Violent outcomes in first-episode psychosis: a clinical cohort study

Submitted version

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This is the original submitted version of a subsequently published paper:

Whiting D, Lennox BR, Fazel S. Violent outcomes in first-episode psychosis: A clinical cohort study. *Early Intervention in Psychiatry*. 2019;1–4. https://doi. org/10.1111/eip.12901

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Abstract

Aim: Violence risk is an important part of a comprehensive clinical assessment in first-episode psychosis. This study addresses limitations of previous outcome research in first-episode psychosis, which has typically investigated selected cohorts or restricted to violence occurring prior to service contact, with limited use of police data.

Methods: For individuals consecutively assessed by Early Intervention in Psychosis (EIP) services in two UK regions (n=177), violent outcomes in the subsequent 12-months were collected using electronic patient records, supplemented by police data.

Results: Of individuals accepted by EIP services (n=109), electronic medical records indicated around 1 in 4 (n=28, 25.7%) perpetrated any physical violence, and 1 in 10 (n=10, 9.2%) were arrested or charged for violence in the 12-months after first contact. Police data on all individuals assessed (n=177) reported 1 in 7 (n=26, 14.7%) were arrested or charged for violence in the 12-months after first contact.

Conclusions: EIP services should consider integrating multi-agency sources of data to evaluate violent outcomes. The potential role of violence risk management should be further examined.

Key words: violence, crime, aggression, psychosis, schizophrenia

Introduction

Violence is an outcome with significant implications for patients, their families, health services and society. A range of mental disorders are associated with small but increased risks of violence, including schizophrenia-spectrum disorders, where risks are elevated two to five-fold compared with general population comparisons and further increased with comorbid substance use (Fazel, Gulati, Linsell, Geddes, & Grann, 2009). First-episode psychosis (FEP) has been highlighted as a high risk period, with over a quarter of patients perpetrating violence before initial treatment has been instituted (Winsper, Ganapathy, et al., 2013).

Violence risk is therefore relevant to clinical practice in Early Intervention in Psychosis (EIP) services. However, studies reporting violence in FEP have mostly studied violence risk at or before first contact with psychiatric services rather than investigating outcomes following service contact (Coid et al., 2013; Rolin et al., 2018). In a 2013 systematic review, of the 6 studies that reported violence after first contact, there was inconsistency in time at risk, and how and where violence was measured (including inpatient samples) (Winsper, Ganapathy, et al., 2013). Subsequent longitudinal studies have partly addressed this. A study with FEP in Norway and Denmark found 20% were arrested or incarcerated for violence over 10 years (Langeveld et al., 2014), and, in a large UK cohort, 14% displayed violent behaviour in the 12-months after EIP service entry (Winsper, Singh, et al., 2013). However, these previous studies have been limited by evaluating violent outcomes based on patient interview and file review, often employing an aggression scale, which may not be informative for services who require a clear and clinically meaningful threshold. Further, preventing criminal justice involvement will be important to ensure continuity of care, maintain social support networks where present, and reduce additional psychosocial stressors. In addition, individuals recruited into research cohorts and assessed with periodic outcome interviews may not represent the clinical population. A violent incident can in itself

disrupt service engagement, and so reliance on such methods without complementary data will likely miss outcome information for potentially vulnerable individuals.

The current study therefore sought to examine rates of violence in all patients assessed by EIP services. Outcomes were collected with scalable use of routine documentation in electronic patient records (EPRs). Additionally, police-recorded violent arrest was obtained for all those assessed by EIP services on a group level, whether or not they were subsequently engaged by these services, in order to understand the risk profile of all those being routinely assessed in this setting. We then tested the concordance of these two methods – EPR-based reporting and police-recorded arrest – to examine this particular outcome.

Methods

All individuals consecutively referred to two EIP services in Oxfordshire and Buckinghamshire, UK, between June 2015 and June 2016 who received a face-to-face assessment were included. Prior to such assessments referrals were first triaged by clinical services to ascertain appropriateness. For each individual a period of one year from initial contact was reviewed for violent outcomes, regardless of whether they remained under the care of EIP services at the end of this.

The 'Carenotes' EPR was examined for violent outcomes by reviewing risk assessment forms, unstructured clinical progress notes, and correspondence (documents e.g. letters, reports and emails). Free-text search functionality was used to review risk assessments and clinical notes, filtered for the review period, for violent synonyms likely to capture incidents in routine clinician language (all matches for stems 'aggre', 'assault', 'punch', 'kick', 'violen', 'fight', 'beat' and 'batter' and whole word matches for 'hit' or 'hitting'). Similarly, titles of documents within correspondence were searched for references to street-triage,

police (including ‘Thames Valley Police’ or ‘TVP’), liaison and diversion services (including ‘LD’ or ‘CJLD’) and court. Incidents identified were reviewed for relevance and coded as less serious interpersonal physical violence (not documented to have caused injury) or more serious interpersonal physical violence (any documented injury, any use of a weapon or any sexual assault). Documentation referring to arrest, charge or conviction for a violent offence was additionally recorded. Finally, centrally logged incident reports for included patients, coded as involving violence and aggression, were similarly reviewed for relevance. The overall number of arrests/charges for violence was cross-checked by Thames Valley Police (i.e. total number for the cohort as a whole, without individual-level data). Data was anonymised at the point of collection and the project was approved by Oxford Health NHS Foundation Trust’s Quality and Audit team as part of a local service evaluation.

Results

Characteristics of 177 consecutive patients assessed by EIP services are presented in Table 1. 109 of 177 patients assessed (62%) were accepted onto EIP service caseloads, having satisfied standard criteria for entry into the EIP service model based on symptoms, functional impairment, and being within 3 years of the onset of a previously untreated psychotic illness. Of these, EPRs documented that 28 (26%) perpetrated any physical violence, and 10 (9%) were arrested/charged for violence in the 12-months after referral. Free-text searching of running clinical progress notes was found to be a feasible method of extracting outcomes, and was the EPR location that most reliably recorded the most serious incident (capturing this in 93% of cases where some violence was documented).

Of the 68 individuals (38%) who were assessed by EIP services but not subsequently taken on, many were followed up by non-EIP mental health services, with 40% remaining under the care of secondary mental health services 12-months after initial EIP referral.

According to police records, 26 of all 177 patients assessed (15%) were arrested or charged for alleged violence in the 12-months following this referral.

Discussion

In a cohort of 109 consecutive individuals assessed as having first-episode psychosis by EIP services in two English regions, electronic medical records documented that 1 in 4 individuals perpetrated interpersonal violence in the subsequent 12-months after first service contact, and that 1 in 10 were arrested or charged with violence by the police.

Among all 177 individuals consecutively assessed by EIP services (the majority of whom remained under the care of either EIP or other secondary mental health services after 12-months), EPRs recorded that 7% were arrested or charged with a violent offence during follow-up. Based on police records, however, the 1-year rate was around double at 15%, demonstrating the value of triangulating data sources for outcome measurement. Police data has the advantage of capturing events for individuals no longer in active or regular contact with mental health services, and so potentially identifies unmet need amongst those who have disengaged or been discharged.

First contact with EIP services is therefore an important point in the clinical pathway to identify modifiable risk factors for violence. To reduce future adverse outcomes, preventative approaches need embedding within these services. A violent or forensic history in individuals with FEP is associated with poor prognosis including increased frequency and length of hospital admission, poorer functional status and victimisation (Cotton et al., 2017; Hachtel, Harries, Luebbers, & Ogloff, 2018), and, in those with schizophrenia-spectrum disorders, is associated with suicide and premature mortality (Fazel, Wolf, Palm, & Lichtenstein, 2014). Identifying individuals likely to benefit from interventions to reduce violence risk could therefore also improve overall prognosis. These interventions may need to

specifically target antisocial behaviour, rather than psychotic symptom-control alone (Winsper, Singh, et al., 2013). To develop and test such interventions, practical and accurate methods of violent outcome measurement are necessary. Use of routine documentation in EPRs was found here to be one feasible approach.

A limitation of the current study is the lack of individual-level police data. It is therefore not possible to state what proportion of police-recorded events related to individuals who were still in active contact with mental health services. Future research would benefit from developing linkages between health and police records that allow extraction of individual-level data in a deidentified manner.

Violence is an important adverse outcome to assess, manage and prevent in psychiatry, and presentation to EIP services is an important opportunity to identify risk and consider preventative interventions. These measures may include involving other mental health services or agencies, or be integrated within EIP services themselves. The positive benefits of identifying high-risk subgroups within EIP settings, and allocating focussed resource, potentially include reductions in hospitalisation and crisis contact, and improved symptoms and global functioning (Brewer et al., 2015). This therefore is an important area for future research and service development.

Declaration of interest

None.

Funding

This report is independent research supported by the National Institute for Health Research (NIHR Doctoral Research Fellowship, Dr Daniel Whiting, DRF-2018-11-ST2-069). The

views expressed in this publication are those of the authors and not necessarily those of the NHS, the National Institute for Health Research or the Department of Health and Social Care.
Professor Seena Fazel is funded by the Wellcome Trust.

Author contribution

DW, BL and SF designed the study; DW collected and analysed the data; DW, BL and SF wrote the article.

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Acknowledgements

The authors are grateful to Thames Valley Police for their assistance with the project.

Table 1. Characteristics of individuals assessed by EIP services and violent outcomes.

	Individuals taken on to EIP service caseload (n=109)	Individuals not taken on to EIP caseload (n=68)
Male gender, n (%)	57 (52.3)	50 (73.5)
Age in yrs. at referral, mean (S.D.)	24.1 (7.2)	23.5 (6.9)
Under care of secondary MH services		
6-months post-referral to EIP, n (%)	92 (84.4)	35 (51.5)
12-months post-referral to EIP, n (%)	75 (68.8)	27 (39.7)
EPR documentation		
Any interpersonal violence in the 12 months post-referral to EIP, n (%)	28 (25.7)	11 (16.2)
Less serious (no injury or weapon), n (%)	19 (17.4)	8 (11.8)
More serious (injury or weapon), n (%)	9 (8.3)	3 (4.4)
Violent arrest/charge/conviction, n (%)	10 (9.2)	4 (5.9)
Police recorded violent arrest/charge for all individuals assessed (n=177) in the 12 months post-referral to EIP, n (%)	26 (14.7)*	

EIP: Early Intervention in Psychosis service; EPR: electronic patient record; MH: mental health.

*Police data collected was at level of cohort of all assessed patients, not individual-level

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