Overcrowding as a possible risk factor for inpatient suicide in a South African psychiatric hospital

To the Editor: The risk of suicide among people with mental illness is estimated to be 10 times higher than in the general population.[1] About 4% of all suicides in England and Wales[2] are estimated to occur while the person is an inpatient in a psychiatric facility. Surveys have found that most psychiatrists have personal experience of the suicide of a patient under their care in hospital.[3] In order to actualise efficacious treatment, it is imperative that the contributing causes of inpatient suicides be examined.

The purpose of this letter is to explore the potential risk factors and to consider the possibility of whether overcrowding could have been a contributing element when three inpatients committed suicide in the male acute ward of a psychiatric hospital in the Eastern Cape, between March 2012 and August 2013.

The first two patients used a linen sheet to hang themselves in the toilets and the third hanged himself while in seclusion, using a piece of torn blanket. The first patient, an 18-year-old male, committed suicide in March 2012 at 12h50. His psychiatric diagnosis was substance-induced psychosis with comorbid polysubstance abuse (cannabis, methamphetamines and cocaine). The male acute ward, which has a bed capacity of 32, had 49 patients in the ward that day. At the time of the incident, the second patient, a friend of the first, was an inpatient in the ward.

This patient, aged 22, committed suicide in April 2012 at 19h15, just after the change of shifts for nurses. There were 61 inpatients in the ward that day. His diagnosis was substance-induced psychotic disorder with comorbid polysubstance abuse (cannabis, methamphetamines and alcohol) and epilepsy. He had multiple previous admissions, a history of a head injury, postictal psychosis and antisocial traits.

The third patient, a 22-year-old male, committed suicide in August 2013 at 12h15. He was diagnosed with substance-induced psychotic disorder and smoked cannabis daily prior to admission. He gave a history of one previous suicide attempt. He was extremely aggressive and had to be secluded twice in the first 3 days. He committed suicide 3 days after admission, while in seclusion. On the day of his suicide, there were 49 patients in the ward.

Once an inpatient commits suicide in a psychiatric hospital, staff members in general assume a failure on their part to recognise the patient's suicidal intent or to act appropriately in response to recognised danger. One of the main questions staff members tend to ask themselves is whether the suicide could have been foreseen and prevented.

In a systematic review of inpatient suicides, Bowers *et al.*[4] assessed such questions and found that inpatients who commit suicide do not seem to be a homogenous group. Two possible groups were distinguished: the first was younger, male, single, unemployed patients suffering from schizophrenia, and the second was older, female, single patients suffering from affective disorder. The early stages of admission seem to be a particular time of risk. Both Bowers *et al.*[4] and Kahne[5] reported a significant association between admission rates and suicide risk.

In a study considering addiction and suicidal behaviour in psychiatric inpatients, Steblaj *et al.*[6] make a strong case for addiction disorders as opposed to mental health disorders as a predictor of suicide. Other studies reporting on inpatient suicide found the risk of suicide particularly high in patients with personality and affective disorders[1] and poor relationships with family members.[6]

Overcrowding is a well-known problem in psychiatric hospitals worldwide. It typically arises when there is a shortage of beds in relation to need, or when acute beds are 'blocked' by individuals who no longer need hospital care but for whom no suitable community support is available. Studies have shown that more violent incidents occur in the unit when the number of patients is high. Reasons why overcrowding could lead to increased aggression include the stressful experience of psychiatric admission itself, increased psychosocial stress, intrusion into personal space, disrupted patient and staff activities, and possibly the fact that patients get less attention from ward staff because of increased demands on time. Overcrowding has also been associated with an increase in violent assaults on staff in psychiatric wards for the same reason.[7]

Authors Strumpher and Jacobs conducted interviews, in the aftermath of the above-mentioned suicides, with several of the nurses on duty at the time and, as is clear from the following comments (as yet unpublished data), a number of nurses did consider the fact that the wards were overcrowded as a possible contributing factor:

'We cannot say no to admissions, then we go 50, 60, 70 … now you must imagine 70 psychotic, acutely ill patients!'

'The patients become agitated when the ward is overcrowded, when there are so many patients there is a lot of incidents happening; it was so chaotic'.

In the case of the above inpatient suicides, the following could be considered as contributing factors: they were young, single, unemployed males with psychotic illness who abused substances. Furthermore, although the literature does not suggest a specific association, the fact that the ward was clearly overcrowded at the time of these incidents, coupled with the well-known association of increased violent acts in overcrowded psychiatric inpatient wards, makes one consider the possibility that, in these particular inpatient suicides, overcrowding may have a been a contributing factor. Hence overcrowding should be considered a risk factor for inpatient suicide.

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