

**Field Study**

## Workplace Violence on Workers Caring for Long-term Institutionalized Schizophrenic Patients in Taiwan

Wen-Ching CHEN<sup>1,2</sup>, Jung-Der WANG<sup>2,3</sup>, Chih-Yin LEW-TING<sup>4</sup>, Hsien-Jane CHIU<sup>1</sup> and Yi-Ping LIN<sup>2</sup>

<sup>1</sup>Yu-Li Hospital, Department of Health, Executive Yuan, <sup>2</sup>Institute of Occupational Medicine and Industrial Hygiene, College of Public Health, National Taiwan University, <sup>3</sup>Department of Internal Medicine and Department of Environmental and Occupational Medicine, National Taiwan University Hospital and <sup>4</sup>Institute of Health Policy and Management, College of Public Health, National Taiwan University, Taiwan

**Abstract:** Workplace Violence on Workers Caring for Long-term Institutionalized Schizophrenic Patients in Taiwan: Wen-Ching CHEN, *et al.* Yu-Li Hospital, Department of Health, Executive Yuan, Taiwan—It has been noted that workplace violence most frequently occurs in psychiatric settings. The purpose of this study was to explore the workplace violence, including violence situation, victims' feeling, and the prevention strategies, on workers caring for long-term institutionalized schizophrenic patients in Taiwan. We conducted a face-to-face, in-depth, and semi-structured interview with 13 health care workers suffering from physical violence and/or sexual harassment by patients in 2002. First, the interviews were taped and/or paper-notes recorded, then transcribed, organized, and analyzed. Results found that all of the victims alleged they did not receive enough post-incident support, and more than a half of the victims could not call others for help during the violence. To avoid further attack, most victims offered prevention strategies which were considered valuable for establishing guidelines. However, some victims regarded workplace violence as inevitable and part of the job. The most common situations of workplace violence were during routine ward inspections, especially when the victims were alone. The most serious psychological harm was post-traumatic stress disorder (PTSD). In conclusion, we recommended a re-engineering of the organization to a supportive and safe working environment for prevention of workplace violence in the study hospital.

(J Occup Health 2007; 49: 311–316)

**Key words:** Doom attitude, In-depth interview, Institutionalization, Prevention, PTSD, Schizophrenia, Taiwan, Workplace violence

The psychiatric setting has been recognized as one of the most frequent sites of workplace violence in health care sectors including hospitals and other institutions providing health services<sup>1–3</sup>. It is partly believed that the causes for this relatively high risk are due to the patients' psychotic symptoms<sup>4–8</sup>, unwelcoming behaviors originating from immature personality traits<sup>9</sup>, alcohol and/or illegal drug abuse<sup>4, 10</sup>, and disturbing acts driven by impaired intellectual and cognitive functions<sup>11</sup>. In addition, psychiatric settings, which are often closed, locked, and often set limits on patients, are quite different from other departments in a hospital<sup>12</sup>. For all of these reasons, staff working in the psychiatric field are thought to be more vulnerable to assaults by patients.

Among the staff of psychiatric units, nurses and nurse aides are the most vulnerable to attacks by the patients<sup>13</sup>. That is because many situations in a psychiatric ward might provoke a patient's anger, which is manifested as violence in attacks on primary care staff. Situations such as forcing patients to take medications, not allowing smoking in wards, not allowing leaving the ward briefly, and not allowing discharge, have previously been reported<sup>3, 14</sup>, but due to the different characteristics of patients, different facilities for different treatment goals and different cultures, the reported situations are still few in number.

Feelings after violence have been explored by many researchers. Most papers show the victims suffer from anxiety<sup>15, 16</sup>, and symptoms of some of them were consistent with a diagnosis of post-traumatic stress disorder (PTSD)<sup>15, 17</sup>. These studies were conducted through questionnaires and scales rather than through direct interview with victims. Therefore, some feelings

Received Nov 29, 2006; Accepted May 7, 2007

Correspondence to: Y-P. Lin, Institute of Occupational Medicine and Industrial Hygiene, College of Public Health, National Taiwan University, Room 721, No. 17, Hsu-Chow Rd., Taipei, Taiwan (e-mail address: yipinglin@ntu.edu.tw)

could have been neglected because of the limitation of quantitative study.

Regarding prevention of workplace violence, the Occupational Safety and Health Administration (OSHA) of the U. S. has set up guidelines at individual level, which encourage employees' feedback to design, carry out and evaluate the program<sup>18</sup>. Because only the first line staff know the context within which they work, the characteristics of events and the patients they care for best, the suggestions from primary care staff are especially valuable.

As mentioned above, most previous studies of workplace violence have collected data through questionnaires, which give subjects few opportunities for personal expression. On the other hand, some authors have used interview methods. For example, Hoyer used interviews with four female victims to record sexual harassment and its detrimental effects<sup>19</sup>. Cutcliffe also applied a hermeneutic, phenomenological method and developed an emerging theory to qualify nurses' experiences of violence perpetrated by psychiatric patients<sup>20</sup>. Qualitative studies certainly offer insights on the feelings and experiential phenomena in health care<sup>21</sup>.

In this study, we used in-depth interviews to explore violence situations, the feelings of victims, and suggestions for prevention of further attack. If this study succeeds, it should contribute to the strategies for prevention of workplace violence in the study hospital.

## Methods

### *The hospital and staffs*

The hospital which was the subject of this study was located in a rural area in mid-eastern Taiwan, and had been an asylum which was established in 1966. The asylum was a governmental institution aiming to take long-term care of homeless or chronic psychiatric patients. The patients were from all over Taiwan, about 85% of them were schizophrenic, and the average admission time of patients over 65 yr of age was 16 yr<sup>22</sup>. Currently, about 2,400 psychiatric patients reside in the hospital, and it has provided them humanistic, patient-centered and professional care. According to their mental status, patients are arranged in different settings, including two acute wards, seven chronic wards and four rehabilitation centers. If patients have exacerbated psychotic symptoms, they are admitted to an acute ward, which provides intensive treatment to ameliorate the symptoms. After acute treatment, patients are then transferred to a chronic ward to continue on stabilization regimens and begin the preparation program for rehabilitation. After the alleviation of symptoms and their control, patients are discharged to a rehabilitation center, and start various rehabilitation programs. At this stage, the resident patients are assigned different tasks or jobs such as janitors, messengers, maintenance workers or

even temporary workers and contract employees either inside or outside the hospital (i.e., working in the community). Therefore, even though they are long-term institutionalized here, some of the patients still have the chance to get a job in the nearby community. This step-by-step program has a community-oriented rehabilitation model, which we call the Yu-Li model, which is expected to promote patients' participations in the community and enhance their recovery, well-being, and quality of life.

About a total of 200 nursing staff and nurse aides were working in the hospital during data collection for this study. The nursing standards were about 0.40, 0.10, and 0.06 staff per patient (or client) in the acute wards, chronic wards, and rehabilitation centers, respectively. Due to the inconvenient transportation, under-staffing was a long-term problem at this hospital. Under this circumstance, many routine works in the wards required the assistance and cooperation of patients. In the earliest days, many of the staff, especially those who had no formal medical training, would shout or punish the residents in order to push them to work or gain control. Since the 1980 launch of the Physically and Mentally Disabled Citizens Protection Act in Taiwan, verbal and physical violence perpetrated by hospital staff against patients was strictly prohibited. Staff who treated the patients violently in the study hospital would have been laid off immediately. Staff often used cigarettes as a reward to encourage patients to help with routine works, including cleaning the rooms, keeping environmental hygiene, or helping severely regressed patients take a bath.

### *Study procedure*

In the period two years before July 2002, i.e., from June 1, 2000 to July 30, 2002, a total of 41 primary care staff-workers were physically and/or sexually assaulted by patients and formally completed the violence report form. During Jul to Dec 2002, we randomly sampled these victims and conducted face-to-face interviews until the information provided was no longer new (information saturated). A total of 13 victims (designated as V1-V13), consisting of one head nurse, nine nurses, and three nursing aides, completed the interview. Their ages ranged from 23 to 60 yr old, and the duration of their employment ranged from less than one to 28 yr. The most serious injury was rib fracture; others were laceration wound and/or ecchymosed over face, extremity, or trunk. A psychiatrist (the first author), assisted by a head nurse and two nurses, performed all the interviews. None of the victims whom we contacted refused to be interviewed for this study. The in-depth, semi-structured interviews each lasted about two hours.

In order to collect information about the violence situation, victims' subjective feelings, and prevention suggestions, the interviewer asked the following questions.

"Would you please describe the event in detail?"

“What date and at what time did the event occur?”  
 “Where did the event occur?”  
 “In what kind of situation did the event happen?”  
 “How did you call for help?”  
 “What was your feeling after this event?”, and  
 “Did you think this event was preventable?”

If the answer to the last question was “yes”, we would further ask, “What kind of suggestion would you like to share with others?” If the answer to the last question was “no”, we asked why the victims thought the incident was unpreventable. Finally, every interview was ended with the question: “How do you feel about this interview?”

After the interview finished, data were transcribed, organized and analyzed to generate categories, themes, and patterns. In addition, we conducted a regular discussion with coauthors and applied the triangulation method to test any postulates from both factual and conceptual viewpoints<sup>23</sup>.

### *Study ethics*

The institutional bioethics committee of the study hospital approved the protocol describing the purpose, method of data collection, use of data, and guarantee for the privacy of participants. Informed consent to take part in the study was obtained from each participant. With the participants’ permission, interviews were tape-recorded, otherwise, interview notes were taken as detailed as possible by the study members. Six subjects allowed their interviews to be tape-recorded.

## **Results**

### *About events*

Some violence occurred in acute wards, victims V3–V5 and V9–V12, some in chronic wards, V7 and V8, and others in the rehabilitation center, V1, V2, V6 and V13. Some occurred in the daytime, V3–V7, V9 and V10, some in evening, V1, V2 and V13, and others in the middle of the night, V11 and V12.

### *About calling for help*

Some victims said “nobody could be called for help”, V1, V3, V6–V9 and V13, others were helped by colleagues, V4, V5 and V10–V12, and one was helped by other patients, V2.

### *About interview*

All the interviewees said that this interview provided them a valuable opportunity to talk about the event, and may also help them work through their distressed feelings more quickly.

### *About situation of incidents*

The incidents most commonly occurred during routine ward inspections, V3, V4, V10 and V11, while giving medicines, checking if the patients had taken their drugs,

V9, or giving out cigarettes and arguing with the patients about the numbers of cigarettes offered for a reward, V8. Some incidents occurred when health workers intruded into the patient’s personal space, in situations such as getting something that the patient was holding, V13, bumping into the patient, V7, or taking blood samples, V6. Other violent events occurred when staff members attempted to stop patients from fighting, V1 and V2, and when a nurse was instructing the patient to take a bath, V12.

### *About feelings of victimization after workplace violence*

A range of feelings after violence was reported in this study. The most serious was post-traumatic stress disorder (PTSD). The next was generalized anxiety disorder (GAD). Some of the victims reported partial symptoms of anxiety disorder, such as shock, astonishment, anger, fear, sadness and guilt. Three victims, V6, V7 and V10, had considered quitting their jobs. One of them said that she “wanted to resign but was not courageous enough to take a real action.” In addition to the physical violence, two victims, V10 and V11, also reported sexual assaults from patients and stated that the psychological effect of sexual assault was much more traumatic than that of physical injury.

Apart from the above findings, five workers, V4, V8 and V11–V13, reported minimal or no psychological harm (Table 1). They did not seem to regard these events as traumatic or serious. One respondent attributed the violence to fate or doom—“it is unavoidable”, V8. One of them, V4, said, “We prepared our minds to encounter such events when we took the job of psychiatric nurse. It is very common to have such an assault in a psychiatric ward”. Another, V10, said, “It was natural to be physically attacked as a psychiatric nurse”. Another, V11, reported that, “I am happy to face it”. All victims reported that they did not receive enough post-incident support.

### *About suggestions to prevent future attacks*

The suggestions included pre-placement education and training, good practices (such as taking precautionary awareness, avoiding being alone, asking for the patient’s consent, and respecting the patient’s human rights), and paying attention to the organizational culture problems (Table 2).

## **Discussion**

The most striking insight of our study was that five victims did not regard these events as a traumatic or serious experience. They deemed the assaults as unavoidable or inevitable in the care of schizophrenic patients. This inevitability might be partially true, because of the fact that a trivial event may be misunderstood in the paranoid state of a schizophrenic patient, which may then herald a severe, unexpected physical attack.

**Table 1.** Categories of diagnosis and subjective feelings described by the victims\*

Categories of diagnosis or feelings	Victims' statements
Post-traumatic stress disorder (PTSD)	"Nightmares", "fear of entering the ward", "afraid if there was no one to accompany me", "fear of facing patients", "thinking of leaving my job" (V6 and V7)
Generalized anxiety disorder (GAD)	"I felt worried, and scared.", "I made money with my life. If today I was not beaten up at work, then I earned one day." (V1)
Partial symptoms of anxiety disorder	
Shock, astonishment	"I was surprised, stunned, and astonished.", "Why me? Where did I go wrong?" (V5 and V9)
Angry, fearful	"I am angered by the patient.", "The psychiatry department is really dangerous." (V2, V3 and V9)
Saddened, self blaming	"I felt shamed, saddened, and hurt.", "I was not alert enough.", "I did not react quickly enough.", "I was not sensitive enough." (V2, V4, V10 and V13)
Minimal psychological harm	"He is a psychiatric patient, I cannot argue with him clearly.", "He can be forgiven.", "It's not right to get mad at the patient." (V4, V8 and V11–V13)

\*: Victims were designated as V1–V13.

**Table 2.** Suggestions proposed by victims\* for preventing further attacks

Categories of suggestions	Victims' statements
Pre-placement education and training	"Educate and train the staff on how to prevent and deal with workplace violence before every new job assignment." (V4)
Good practice	
Take precautionary awareness	"Before entering the patient's room, be attentive to his condition." (V6) "Guard your back; work with your back facing the wall." (V11)
Avoid being alone	"There should be at least two people working together in a shift." (V1) "Avoid any situation that causes you to be alone; be with someone." (V2–V7) "It is better to avoid having two inexperienced people in a shift." (V12)
Ask for consent	"If the patient is unwilling to follow your orders, do not rush it." (V2) "Do not directly touch a patient without his consent." (V5)
Respect the patient's human rights	"Keep a kind attitude; do not raise one's voice." (V12)
Attention paid to culture-specific problems	"It's a cultural problem and difficult to change in this institution." (V13)

\*: Victims were designated as V1–V13.

However, health care workers must report and discuss these early signs with their whole team and come up with careful solutions to effectively prevent workplace violence. Unfortunately, as Taiwan is just newly becoming a developed country, the mindsets of some workers caring for chronic long-term institutionalized schizophrenic patients have probably remained in the past and need to be renewed. To some extent, such an attitude of inevitability is similar to those of workers in chemical or construction industries, who once tolerated the occupational risks as "hazard pay"<sup>24)</sup>, and did not take any further action in preventing or amending the potential hazards. We comment that such a doom attitude in this hospital should be re-evaluated and corrected.

In this study, we found that only 6 out of 13 victims

agreed to have their interviews tape-recorded. This fact in part revealed that the experience of reporting these traumatic events did not result in enough encouragement in the past. Moreover, all interviewees indicated that the post-incident support was not sufficient. Therefore, it is meaningful to create a supportive atmosphere to encourage staff to report, and to give consolation to victims. In accordance with the Paterson's review: because we cannot prevent all violence, we consequently have to provide the best support possible to the victims<sup>25)</sup>. Although the role of psychological debriefing to prevent PTSD has been controversial<sup>26)</sup>, giving victims a way to talk and express their emotion was encouraged in this study as all victims alleged that the interview was helpful to them.

A major problem in daily patient management at this

hospital was that the staff, especially the nurse aides who had worked in the hospital since the asylum stage and had no formal medical training, were accustomed to using rewards, such as offering cigarettes in exchange for patients' cooperation. Consequently, if the patients felt that the reward was not fair, patients would often get angry, argue with the staff, or even assault them. We suggested that the hospital staff reconsider or redesign their principle of providing rewards to reduce conflicts with patients and the workplace violence.

We also found that more than a half of the victims could not call anybody for help during the violence which occurred when they were inspecting the patient's room alone and carrying out their daily activities. These situations are quite different from general hospital settings<sup>27)</sup> and also different from other studies which have found that more violence occurred in containment-related situations, such as the use of seclusion and restraints<sup>28)</sup>. Thus, accompanying staff might be useful for preventing violence. However, in regard to the standard of nursing, the guideline about avoiding being alone is hard to implement in rehabilitation centers, because only one staff member was available for each shift to care for about 100 patients. In other words, staff had to cope by themselves. Even though most of the residents in rehabilitation centers are in a stable state, and they are not as violent as the patients in acute or chronic wards, the low staffing-patient ratio is a potential risk factor of violence. For a long time, this under-staffing problem had been difficult to resolve at this hospital. A possible solution would be to reduce the number of residents, so called deinstitutionalization, to let the patients go home and treat them in the community. In the U. S., this solution has become controversial and slowed recently<sup>29)</sup>. OSHA of the U. S. suggest that in the strategies for violence prevention, not only organizational cultures should be paid attention to, but also the environmental and individual issues need to be addressed<sup>18)</sup>. Thus, an alternative solution may be to set up a comprehensive alarm system to monitor places that are required to be regularly inspected by staff<sup>30)</sup>.

In this study, some of the feelings observed, including worry, fear, anger, impatience, shame, sadness, and astonishment, were consistent with a Swedish study<sup>31)</sup> and corroborate with the previous finding that work stress in a psychiatric ward is partly related to the threat of assaults<sup>32)</sup>. Moreover, there were two victims suffering from PTSD, which was consistent with Caldwell's study in a health care facility<sup>33)</sup>. As PTSD may impair a victim's normal capacity for carrying out routine tasks, it seemed mandatory to offer professional counseling and to watch for the potential adverse consequences in this hospital. In contrast to the moral censure that is one of the responses to patient violence<sup>34)</sup>, no one, not even in the PTSD cases, condemned the patients.

### Limitations

This study has the following limitations that restrict its generalization to other situations. First, we only interviewed with 13 health care workers who were still working in the hospital during the interview. As workers who might have resigned because of the violence were not included, the results might be over optimistic regarding the consequences of workplace violence.

Second, the subjects we interviewed were limited to nurses and nurse aides, so the findings were less representative of other professional staff members, such as physicians, psychologists, social workers, and rehabilitation therapists.

Finally, only six interviewees agreed to have their interviews tape-recorded in this study. Although we tried to take paper notes and transcribed the interviews as soon and with as much detail as possible, the reliability and validity of the data from these notes are not equal to the data that was tape-recorded.

### Conclusions

This paper dealt with staff, the victims of the attackers, and used an in-depth interview, not a quantitative method to reveal the complexity of workplace violence in the study hospital. Although all three levels of intervention should be considered together for preventing workplace violence, we stressed the re-engineering of organizational cultures in this hospital, including creating a supportive atmosphere, setting up alarm systems, abolishing the doom attitude regarding violence from patients as part of the job, changing the way of using cigarettes as a reward, and encouraging working staff to report violent incidents. Only if these environments, attitudes, and habits are created, can effective prevention strategies of workplace violence be found.

*Acknowledgments:* We deeply thank all the interviewees who offered their valuable experiences, and the assistance of Mrs. Shiou-Mei Kung, Ms. Chiou-Tau Lin, and Ms. Shuen-Tzu Yang in the interviews. We are grateful to Prof. Corinne Peek-Asa who kindly reviewed the draft and gave us excellent comments. This study was supported in part by the Hospital Administration Commission, Department of Health, Executive Yuan, Taiwan (No. 93042). Portions of this paper were presented at the Taiwanese Society of Psychiatry, Annual Meeting and Conference, Kaohsiung, Taiwan, 2003, and the 7th World Conference on Injury Prevention and Safety Promotion, Vienna, Austria, 2004.

### References

- 1) Kindy D, Petersen S and Parkhurst D: Perilous work: nurses' experiences in psychiatric units with high risks of assault. *Arch Psychiatr Nurs* 19, 169-175 (2005)
- 2) Lanza ML, Zeiss R and Rierdan J: Violence against

- psychiatric nurses: sensitive research as science and intervention. *Contemp Nurse* 21, 71–84 (2006)
- 3) Privitera M, Weisman R, Cerulli C, Tu X and Groman A: Violence toward mental health staff and safety in the work environment. *Occup Med (Lond)* 55, 480–486 (2005)
  - 4) Arseneault L, Moffitt TE, Caspi A, Taylor PJ and Silva PA: Mental disorders and violence in a total birth cohort: results from the Dunedin Study. *Arch Gen Psychiatry* 57, 979–986 (2000)
  - 5) Cooper AJ and Mendonca JD: A prospective study of patient assaults on nurses in a provincial psychiatric hospital in Canada. *Acta Psychiatr Scand* 84, 163–166 (1991)
  - 6) Foley SR, Kelly BD, Clarke M, Mc Tighe O, Gervin M, Kamali M, Larkin C, O'Callaghan E and Browne S: Incidence and clinical correlates of aggression and violence at presentation in patients with first episode psychosis. *Schizophr Res* 72, 161–168 (2005)
  - 7) Swanson JW, Holzer CE, Ganju VK and Jono RT: Violence and psychiatric disorder in the community: evidence from the Epidemiologic Catchment Area surveys. *Hosp Community Psychiatry* 41, 761–770 (1990)
  - 8) Whittington R and Wykes T: Aversive stimulation by staff and violence by psychiatric patients. *Br J Clin Psychol* 35, 11–20 (1996)
  - 9) Nestor PG: Mental disorder and violence: personality dimensions and clinical features. *Am J Psychiatry* 159, 1973–1978 (2002)
  - 10) Tiihonen J, Isohanni M, Rasanen P, Koiranen M and Moring J: Specific major mental disorders and criminality: a 26-year prospective study of the 1966 northern Finland birth cohort. *Am J Psychiatry* 154, 840–845 (1997)
  - 11) Hodgins S: Mental disorder, intellectual deficiency, and crime. Evidence from a birth cohort. *Arch Gen Psychiatry* 49, 476–483 (1992)
  - 12) Patton D: How reality orientation may impact upon violence and aggression within acute psychiatric care. *Int J Psychiatr Nurs Res* 8, 972–984 (2003)
  - 13) Gerberich SG, Church TR, McGovern PM, Hansen HE, Nachreiner NM, Geisser MS, Ryan AD, Mongin SJ and Watt GD: An epidemiological study of the magnitude and consequences of work related violence: the Minnesota Nurses' Study. *Occup Environ Med* 61, 495–503 (2004)
  - 14) Omerov M, Edman G and Wistedt B: Violence and threats of violence within psychiatric care—a comparison of staff and patient experience of the same incident. *Nord J Psychiatry* 58, 563–569 (2004)
  - 15) Inoue M, Tsukano K, Muraoka M, Kaneko F and Okamura H: Psychological impact of verbal abuse and violence by patients on nurses working in psychiatric departments. *Psychiatry Clin Neurosci* 60, 29–36 (2006)
  - 16) Lin YH and Liu HE: The impact of workplace violence on nurses in South Taiwan. *Int J Nurs Stud* 42, 773–778 (2005)
  - 17) Whittington R and Wykes T: Staff strain and social support in a psychiatric hospital following assault by a patient. *J Adv Nurs* 17, 480–486 (1992)
  - 18) OSHA. Guidelines for preventing workplace violence for health care and social service workers. Washington, DC: Department of Labor, Occupational Safety and Health Administration, 2004: 14–22.
  - 19) Hoyer A: Sexual harassment: four women describe their experiences—background and implications for the clinical nurse specialist. *Arch Psychiatr Nurs* 8, 177–183 (1994)
  - 20) Cutcliffe JR: Qualified nurses' lived experience of violence perpetrated by individuals suffering from enduring mental health problems: a hermeneutic study. *Int J Nurs Stud* 36, 105–116 (1999)
  - 21) Giacomini MK and Cook DJ: Users' guides to the medical literature: XXIII. Qualitative research in health care. *JAMA* 284, 478–482 (2000)
  - 22) Liu WM: Symptoms and cognitive function in institutionalized aged schizophrenic patients. *Taiwanese J Psychiatry* 11, 61–69 (1997) (in Traditional Chinese)
  - 23) Shih FJ: Triangulation in nursing research: issues of conceptual clarity and purpose. *J Adv Nurs* 28, 631–641 (1998)
  - 24) Shrader-Frechette K: Trading jobs for health: ionizing radiation, occupational ethics, and the welfare argument. *Sci Eng Ethics* 8, 139–154 (2002)
  - 25) Paterson B, Leadbetter D and Bowie V: Supporting nursing staff exposed to violence at work. *Int J Nurs Stud* 36, 479–486 (1999)
  - 26) Bisson JI and Deahl MP: Psychological debriefing and prevention of post-traumatic stress. More research is needed. *Br J Psychiatry* 165, 717–720 (1994)
  - 27) Winstanley S and Whittington R: Violence in a general hospital: comparison of assailant and other assault-related factors on accident and emergency and inpatient wards. *Acta Psychiatr Scand Suppl*, 144–147 (2002)
  - 28) Carmel H and Hunter M: Staff injury from inpatient violence. *Hosp Community Psychiatry* 40, 41–46 (1989)
  - 29) Salzer MS, Kaplan K and Atay J: State psychiatric hospital census after the 1999 Olmstead Decision: evidence of decelerating deinstitutionalization. *Psychiatr Serv* 57, 1501–1504 (2006)
  - 30) El-Askari E: Building an effective workplace violence prevention program in health care. *Clin Occup Environ Med* 3, 843–854 (2003)
  - 31) Menckel E and Viitasara E: Threats and violence in Swedish care and welfare—magnitude of the problem and impact on municipal personnel. *Scand J Caring Sci* 16, 376–385 (2002)
  - 32) Shen HC, Cheng Y, Tsai PJ, Lee SH and Guo YL: Occupational stress in nurses in psychiatric institutions in Taiwan. *J Occup Health* 47, 218–225 (2005)
  - 33) Caldwell MF: Incidence of PTSD among staff victims of patient violence. *Hosp Community Psychiatry* 43, 838–839 (1992)
  - 34) Crichton JH and Calgie J: Responding to inpatient violence at a psychiatric hospital of special security: a pilot project. *Med Sci Law* 42, 30–33 (2002)