed weak positive relationships with frequency of exposure. Of the work-related characteristics, working in geriatric care, being in full-time employment, working all the time with clients, and experience of downsizing were all positively associated with frequency of exposure. Day-time work and working a great deal alone had small negative impacts on

TABLE 6
Results of Multiple Regression Predicting Frequency of Exposure (Standardized Regression Coefficients)

Predictor	Adminis- trators	Nursing specialists	Super- visors	Direct carers	Nursing auxiliaries	Assistant nurses	Personal assistants
<i>Individual characteristics</i>							
Age	-.24***	.02	.02	-.15***	-.01*	-.08***	-.08***
Gender (woman)	-.14***	.04*	-.02	-.01	-.24***	.05***	-.18***
Short occupational tenure	-.08	.02	.10***	-.06***	.08***	-.12***	.04
Short organizational tenure	.16***	.04**	.11***	-.10***	.03***	.07***	.00
<i>Work related characteristics</i>							
Geriatric care	-.18***	.20***	-.00	.06***	-.01*	-.01	-.02
Sheltered residences	-.05	-.01	.10***	.02	.12***	.07***	.18***
Full-time work	.10*	.10***	.08***	.08***	-.00	-.05***	.17***
Day-time work	-.04	-.10***	.08***	.08***	-.00	-.05***	.17***
All time with clients	.08	.06***	.16***	.02	.16***	.01	-.10***
All time in clients' homes	-.09	.02	-.02	.10***	.00	.08***	-.07**
A lot of work alone	.03	-.06***	.22***	-.01	-.22***	-.09***	-.01
Downsizing	-.05	.05***	.08**	-.15***	-.07***	-.01	-.06**
High workload	.24***	.00	.00	.22***	-.02***	.10***	.28***
R ² (adj)	.18	.07	.11	.13	.19	.06	.21
F	9.67***	32.50***	15.62***	143.74***	541.92***	111.22***	40.67***
Weighted N	500	5182	1591	12652	29144	23210	1994

* p < .05, ** p < .01, *** p < .001.

the dependent variable. The regression model explained less than a tenth of the variation in exposure frequency.

Age and gender were not significant predictors of frequency of exposure in the case of supervisors, but the other two individual characteristics (short occupational and organizational tenure) were found to show a positive association. Six of the work-related characteristics (working in sheltered residences, full-time working, day-time working, working all the time with clients, a great deal of time spent working alone, and experience of downsizing) showed significant positive relationships with frequency of exposure to violence. A total of 11 percent of the variation in the dependent variable was accounted for by the full model.

In the case of direct carers, being a relatively old worker, and also having short occupational and organizational tenure were associated with less frequent exposure to threats and violence. Among the work-related characteristics, working in geriatric care, having full-time employment, working day-time only, working all the time in the homes of clients, and high workload were all associated with higher risk. Experiences of downsizing showed a negative relationship. Taking all variables together, the model accounted for 13 percent of the variation in frequency of exposure.

On the basis of findings from the multiple regression analyses, the nursing auxiliaries who were more frequently subjected to threats or violence could be characterized as men with short occupational and organizational tenure, with jobs in sheltered residences, typically working with clients but not on their own, and with workplaces where organizational downsizing had not been experienced. There were also small but significant effects of age, working in elder care, and workload. However, these effects were marginal, and statistical significance is likely to reflect large sample size following weighting. Close to one-fifth of variation in the dependent variable was accounted for by the set of predictors.

In the case of assistant nurses, all individual characteristics were found to be related to exposure frequency. Age and short occupational tenure were negatively associated with frequency of exposure, whereas gender (woman) and short organizational tenure were positively related. Among the work-related characteristics, having a high workload, working in sheltered residences, and working full-time in the homes of care recipients showed positive relations with exposure frequency. The frequency of exposure was lower, however, when assistant nurses worked full-time, operated on a day-time basis, and spent a lot of working time alone with their clients. The full model explained only a small proportion (6%) of frequency of exposure for this group.

Personal assistants more often reported being subjected to violence when they were young or men. Further, frequency of exposure was found to be associated with working in sheltered residences, full-time employment, day-time work, not working all the time with or in the homes of clients, fewer experiences of downsizing, and having a high workload. In the case of personal assistants, the model accounted for 21 percent of the variation in frequency of exposure.

DISCUSSION

The primary objectives of the study were to examine the extent of threats and acts of violence in the Swedish municipal health-care and welfare sector and to investigate the extent to which individual and work-related characteristics can be seen as risk factors in this regard. The study was based on a representative national sample, and comprised seven different occupational groups within the municipal-care sector in Sweden.

In total, 50.7 percent of the study group reported having been the target of an act of violence (verbal or physical) over the previous year. This is considerably more than the number reported in the Swedish Occupational Accident and Disease Database (SWEA 2001). However, other studies—in the arena of psychiatric care (Soares, Lawoko and Nolan 2000), and even in general hospital settings (Arnetz and Arnetz 2000)—have produced similar results. In a comparative study, Nolan et al. (2001) found that 71 percent of British nurses reported having been exposed to violence over a period of one year, compared with 59 percent of their Swedish counterparts. Whittington, Shuttleworth and Hill (1996) found, in a study of workplace violence in a general hospital, that 21 percent of personnel had experienced physical assault over the preceding 12 months, 43 percent verbal abuse, and 17 percent threats of some kind. Kiely and Pankhurst (1998) found that 81 percent of staff in a learning disability service had experienced violence during the year preceding investigation. By contrast, Budd, Arvey and Lawless (1996) found that only 2.5 percent of full-time workers (in all types of occupations) reported having been physically attacked at work over a 12-month period, and only 7.4 percent reported having been subject to threat. In a similar study, Cole et al. (1997) found that 19 percent of respondents (in all types of occupations) had been harassed over the past 12 months, and that 10 percent were afraid of becoming a victim of violence at work.

The fact that the definition of workplace violence varies among these studies may well be of great importance for the differences reported. In this study, the act of violence comes mainly from the care recipients. It is unclear what the source of threats and violence is in other studies, but it

is clear that further analysis is needed to find appropriate preventive strategies.

The difference in exposure between the seven occupational groups was statistically significant, as was also the overall frequency of exposure (once, occasionally, once a month, once a week, virtually every day). When it comes to variables of individual characteristics (age, gender, occupational tenure, and organizational tenure), there were statistically significant differences between the seven occupational groups. Likewise, the differences in terms of work-related characteristics were statistically significant.

In the current study, the most exposed professional groups were found to be direct carers and assistant nurses. Results from other investigations in the health-care sector (in emergency departments, and geriatric, psychiatric and home health-care sites) suggest that it is direct patient care providers who are the most exposed (Lanza et al. 1991; Arnetz, Arnetz and Petterson 1996; Whittington, Shuttleworth and Hill 1996; Arnetz, Arnetz and Söderman 1998; Nolan et al. 1999, 2001; Arnetz and Arnetz 2000; Soares, Lawoko and Nolan 2000). In one survey, Arnetz, Arnetz and Söderman (1998) found that the risk of experiencing violence at some time during the career course was greatest for practical (assistant) nurses. Comparing this finding with others is troublesome, since the various occupational groups work within different institutional structures, have different tasks and work conditions, and also different care recipients/clients.

In the current study, over nine percent of the total sample reported exposure on a daily basis. This applied in particular to direct carers and personal assistants. This finding is comparable with results from a study by Nolan et al. (2001), where 10 percent of nursing staff in a Swedish group and 27 percent in a British group reported daily exposure.

Individual characteristics—such as age, gender, and occupational and organizational tenure—may be of significance to the risk of being subjected to violence at work. The results of the current study suggest that low age involves an increased risk of exposure among all occupational groups. This is a result generally in line with the findings of other studies (Whittington and Wykes 1994; Arnetz, Arnetz and Petterson 1996; Whittington, Shuttleworth and Hill 1996; Kiely and Pankhurst 1998; Nolan et al. 1999; Lee et al. 1999; Fazzino et al. 2000; Riopelle et al. 2000; Soares, Lawoko and Nolan 2000; Duncan et al. 2001). However, Lanza et al. (1991) did not find any significant age difference between assaulted and non-assaulted nurses.

The analyses in this study suggest that gender does not have any general significance with regard to being exposed to violence. Although there

was a weak tendency for gender in two of the professional groups to be a risk factor for frequent exposure in relation to violence, no unequivocal pattern emerged. Accordingly, risk in general cannot be regarded as higher for women. The same observation—that gender has no significance for being a target of violence or threat—has been recorded in other studies (Lanza et al. 1991; Whittington and Wykes 1994; Wynn and Bratlid 1998). However, some investigations suggest that male nurses more often tend to be victims of violence than females (Arnetz, Arnetz and Petterson 1996; Knudsen 1999; Love and Hunter 1996; Arnetz and Arnetz 2000), and that women are more often exposed than men (Kiely and Pankhurst 1998). One possible explanation for the discrepancy in findings is that there is variation with regard to workplace, job tasks, and clients' disposition to aggression. Further, in some workplaces, there is a preference for male rather than female personnel to have to cope with the most aggressive or disruptive patients or care recipients.

Short occupational tenure does not seem to increase the risk of being exposed to violence, except in the cases of administrators and assistant nurses. Nor was occupational tenure found to be a predictor of frequency of exposure to violence (except in the cases of supervisors and nursing auxiliaries). These results suggest that there is no general risk for carers with short occupational experience to be more subject to acts of violence at work. Nevertheless, the finding contradicts those of other studies, which suggest that new and inexperienced staff are especially vulnerable to threats or violence (Arnetz, Arnetz and Petterson 1996; Whittington, Shuttleworth and Hill 1996; Kiely and Pankhurst 1998; Arnetz and Arnetz 2000; Nolan et al. 1999; Fazzone et al. 2000; Soares, Lawoko and Nolan 2000).

Short organizational (workplace) tenure involved a certain increased risk of being subjected to threats or violence in the cases of job supervisors and nursing auxiliaries, and also an increased risk of being frequently exposed for most occupational groups. However, length of service in current workplace has not been found to act as a risk factor in other studies (Whittington, Shuttleworth and Hill 1996).

Work-related characteristics—such as work site, type of workplace, working hours, contact with care recipients, and organizational conditions—can also be regarded as risk factors in relation to exposure. Psychiatric care has proved to be the most violence-affected work area, but geriatric care also gives rise to excess risk (Colenda and Hamer 1991; Arnetz, Arnetz and Söderman 1998). In the current study, geriatric care generated a relatively small risk with regard to workplace violence. Indeed, work site had no substantial importance in terms of frequency of exposure. Nursing specialists were the only professional group that proved to be at risk of exposure and frequent exposure with regard to work site.

In the case of the current study, a workplace refers to a (municipal) community-based site—either a regular home or sheltered residence, a day center or a location for short-term stay. Working in a sheltered dwelling appeared to be a risk factor for most occupational groups, but the tendency was somewhat weaker with regard to frequency of exposure. Saveman et al. (1999), in studying elder abuse (i.e. violence against the elderly) in different residential settings, and also in home care, found nursing homes to be the site with the greatest risk of violence for both the elderly and staff. However, there is still a lack of studies that explicitly relate type of workplace to risk of exposure to violence.

Working full-time was found to involve increased risk of exposure for three of the seven occupational groups, but reduced risk for two of the others. The picture, however, was more uniform with regard to the likelihood of being frequently exposed. For five of the seven groups, working full-time proved to be associated with more frequent exposure to threats or violence. In contrast to other studies in the nursing arena, where working time has been found to be unrelated to exposure to violence (Nolan et al. 2001), the present findings suggest that the risk of being exposed increases, the greater the amount of time an employee spends at work.

Working day-time was found to reduce the risk of violence, but the probability of being exposed was found to increase for three of the seven occupational groups. Working during evenings and nights has been found to be associated with risk of exposure to violence in several studies (Arnetz, Arnetz and Petterson 1996; Kendra 1996; Kendra et al. 1996; Gates, Fitzwater and Meyer 1999; Lee et al. 1999). However, other findings indicate that acts of violence occur largely when staff provide assistance in matters of daily living (Lanza 1988; Colenda and Hamer 1991; Ghaziuddin and Ghaziuddin 1992; Lanza et al. 1993, 1994; Croker and Cummings 1995; Negly and Manley 1990; Menckel, Carter and Viitasara 2000).

Being in direct contact with care recipients all the time was found to give rise to increased risk for most of the professional groups, and also an increased risk for being frequently exposed in the case of three of them (nursing specialists, supervisors, and nursing auxiliaries). This finding is in line with those of other studies where increased contact with clients proved to be related to exposure to threats or violence (Lee et al. 1999). Lanza (1988), however, found that nurses with patient contact of less than one hour a day were victims of workplace violence to a greater extent.

There is a lack of research on home visits and the risk of exposure to violence they entail. However, results from studies of home health care suggest that community-health nurses and home-health providers feel most at risk of violence when visiting clients living in apartments (Nadwairski 1992; Gellner et al. 1994; Kendra 1996; Kendra et al. 1996). In line with

this, the present findings indicate that working in the homes of clients may be a risk factor. Working full-time in the homes of clients was found to increase the risk of exposure for three occupational groups, namely nursing specialists, supervisors, and nursing auxiliaries. Similarly, working in clients' homes increased the likelihood of being frequently exposed in the cases of two occupational groups (supervisors and direct carers).

Whereas previous research suggests that working alone can increase the risk of workplace violence (Kiely and Pankhurst 1998; Lee et al. 1999; Nolan et al. 2001), it did not emerge as a risk factor in the current study. This also applies to the probability of being frequently exposed, where only supervisors found themselves in the risk zone with regard to lone working. One explanation for this deviant result may be that working alone can give rise to greater risk, but that personnel in contact with potentially aggressive clients are not allowed to work alone in Swedish health care. This means that future research must take into account the reasons why people work on their own.

Downsizing, i.e. personnel cutbacks and/or increases in number of clients, was found to be a risk factor for all occupational groups except direct carers and nursing auxiliaries. However, there were no strong associations with regard to frequency of exposure, where significant effects were detected only for nursing specialists and supervisors. Other studies (Snyder 1994; Flannery et al. 1997; Duncan et al. 2001) suggest, however, that downsizing can increase the frequency of assaults on staff, which calls for additional research on this topic.

High workload increased the exposure to threats or violence for all occupational groups, and gave rise to an increased probability of frequent exposure for four of the seven groups. These findings are consistent with previous studies (Gages and Kingdom 1995; Gates 1995; Gates, Fitzwater and Meyer 1999). No finding to date has suggested that exposure decreases with increasing workload.

Limitations of the Study

The study has several limitations, all of which deserve comment. Perhaps the most important lies in heavy population weighting, which leads to several test results proving significant. It is well-established that large samples enable almost any relationship to be statistically significant. In comparison with the group of administrators, the weighted sample sizes for the remaining occupational groups were large (sometimes very large), which resulted in the identification of significant group differences and significant predictors. In the case of large samples, it must be ensured that the criterion of practical significance is met alongside that of statistical significance (Hair et al. 1995). On the other hand, the fact that pattern of

results was fairly similar for all seven occupational groups indicates that the results generalize over occupations in the health-care and welfare sector.

A second limitation of the study is that the accuracy of the data is dependent on subjects' self-reporting and cannot be corroborated by objective assessment. The formulation of some questions may have been unclear, which leads to misleading responses. One particular problem lies in the definition of violence—as “verbal or physical aggression” in the current study—which may have been unclear to respondents. Clearly, there is room for confusion between “threats and violence” and what might simply be regarded as “disruptive behaviour.” The concept of violence varies considerably according to which type of activity is concerned. Some authors have begun to theorize on the phenomenon of violence (Barling 1996; Wynne et al. 1997; Chappell and DiMartino 1998; Viitasara and Menckel 2002), but there is a lack of consensus on the definition of workplace violence.

Third, the regression results indicated that the predictor variables used in the present study accounted for relatively small proportions of exposure to threats and violence in the seven occupational groups. For instance, the proportion of explained variance in exposure (Nagelkerke R^2 for the logistic regression; Table 5) varied between 0.08 and 0.31 for the respective occupational groups. The variance in frequency of exposure (Adjusted R^2) that was accounted for by the predictor variables in the multiple regressions (Table 6) ranged between 0.06 and 0.21 for the professional groups. This means that the model variables were able to explain only a limited percentage of the variance, thus suggesting that other variables not included in the present study, such as lack of social support and lack of preventive strategies, may constitute important risk factors.

Another limitation lies in the questionnaire itself, which was very short—consisting of only 29 questions, all with forced responses. It was not possible to collect background explanations for any of the answers given.

Finally, the present study was cross-sectional, and sought retrospective information, which can involve a risk of so-called “telescoping” (Rothman and Greenland 1998). Nevertheless, the results tended to be consistent with those of earlier research.

CONCLUSIONS

The present study highlights some important aspects of workplace violence. It was found that over half of respondents reported having been subjected to an act of violence (verbal or physical) over the previous year,

and that more than nine percent of subjects were exposed on a daily basis. Each of the seven professional groups was exposed to workplace violence, but frequency varied. Both individual factors and work-related characteristics were associated with risk of exposure to violence.

The results indicate that threats and violence in health-care settings represent an important work environment issue. Organizational and environmental measures for reducing and managing work-related violence are recommended. For successful prevention, greater knowledge is needed of differences in work-related characteristics and of their consequences for the organization, the work situation, and health-care personnel.

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RÉSUMÉ

Les facteurs de risque de violence envers sept groupes professionnels du secteur des soins de santé en Suède

La violence au travail est un sujet qui a retenu l'attention croissante à l'échelle internationale. Le personnel du secteur de la santé et du bien-être semble plus exposé que d'autres catégories de personnels. Dans le passé, la violence reliée au travail dans le secteur des soins de santé a fait l'objet d'étude plus particulièrement dans les domaines des soins psychiatriques et médicaux graves. D'autres domaines de ce secteur, tels que les services aux personnes en perte d'autonomie, aux plus âgées et à celles physiquement malades ont beaucoup moins retenu l'attention des chercheurs. On a fait état des effets d'ordre physique, psychologique et comportemental reliés à une forme ou l'autre d'agression, alors que la violence peut avoir également une influence sur les conditions de travail et sur la qualité des soins à donner aux patients.

De nombreuses études ont fait référence aux caractéristiques des patients à titre d'explications au phénomène de la violence au travail ou encore à un facteur de risque auquel le personnel serait exposé, alors que l'analyse systématique de d'autres facteurs de risque se fait attendre. Ces facteurs peuvent être de l'ordre, par exemple, des caractéristiques personnelles des travailleurs, c'est-à-dire l'âge, le sexe et l'expérience de travail. De plus, des différences au plan des conditions de travail qui prévalent dans certaines catégories d'emploi peuvent donner lieu à des degrés différents de risque. Ainsi, des particularités reliées au travail, telles que le lieu physique des soins, le type d'emploi (plein temps ou temps partiel), les heures de travail, les conditions de travail (contacts fréquents ou non avec les bénéficiaires, le fait de travailler à la résidence des patients ou de travailler seul), le changement organisationnel (réduction de la taille de l'établissement) et la charge de travail sont autant de facteurs qui peuvent accroître ou diminuer le risque.

La connaissance limitée de la violence et des menaces dans le secteur des soins de santé et du bien-être est devenue avec le temps un terrain propice à la recherche dans ce domaine. Cette étude fait justement partie d'un vaste projet de recherche dont les objectifs sont de vérifier dans quelle

mesure les menaces et la violence visent certains groupes professionnels ou occupationnels dans le secteur de la santé et du bien-être en Suède et de répertorier les facteurs reliés à la personne ou à l'environnement de travail en regard du risque.

L'échantillon retenu dans cette étude provient de sept groupes professionnels les plus importants dans le secteur municipal de la santé et du bien-être en Suède : les administrateurs, les spécialistes des soins infirmiers, les surveillants, le personnel infirmier (soins directs), le personnel infirmier auxiliaire, le personnel d'aides infirmiers et les préposés. Sur un total de 172 881 employés, 400 furent choisis au hasard dans chaque catégorie occupationnelle. Les données ont été recueillies par voie de questionnaires postaux comprenant 29 questions impliquant des réponses sous forme de choix forcé. Le taux de réponse définitif a été de 85 % de l'échantillon total. Pour les fins de cette étude, la violence au travail a été définie d'une manière large englobant l'agression à la fois verbale et physique à l'endroit du personnel de la part principalement des patients. On fit appel à des tests de chi-carré pour apprécier les écarts entre les différentes catégories occupationnelles eu égard au degré d'exposition aux menaces et à la violence; également eu égard à la fréquence de l'exposition. On a aussi retenu les tests de chi-carré pour vérifier si des caractéristiques individuelles ou reliées au travail chez le personnel exposé pouvaient varier selon les catégories occupationnelles. Pour l'identification des facteurs de risque d'exposition aux menaces et à la violence, on a utilisé la régression logistique en recourant à des analyses distinctes pour les sept catégories occupationnelles. Dans chacun des cas, la variable dépendante était l'exposition à la menace ou à la violence, alors que les variables indépendantes comprenaient des ensembles de caractéristiques individuelles et reliées au travail. On a aussi fait appel à l'analyse de régression multiple pour évaluer la fréquence à laquelle le personnel des soins de santé était exposé aux menaces et à la violence dans le secteur municipal en Suède. La fréquence d'exposition était la variable dépendante, alors que les variables indépendantes étaient de nouveau un ensemble de caractéristiques reliées à la personne ou associées au travail. Les analyses ont été effectuées de façon séparée pour chaque catégorie occupationnelle.

Environ la moitié des répondants (50 %) ont mentionné qu'ils avaient été victimes de violence ou de menace de violence au travail à un moment donné au cours de l'année précédente. La grande majorité des répondants ont fait état d'avoir été victimes de violence originant des patients ou des clients (96 %). Les sortes de violence les plus mentionnées consistaient en des menaces verbales (72 %), des actions de pincer ou de griffer (65 %), de taper (49 %) et de cracher (36 %). Les occupations les plus exposées entrent dans la catégorie des soins directs (infirmières) (61,6 %) et des aides

infirmières (60,7 %). Plus du tiers des répondants exposés ont dit avoir fait face à des menaces ou à de la violence au travail à la fréquence soit d'une fois par mois (11,7 %), une fois par semaine (17,7 %) ou sur une base presque quotidienne (9,3 %). Les fréquences d'exposition quotidienne se retrouvaient dans la catégorie des soins directs, des aides infirmières et des préposés. En tout, l'âge moyen des personnes exposées se situait à 42,1 années et la plupart étaient des femmes. Seulement 11,2 % ont rapporté une faible ancienneté et 23,6 % ont mentionné être dans leur établissement actuel depuis une courte période de temps. Dans le groupe à l'étude pris dans son ensemble, 71,2 % étaient affectés aux soins gériatriques. La plupart (76,6 %) travaillaient dans des résidences pour personnes âgées. Moins d'un tiers des personnes travaillaient dans la demeure du bénéficiaire ou l'équivalent. Légèrement un peu plus du tiers travaillaient habituellement à temps plein et 58 % le faisaient durant le jour. La grande majorité (91,1 %) des répondants était en contact direct avec les bénéficiaires pendant leur temps de travail. Près de la moitié du personnel exposé passait la plupart de leurs heures de travail à l'intérieur des maisons de leurs clients et 42,1 % demeuraient avec les clients pour plus de la moitié de leur temps de travail. Environ la moitié du personnel exposé avait été témoin d'une restructuration au cours de l'année antérieure. Un tiers mentionnait que la charge de travail était extrêmement lourde au cours de cette période.

Néanmoins, les résultats obtenus s'avèrent consistants avec ceux des recherches antérieures. Chacune des sept catégories professionnelles a été exposée à de la violence sur le lieu de travail, mais la fréquence de l'exposition varie. Des facteurs d'ordre individuel tout comme des caractéristiques reliées au travail sont associés au risque d'une exposition à la violence. Les données indiquent que les menaces et la violence dans les lieux de soins de santé constituent un enjeu important de l'environnement de travail. Des remèdes d'ordre organisationnel et environnemental en vue de gérer et de réduire la violence au travail sont recommandés.