BRIEF ADMISSON BY SELF-REFERRAL FOR INDIVIDUALS WITH SELF-HARM.

Effects on compulsory care.

Official title: Brief Admission by self-referral for individuals with self-harm. Effects on compulsory care.

NCT number: 2022-02307-01

Date: 2024-04-24

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STUDY PROTOCOL

AIM AND RESEARCH QUESTIONS

The overarching aim of this project is to evaluate the effect of Brief Admission by self-referral (BA) added to treatment as usual, on compulsory care in adults.

Primary research question:

1. Does implementation of BA decrease the number of days with compulsory admissions, in individuals with repeated self-harm and traits of borderline personality disorder (BPD)?

Secondary research questions. In individuals with repeated self-harm and traits of BPD:

2. Does implementation of BA decrease the number of compulsory admissions?
3. Does implementation of BA decrease the number of compulsory acts?
4. Does implementation of BA affect the number of voluntary psychiatric admissions?
5. Does implementation of BA affect the number of days with voluntary psychiatric admissions?
6. Does implementation of BA affect the duration of free intervals between admissions?
7. Does implementation of BA affect mortality?

AREA OVERVIEW

Self-harm is common in psychiatric care, about three out of four adolescents and half of the adults report having self-harmed in the past six months (1). For individuals with repeated self-harm and traits of BPD, consensus on the management of imminent suicidality is still lacking. For this group, admission to inpatient care can on one hand be lifesaving, but on the other hand have severe iatrogenic effects such as aggravated self-harm and prolonged compulsory admissions (2,3). For this purpose, Brief Admission by self-referral (BA) has evolved providing patient-controlled health care aiming to reduce self-harm and compulsory care and promote autonomy in a person-centered approach (4). Although this method is relatively new in Sweden, it has been used in the Netherlands for the last 30 years with positive experiences (5).

Brief Admission by self-referral (BA) is a crisis-management strategy, welcomed as a promising intervention for a variety of psychiatric disorders, standardized for persons with repeated self-harm and traits of BPD (4,6). The characteristics of BA are profoundly different from other psychiatric hospital admissions since BA promotes autonomy by entailing self-admission and removing gatekeeping mechanisms (4,7). BA represents a shift in Swedish psychiatric care from a model that generally protects people from harming themselves through exercise of control, to one that promotes autonomy.

With admissions limited to a maximum of three nights, three times per month, BA is made available to targeted individuals after the negotiation of a contract, that explains the

intervention and settles individual details. The contract specifies services included (e.g. conversations with staff) and excluded (e.g. changes in medication, consultation with a ward physician). Furthermore, the contract contains individualized components such as goals and strategies as well as a person's commitments during BA, such as to bring and administer their medication (4). In addition, the person admitted to BA agrees not to harm themselves or others and to take on the overall responsibility for their own security. If a person is unable to maintain these commitments during BA, they are discharged from the current BA but can seek the psychiatric emergency unit or admit themselves to a new BA the following day. BA is handled by nurses, or if nurses are not available, nurses' aides, whose clinical approach is to be welcoming with warmth, enthusiasm, acceptance, genuineness, openness, validation, and a willingness to collaborate on equal terms (4). To ensure efficient targeting, BA is provided as an integrated part of general psychiatric care after an assessment by the outpatient team together with the BA unit. Thus, a self-admission as per the BA method will be aligned with the individual and their team's long-term idea of optimal treatment for that individual. BA is followed up and evaluated regularly with contract renewal and revisions to ensure adaptation to current needs.

Brief self-referral initiatives focused on increasing autonomy and self-esteem while reducing voluntary and compulsory admission to psychiatric care, have evolved in several countries (6). In Sweden, BA has been well received among health care providers (8) and persons using it (9). Individuals with severe self-harm and a history of extensive compulsory and voluntary psychiatric admissions describe their experience with BA as a worthy respite, replacing the conventional system where the need for admission must be proved 'in blood' or where one must wait until symptoms worsen (10). BA has been enthusiastically embraced as refreshing and novel by staff, avid for a new approach for the demanding care of persons with extensive self-harm and suicidal behavior. BA offers structure and a balance of requiring responsibility of the individual, while being able to welcome persons during times of approaching crisis. Staff providing BA for this group emphasize the benefits of predictability of the admissions, e.g. neither the length of the admission nor the responsibility of the individual can be negotiated. Furthermore, they described a shift from trigger and conflict to collaboration with the individual at the ward, as well as an increased alignment between inpatient and outpatient caregiving (11). Also, the intervention is experienced as safe, even provided to a group with prolonged and imminent suicidality, who are made responsible for their own safety.

The initial reports of a striking decrease of compulsory and voluntary admissions alongside increased use and implementation of self-referral initiatives (6) are hampered by the lack of control groups. Two randomized controlled studies that did not reproduce this decrease, lack measures for treatment fidelity (12,13). The Brief Admission Skåne Randomized Clinical Trial (BASRCT) was implemented in accordance with best practice for enhancing treatment fidelity in health behavior change studies (7). The sample studied in BASRCT consisted of individuals with self-harm and three or more traits of BPD. Participants were randomized to 1) the BA group that was offered BA and treatment as usual or 2) the control group that received treatment as usual. Participants were followed for 12 months. Both the BA and control group demonstrated a similar significant within-group decrease in the number of days admitted to the hospital. However, in the BA group there was a significant within-group decrease in the number of days with compulsory admission to hospital, as well as in non-

suicidal self-injuries (NSSI), indicating a possible positive effect in terms of reducing iatrogenic effects related to admissions for this group (2, 3). Furthermore, in the BA group, about twenty percent of the total number of days in hospital consisted of BA, implying that BA may partly substitute voluntary or compulsory admission to psychiatric care. Among secondary outcomes, the BA group showed greater improvement as compared to controls in the domain of mobility as part of daily life functioning, meaning moving inside and outside of the home environment. Furthermore, the BA group, but not the control group, showed within-group improvement regarding cognition, domestic responsibilities, and participation in daily life after BA enrollment, as compared to before.

The major difficulty in evaluating BA is preventing the control group from cross-contamination (7). In the implementation process of BA, according to the BASRCT manual, all physicians, all inpatient and outpatient staff as well as managers need to be informed and undergo basic education regarding the intervention (4). As BA addresses a prevalent and frustrating issue in psychiatric health care, there is considerable risk that the approach leaks to the control group, reducing the possibility to detect between-group differences. For example, staff have shared experiences of a change in the workplace alongside their work with BASRCT, related to a development of more positive attitudes towards all patients at the inpatient unit (11). Indeed, in BASRCT both the BA and control group demonstrated a significant within-group decrease in general psychiatric admissions.

In this project we aim to address these methodological difficulties in exploring the effects of BA, by making use of the richness of existing data in the Swedish regional and national registers (7). We will evaluate effects of implementing BA within sites, comparing data from before and after implementation. We will also compare equivalent sites which have implemented BA at different timepoints, using relevant clinical data from registers.

PROJECT DESCRIPTION

METHODS

Research questions will be evaluated through registers, i.e. no new data will be collected from individual participants. A cohort will be created including all individuals fulfilling inclusion criteria. There are two cities where the standardized version of BA is fully implemented, with a separate ward for BA (Lund and Helsingborg). Two equivalent cities of similar size and distribution, implementing the same standardized version at a later timepoint, were found (Linköping and Norrköping). In Lund, BA was implemented in 2015, as compared to 2021 in Linköping. In Helsingborg, BA was implemented in 2017, compared to 2021 in Norrköping. Retrospective data from 2010-2022 as well as prospective data, from the date of inclusion until 2025-12-31, death or moving out of the uptake area, will be used.

The target group of this project are individuals with repeated self-harm and traits of BPD. As psychiatrists from all sites are members of the research team, different diagnostic traditions between sites have been revealed. To best detect the target group, inclusion criteria not only involves BPD but also other conditions with partly overlapping traits and which in the presence of self-harm and hospitalization can be extremely difficult to distinguish from BPD.

PARTICIPANTS

Participants will be identified from regional health care registers for the counties of Skåne and Östergötland and the National Patient Registry, containing all compulsory care since 2010. Data will be crosslinked using participants' Swedish national identity numbers. National register data will be de-identified prior to data analysis.

Inclusion criteria:

- Living in the uptake area of Lund, Linköping, Helsingborg or Norrköping
- Age: persons aged 18-65 years at the time of inclusion
- Admitted to hospital either diagnosed according to International Classification of Diseases, Tenth Revision (ICD-10) with BPD (F60.3, or admitted at least twice with Intentional self-harm X60-83 in combination with one of more of the following diagnoses Attention deficit hyperactivity disorder (ADHD, F90.0-F90.X), Bipolar disorder type 2, (F31.8W, F318A-F, F31.0, F31.8-9, F31.8W) or Autism, Atypical autism, Aspergers syndrome (F84.0, F84.1, F84.5) or Mild intellectual disability (F70.0-F70.9).

OUTCOME MEASURES AND COMPARISIONS

Primary outcome measure:

- Days with compulsory admission (days/year)

Secondary outcome measures:

- Voluntary psychiatric admission (days/year)
- Admissions with BA (days/year)
- Compulsory admission – median length (days/admission)
- Voluntary psychiatric admissions – median length (days/admission)
- Number of compulsory admissions (admissions/year)
- Number of BA admissions (admissions/year)
- Number of voluntary psychiatric admissions (admissions/year)
- Duration of free intervals between admissions (days)
- Differences in distribution of diagnoses between men and women

- Mortality

REGISTERS, VARIABLES RETRIEVED, MOTIVATION

Regional healthcare data bases

- Dates for seeking care, Diagnoses, Age, Gender.
- Motivation: Inclusion criteria, secondary outcome measures

National Patient Register

- Data on compulsory care (admissions and compulsory acts), Diagnoses, Age, Gender
- Motivation: primary and secondary outcome measures

National Cause of Death Register

- Cause of death
- Motivation: secondary outcome measure

The Total Population Register

- Gender, Marital status, Country of birth, Spouse or registered partner, Cohabitation, Date of death.
- Motivation: To secure that included individuals live in the uptake areas and to adjust for potential confounding factors/effect modifiers.

National Prescribed Drug Register

- Drugs retrieved from the pharmacy: Number of packages, Anatomical Therapeutic Chemical code (ATC-code), date of expiry, corresponding daily dose
- Motivation: Certain medical conditions are well captured by prescribed drugs. This is informative with regard to confounding factors/effect modifiers.

Longitudinal Integrated Database for Health Insurance and Labour Market Studies

- Income, means of subsistence, number of persons in the household
- Motivation: Obtaining information on confounding factors/ effect modifiers that we need to adjust for alternatively make separate subgroup analyses.

STATISTICAL ANALYSES PLAN

The following comparisons will be performed:

- Within sites, before and after introduction of BA.
- Pairwise, between equivalent sites, before BA was introduced.
- Pairwise, between equivalent sites, after BA was introduced at one of them.
- Pairwise, between equivalent sites, after BA was introduced at both.
- Between men and women, adjusted for age and diagnoses.

Overall, the studies will have good statistical power, which can be illustrated with the following example. If we assume that about 50% of the individuals receiving treatment as usual had at least one admission that was >7 days, and with 80% statistical power we want to find a significant decrease (i.e. $p<0.05$) to 25% when BA was introduced, then 66 individuals have to be included in each group. In Lund about 40 patients are recruited each year, which means that we will have at least 200 patients in each group in a five-year period. Preliminary data indicates that halving the number of days with compulsory admission is a reasonable assumption, and in addition it is also of clinical significance.

SIGNIFICANCE

The proposed study will fill important knowledge gaps addressing potential implications of BA for compulsory care, which appears to have decreased substantially at clinics where BA has been implemented, according to preliminary data. A longitudinal register-based study, following a cohort in sites where BA is fully implemented and comparing it to a cohort in equivalent sites where BA is implemented at a later timepoint, will avoid potential contamination of educating all staff on the intervention. It will also enable correction for effects of other trends in health care during the last decade, e.g. those introduced by national initiatives such as the Swedish National Self-Injury Project (14) and *Bättre vård, mindre tvång* (“Better care, less coercion”; 15). Such a study will add to previous research and will, to the best of our knowledge, be the first of its kind.

PRELIMINARY AND PREVIOUS RESULTS

Our research group evaluated BA in a randomized clinical trial among persons with self-harm and traits of BPD in four adult psychiatric clinics in Skåne (7). We found that both the group with access to BA and the control group showed significant decreases in days admitted to the hospital and in visits to the emergency department, but only the BA group showed a significant decrease in duration of compulsory admissions and frequency of NSSI. No significant between-group differences were found in these variables. We also found an increase in several dimensions of daily life functioning in the BA group, that were not found in the control group. Furthermore, we have explored the lived experiences of individuals with life-threatening self-harm behavior and previous extensive experience of hospital admissions (compulsory and voluntary), as well as the experiences of the staff caring for them (10, 11).

For these individuals, BA was described as a safe and worthy respite, without triggers aggravating self-harm, which may lead to compulsory admissions.

According to preliminary data from the adult psychiatric clinic in Lund, the total number of days with compulsory care has decreased with about 50% for persons with BPD from 2015 to 2020. Although this decrease is simultaneous with the implementation of BA at the clinic, there may be other explanations such as outliers, reduction in hospital beds or overarching changes in the management of self-harm in persons with BPD. The numbers are striking but need a more comprehensive evaluation, including equivalent data from other regions.

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