Seclusion and Psychiatric Intensive Care Evaluation Study (SPICES): Combined qualitative and quantitative approaches to the uses and outcomes of coercive practices in mental health services

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SCIENTIFIC SUMMARY

Background

A primary purpose of psychiatric inpatient care is to keep acutely ill patients and those around them safe from harm. In the hospital a number of different methods are used either to directly prevent a patient from engaging in behaviour that is likely to result in injury, or to curtail such behaviour should it occur. Seclusion and transfer to psychiatric intensive care are two common methods. By seclusion we mean the isolation of a patient in a locked room. Previous research suggests that up to a half of patients may be secluded, mostly but not only to contain aggressive behaviour. Secluded patients may be younger and less likely to suffer from depression, and the experience of seclusion can make patients feel angry, lonely, sad, hopeless, punished and vulnerable. By psychiatric intensive care unit (PICU) we mean a specialist ward with more robust security and higher nurse staffing levels. Previous research in the UK suggests that typical PICU patients in the UK are: male; younger; single; unemployed; suffering from schizophrenia or mania; from a black Caribbean or African background; legally detained; with a forensic history. The most common reason for admission is for aggression management, and most patients stay a week or less.

There is a widespread aspiration to reduce the use of coercive interventions: their persistence may reflect a belief that they are effective in reducing harms, but this belief is supported by little or no evidence. In addition, the costs associated with seclusion and PICU have previously been described in rudimentary ways. PICU in particular is an expensive option due not least to the higher staff-patient ratios involved.

Some hospitals do not have seclusion rooms or easy access to an onsite PICU. While it is known that this limits the use of those options, it is not known how these differences affect patient management and outcomes. This report describes two studies that address these issues.

Objectives

To assess the predictors, outcomes, and consequent cost of seclusion and PICU care (study 1) and to describe differences in the management of disturbed patient behaviour related to differential availability (study 2).

Methods

Study 1: The Biomedical Research Centre (BRC) Clinical Records Interactive Search (CRIS) tool was used to extract anonymised data from the electronic medical records of a large NHS trust providing secondary mental health care. PICU care within this trust was provided by five wards (four general adult and one forensic), all of which had access to a seclusion room. Two datasets were derived. The PICU dataset comprised all 986 transfers of patients from general adult acute wards to a non-forensic PICU ward between April 2008 and April 2013 together with 994 patient-day combinations randomly selected from the set of patient-day combinations defined by all days within general adult admissions on which a transfer to PICU did not occur. The seclusion dataset comprised all 990 transfers into seclusion occurring on the four non-forensic PICU wards within the study period together with 1032 patient-day combinations randomly selected from the set of patient-day combinations defined by all days within admissions to non-forensic PICUs during which a transfer into seclusion did not occur. Cases and controls in both dataset were not mutually exclusive at the patient level—for example, one patient could contribute one or more PICU transfer as well as one or more PICU non-transfer.

We examined (1) predictors of the use of seclusion and PICU and of treatment duration in both, as well as (2) the effect of treatment on adverse incidents, length of stay, and costs, and the cost-effectiveness of these treatments. Predictors of treatment included a wide range of demographic and clinical factors (age, sex, ethnicity, diagnosis, Mental Health Act status, and time since admission) and behavioural precursors of treatment (potentially relevant behaviours occurring in the three days prior to PICU transfer/seclusion initiation or randomly sampled 'non-transfer' date,

identified from electronic medical records using keywords). With regards to outcome measures, keywords were used to identify adverse incidents noted within the clinical records which were manually reviewed and summed to produce a count of the number of incidents of general aggression and general violence during a seven day follow-up period and the number of serious incidents within a 30 day period. We extracted the length of stay for the part of the inpatient episode remaining after PICU/seclusion transfer or the 'non-transfer' date, as well as service use and costs within 7, 30 and 365 days of that date. Logistic regression analyses were conducted (a) to investigate the extent to which demographic/clinical factors predicted treatment receipt after adjusting for behavioural precursors and (b) to derive propensity scores allowing us to judge the extent of common support and the possibility of estimating the causal effect of each intervention on outcomes (violent and aggressive incidents) and associated cost-effectiveness. We planned to use random-effects Poisson regression for the outcomes analysis and linear regression supported by bootstrapping for analyses of length of stay, cost, and cost-effectiveness.

Study 2: We selected eight hospitals in London and the North West of England: two each without seclusion rooms or onsite PICU, two with both, and two each where only one of the two interventions was available. Nursing staff working on acute psychiatric wards caring for male patients were approached and asked to participate. A total of 206 nurses and healthcare assistants completed a questionnaire on their attitudes to and use of a wide range of containment methods including seclusion and PICU as well as a video based assessment showing a patient whose behaviour was becoming increasingly aggressive and in which the respondent was required to state when they would initiate manual restraint. A total of 81 qualified nurses from the same wards were also interviewed with the aim of eliciting any escalation pathway in use at their hospital. Standardised vignettes of disturbed patient behaviours were presented to the interviewees and they would describe how these behaviours would be responded to by the staff, what interventions would be used and in what order. Interviews were thematically analysed and data was converted into quantitative form.

The impact of the availability of seclusion and PICU was tested using chi square tests and logistic regression.

Results

Study 1:

The use of PICU was associated with younger age, male sex, bipolar disorder, being detained, the first seven days of the admission (among males), as well as behaviour connected with absconding, abuse, aggression, agitation, attacking, absence without leave, being manic, throwing and violence. The use of seclusion was associated with younger age, the first seven days of the admission and ward, as well as behaviour connected with abuse, aggression, agitation, arousal, assault, hitting, restraint, shouting (among women), threatening, throwing and violence. Although there were differences in costs and outcomes in unadjusted analyses, examination of the distribution of propensity scores showed that treated and control observations were poorly comparable and the common support condition was not met: therefore, we did not attempt to derive estimates of causal effects.

Study 2: Hospitals without seclusion rooms used more rapid tranquillisation by intramuscular injection when faced with the most risky and severe behaviours by patients. They also made greater use of the observation of the patient in a separate room by themselves, accompanied by one or more staff members, or with a staff member stationed at the door of the room, methods which might be summarised as 'nursing in a side room'. Despite not having a dedicated seclusion rooms, such hospitals still (albeit apparently rarely) secluded patients using an ordinary room and outside of any hospital policy. Staff at hospitals without access to seclusion rated it as less acceptable and were slower to initiate manual restraint. Staff at hospitals with seclusion rated it as more acceptable and were faster to initiate manual restraint. Hospitals without an onsite PICU made less use of PICU, but used more seclusion (where it was available), de-escalation and 'within eyesight' observation. The

availability of seclusion or PICU was not associated with attitudes to any other forms of containment.

Limitations

Study 1: The study was conducted within a single NHS trust, which potentially limits the extent to which findings can be generalised to other psychiatric hospitals (particularly those outside the UK). Entries made in electronic patient record systems may be subject to unknown bias; moreover, potentially important variables may not be recorded systematically or at all—a problem that applies at individual patient level as well as team and organisation level. Unmeasured confounding can potentially affect any analysis based on observational data—in the case of our outcome analyses, the greater problem was the poor overlap of covariate patterns between treated and control observations (lack of common support).

Study 2: Interviews were complex, difficult, constrained by the need for standardisation, and collected in small numbers at each hospital. Interview vignettes were restricted to male patients only, thus may not be applicable to the management of disturbed female patients. Interviewee responses may have been influenced by the desire of staff to show their wards in a good light; thus, they may have preferentially described ideal rather than actual practice on their wards. Only eight hospitals participated, and local policies for the use of seclusion or PICU may have varied in important ways, affecting the results obtained.

Conclusions

Services considering expanding access to seclusion or PICU should do so with caution, given the possibility raised by our research that both interventions may increase violence. Services including acute wards with no access to seclusion should consider creating a policy to cover those situations where staff feel unable to manage patients any other way. Therapeutic, as opposed to coercive, interventions to manage and treat disturbed behaviour should be utilised much more frequently. Given the

importance of the issues of coercion and violence in inpatient mental health services, there is a requirement for further research, probably studying more sites and using stronger, including randomised, designs to look at coercive interventions as well as potential therapeutic alternatives. In the meantime, those planning and managing services should concentrate their efforts on global conflict and containment reduction strategies.