Psychiatry Research 178 (2010) 153–159

Contents lists available at ScienceDirect

Psychiatry Research

journal homepage: www.elsevier.com/locate/psychres

Patients' own statements of their future risk for violent and self-harm behaviour: A prospective inpatient and post-discharge follow-up study in an acute psychiatric unit

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ARTICLE INFO

Article history:
Received 25 May 2009
Received in revised form 27 November 2009
Accepted 11 April 2010

Keywords:
Assessment
Screening
Self-report
Suicidal
Self-injurious
Aggression
Mental disorders

ABSTRACT

Recently patients' responsibility for and ownership of their own treatment have been emphasised. A literature search on patients'' structured self-reported assessment of future risk of violent, suicidal or self mutilating behaviour failed to disclose any published empirical research. The present prospective naturalistic study comprised all involuntary and voluntary acutely admitted patients ($n=489$) to a psychiatric hospital during one year. Patients' self-reported risks of violence and self-harm at admission and at discharge were compared with episodes recorded during hospital stay and 3 months post-discharge. Patients' predictions were significant concerning violent, suicidal and self-injurious behaviour, with AUC values of 0.73 (95% CI = 0.61–0.85), 0.92 (95%CI = 0.88–0.96) and 0.82 (95%CI = 0.67–0.98) for hospital stay, and 0.67 (95% CI = 0.58–0.76), 0.63 (95%CI = 0.55–0.72) and 0.66 (95%CI = 0.57–0.76) after 3 months, respectively. Moderate or higher risk predictions remained significant in multivariate analysis, and risk of violence even after gender stratification. Self-harm predictions were significant for women. Moderate or higher risk scores remained significant predictors of violence one year post-discharge. Controlling for readmissions the results remained the same. Low sensitivity limits the clinical value, but relatively high positive predictive values might be clinically important. Still future research is recommended to explore if self prediction is a valid adjuvant method to established risk assessment procedures.

1. Introduction

Self-harm and violent behaviour by psychiatric patients are important. Several studies and reviews have revealed increased violence among persons with major mental illnesses (Brennan et al., 2000; Colasanti et al., 2008; Fazel and Gann, 2006). Most persons who commit suicide have a present mental illness, and a majority have symptoms of depression (Hawton and van Heeringen, 2009). Recently the focus on patients' responsibility for and ownership of their own treatment has increased. Traditionally, the patients' own opinion has been taken into account in the clinical risk management of suicidal behaviour. Self-report questionnaires for patients have been developed for both suicidal and violence risk assessment (Helfritz et al., 2006; Huth-Bocks et al., 2007; Kroner and Loza, 2001; Loza et al., 2007; Nimeus et al., 2006). However, instead of measuring patients' perception of their own risk, these tools have been developed to obtain risk estimates by clinicians, or by computerized soft-ware programs. Moreover, there has been controversy about the reliability of self-report questionnaires (Doyle and Dolan, 2006; Gaynes et al., 2004; Hart, 1995; Loza, 2007). Our literature search failed to show any empirical research on patients' self-reported "direct" opinion of subsequent violent and self-harm behaviour. Hence we set up a prospective study in the acute psychiatric unit at Ålesund Hospital. Other parts of the study were biological markers (serum lipids and platelet serotonin) and two risk assessment screens (Hartvig et al., 2007; Sheehan et al., 1998).

2. Methods

2.1. Setting and population

The design was a naturalistic prospective inpatient and outpatient follow-up study at the acute psychiatric ward at Ålesund Hospital in Norway with a catchment area of 125,000 persons. The target group were all involuntary and voluntary acute admitted patients during one year, from March 7th 2006 to March 7th 2007. A very few patients who did not understand Norwegian language were not included.

The sample size ($n=489$ patients/716 hospitalisations) was determined by the total number of patients admitted during this period. Demographic and clinical data are shown in Table 1.

2.2. Procedure

During the initial examination at admittance, the physician on duty recorded the patients' risk estimates of violence, suicide and self-injury for hospital stay in the "Self-

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doi:10.1016/j.psychres.2010.04.012

Table 1
Demographic data. Comparison between study samples and missing samples.

	At admission $n=489$			At discharge $n=489$		
	Included	Missing	*P*-value	Follow-up	Missing[a]	*P*-value
	$n=429$	$n=60$		$n=266$	$n=223$	
Male/female %	55/45	47/53	ns	55/46	54/47	ns
Mean age	43.9	48.9	0.036	42.8	46.9	0.013
Hospital stay mean/median	15.6 /10	19.0 / 12	ns	18.4 / 10	13.3 / 8	0.004
Involuntary admission, *n*/%	79/19	17/30	0.052 ns	65/21	38/21	ns
Mandatory aftercare, *n*/%	30/7.0	6/11	ns	31/10	8/4.5	0.037
Inpatient violence[b], *n*/%	28/6.9	8/9.5	ns	21/7.6	15/6.7	0.085 ns
Inpatient suicidality[b], *n*/%	9/2.3	0	ns	5/1.6	4/1.8	ns
Inpatient self-injury[b], *n*/%	7/1.7	0	ns	4/1.3	3/1.3	ns
F10–19 substance abuse %	16	15	ns	16	16	ns
F20–29 psychotic disorders %	16	17	ns	19	13	ns
F30–31 bipolar disorders %	12	12	ns	15	6.2	0.003
F32–39 depressive dis.[c] %	26	28	ns	24	29	ns
F40-43 anxiety disorders %	18	15	ns	17	20	ns
F60 personality disorders %	5.9	3.8	ns	6.5	2.9	ns
Other diagn. (*F*, Z, somatic)%	6.0	11	ns	7.1	15	0.007

[a] Include missing (60) and dropouts during follow-up (163).
[b] Patients that were recorded with episodes during their hospital stay.
[c] F34.0 and F38.0 excluded.

report risk scale" (SRS, see chapter 2.4 and Fig. 1). As part of the discharge procedure the physician, psychiatrist or psychologist in charge did a second recording for the subsequent three months after discharge. Patients received written and verbal information about the project at admission.

The ward staff recorded violent, suicidal and self-injuring episodes continuously during hospital stay.

The outpatient follow-up was organised in this way: At 3, 6, 9 and 12 months after discharge, the project assistant sent the forms for recording episodes of violent, suicidal and self-injurious behaviour to the therapists at the outpatient clinics and the district psychiatric wards. For the patients discharged into community, the project assistant sent the recording schemes to the patient's primary nurse at the acute ward. The nurse then contacted the patient by phone, and recorded occurred episodes. The respective recording periods were 0–3, 4–6, 7–9 and 10–12 months.

The recording schemes contained scoring guidance for all items. Before the study the staff at all sites was educated in recording violent, suicidal and self-injurious behaviour. At the acute ward "super-users" were trained to guide the other staff. The project leader collected systematically data taken from hospital records, records from district psychiatric wards, and outpatient clinic records. Data concerning violent threats and acts were also collected from criminal records.

If a patient was readmitted to the acute ward during the study period, his trial file was closed after recording the occurrence of violent, suicidal and self-injurious episodes in that post-discharge period. The patient was then included with a new file number. The same procedure was repeated for each readmission.

2.3. Definitions of violent, suicidal and self-injurious behaviour

The same definitions were used for the inpatient and the follow-up part of the study. *Violent behaviour* included violent threats and violent acts. *Violent threats* were operationally defined as verbal and non-verbal communication conveying a clear intention to inflict physical injury upon another person, and *violent acts* defined as the intended infliction of bodily injury upon another person (Bjrkly, 1996; Dean et al., 2006; McNiel et al., 1988; Monahan et al., 2005). Post-discharge recording categorised violent acts into less severe and severe acts. *Less severe acts*: kicks and blows without injuries. *Severe acts*: weapon, arson, and assaults causing injuries.

Self-inflictive behaviour has many terms (Silverman et al., 2007; Skegg, 2005). In this study, self-inflictive behaviour was divided in two categories; with and without the intention to die. *Suicidal threats* were defined as verbal or non-verbal interpersonal actions that communicate a suicide-related action to occur in the near future, and a *suicidal act* defined as a self-inflicted behaviour with the intention to kill oneself (Kroner and Loza, 2001; Klonsky, 2007). *Suicidal behaviour* (SUB) refers to suicidal threats and suicidal acts. *Self-injurious behaviour* (SIB) was defined correspondingly, as the intention to injure oneself but without the wish to kill oneself (Klonsky, 2007; Kroner and Loza, 2001). Post-discharge suicidal attempts and self-injurious assaults were categorised as *severe acts* when followed by hospitalisation or being fatal. Other acts were characterized as *less severe acts*.

2.4. Baseline measures

Information concerning age, gender, hospital stay, judicial status at admission- and discharge, and ICD-10 diagnosis at discharge was obtained from records and included as demographic and clinical variables (Table 1).

Due to lack of other available instruments, a four-item self-report screen (SRS) with a seven-point scoring scale was constructed to measure the patients' judgements of their subsequent risk for self-harm or violence (Fig. 1). The patients were asked to respond to four of the four items A–D: For the time you are staying in the ward/for the first three months after discharge from the ward; what is your opinion about the risk that you: (A) will try to hurt or injure yourself, without the intention to kill yourself? (B) will try to kill yourself? (C) will *threaten* other people by acting violently? (D) will act violently against others? For each question, the patients choose one of the seven respond options to express their risk estimate: *no risk* (will definitely not happen), *low*

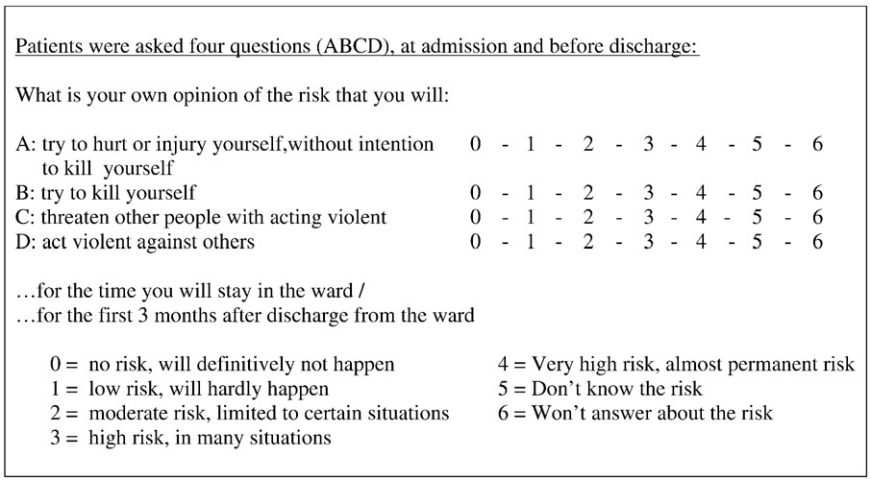

Fig. 1. Self-report risk scale (SRS).