

Outcomes and feasibility of the Short Transitional Intervention in Psychiatry in improving the transition from inpatient treatment to the community: A pilot study

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Abstract

Discharge from psychiatric inpatient care is frequently described as chaotic, stressful, and emotionally charged. Following discharge, service users are vulnerable to becoming overwhelmed by the challenges involved in readapting to their home environments, which could result in serious problems and lead to readmission. The Short Transitional Intervention in Psychiatry is a bridging intervention that includes pre- and post-discharge sections. It aims to prepare patients for specific situations in the period immediately following discharge from a psychiatric hospital. We conducted a quasi-experimental pilot study to determine the feasibility of the intervention and gain insight into the effects of the Short Transitional Intervention in Psychiatry. Two inpatient wards at a Swiss psychiatric hospital participated in the study and represented the intervention and control arms. Patient recruitment and baseline assessment were performed two weeks prior to discharge. Follow-up data were collected one week subsequent to discharge. Questionnaires measured coping, admission and healthcare usage, self-efficacy, working alliance, experience of transition, and the number of difficulties experienced following discharge. 14 and 15 patients completed follow-up assessment in the control and intervention groups, respectively. The Short Transitional Intervention in Psychiatry did not affect primary or secondary outcomes; however, it was shown to be feasible, and patients' feedback highlighted the importance of post-discharge contact sessions. Further research is required to improve understanding of the discharge experience, identify relevant patient outcomes, and assess the effectiveness of the intervention in an adequately powered randomized controlled trial.

Keywords: coping skills, discharge planning, pilot study, psychiatry, transitional care

Introduction

The period of transition from inpatient to outpatient care is a critical point for adult inpatients on psychiatric wards. Modern mental healthcare practice avoids excessive or unnecessary periods of inpatient hospitalization (Hengartner et al. 2015), resulting in early discharge for patients who might not have recovered fully. Some clinicians and service users have described the discharge experience as chaotic, stressful, and emotionally charged (Wright et al. 2016). During this period, patients are vulnerable to becoming overwhelmed by the challenges involved in readapting to their home environments (Owen-Smith et al. 2014). The problems reported include those concerning structuring the day and identifying useful activities, locating community-based support that is similar to that received on the ward (Nolan et al. 2011; Niimura et al. 2016), experiencing serious symptoms, impaired quality of life (Wells 1992; Gerson & Rose 2012), stigma resulting from admission (Keogh et al. 2015), and loneliness (Beebe 2010). Maladaptive coping when faced with these problems can increase the risk of relapse (Schennach et al. 2012), suicide (Qin & Nordentoft 2005; Reutfors et al. 2010), or readmission (Loch 2014). Between 5% and 15% of all psychiatric inpatients worldwide are readmitted within 30 days of discharge (Kuhl & Müller-Spahn 2006; Organisation for Economic Co-operation and Development 2011; Zilber et al. 2011; Vigod et al. 2015). In addition, a precipitous or badly prepared transition could lead to failure to attend outpatient appointments (Boyer et al. 2000; Mitchell & Selmes 2007; Beebe 2010), non-adherence to medication (Lieberman et al. 2005; Haro et al. 2009), or disengagement from outpatient care (Kreyenbuhl et al. 2009; Bowersox et al. 2013).

To counteract the detrimental and distressing aspects of discharge, pre- and post-discharge interventions that promote continuity of care have attracted increased interest in psychiatric research (Vigod et al. 2013). Discharge planning interventions could be effective in reducing readmission and symptomatic impairment and improving adherence to aftercare (Steffen et al. 2009); however, there is no consensus on the optimal approach (Gaynes et al. 2015). Vigod et al. (2013) revealed that psychoeducational interventions targeting disease management and life skills led to significant reductions in readmission. Used in the context of multicomponent

interventions, post-discharge telephone follow up, efforts to ensure timely follow-up appointments, home visits, and peer support have also been shown to be effective (Vigod et al. 2013). However, the evidence regarding the effectiveness of discharge interventions is limited. Moreover, recent assessments of interventions reported no effects on patient outcomes, such as readmission, duration of inpatient hospitalization, needs, psychopathology, depression, quality of life, functioning, cost-effectiveness, social support, or psychiatric problems (Puschner et al. 2011; Puschner et al. 2012; Hengartner et al. 2016).

The expert standards established by the German Network for Quality Development in Nursing (2009) recommend differentiated assessment of aftercare needs, cooperative development of a discharge and aftercare plan, and contact between nurses and patients during the two days following discharge. To support patients in their readaptation to the community, we developed a transitional intervention that adheres to the recommendations of the expert standards. The Short Transitional Intervention in Psychiatry (STeP; Hegedüs et al. 2013) is a short, multi-component, transitional intervention that aims to improve patients' coping skills following discharge from inpatient psychiatric services. To date, the effectiveness of the STeP has not been evaluated. Therefore, we aimed to (a) determine the feasibility of the STeP and (b) gain insight into the effects of the STeP on improvements in coping during the week following discharge, relative to that observed with treatment as usual.

Methods

To achieve this aim, we conducted a pilot study with a quasi-experimental, control group design and pre-post measures.

Setting

The STeP was implemented on Ward A of a private psychiatric hospital located in the German-speaking area of Switzerland in September 2014. Nursing staff received a written manual and four hours of specific training. During the following months, AH and BK supported the implementation process by answering the questions that arose and sharing their experiences

with the ward team. The decision to participate in the pilot study was made following implementation of the STeP; therefore, randomization at ward level was not possible. In addition, individual randomization was not possible with admitted patients, because of hospital policies. The psychiatric hospital treats patients with all types of psychiatric diagnosis and works in accordance with a holistic, non-denominational, Christian concept. However, religion-based treatment is optional. Eligibility for admission to the wards is based on a diagnostic interview, and admission and ward allocation depends on the availability of beds. Acute admission to the hospital is therefore impossible.

In the pilot study, patients on Ward A were considered the intervention arm and those on Ward B of the same psychiatric hospital were included as the control arm. Ward A administered the STeP to each patient as routine care, and Ward B offered treatment as usual, which consisted of routine aftercare planning and a worksheet entitled 'Relapse-prophylaxis'. The worksheet included questions pertaining to possible signs/symptoms of relapse; general strategies to prevent relapse; details of individuals who should be contacted in case of problems or the need for assistance; and warning signs for family/friends, with suggestions as to how they should react and provide help.

Intervention

The STeP consists of pre- and post-discharge interventions (Hegedüs et al. 2013). It is based on Peplau's theory of interpersonal relations (Peplau 1992) and incorporates elements that are central to resource-oriented therapeutic models (Priebe et al. 2014). The STeP aims primarily to prepare patients for specific situations that could arise during the days immediately following discharge and result in serious problems; therefore, it is designed to improve patients' coping skills and help them to negotiate the week following discharge successfully.

As part of the pre-discharge intervention, patients and their primary nurses identify possible obstacles that could occur in the days following discharge. To help patients to identify unforeseen obstacles, obstacle cards were developed via interviews with service users and their

relatives. The cards represent 11 frequently reported situations that could pose difficulties for service users following discharge. The main topics/situations appear on the front of the cards, and examples of questions that might arise appear on the back (e.g. 'When I meet...again for the first time in my neighbourhood' on the front of the card, with 'how will they react?', 'what should I say?', 'what will they know?', or 'will I experience stigmatization?' on the back; and 'When I'm alone in my apartment...' on the front of the card, with 'how will I cope with loneliness?', 'how will I manage household chores?', 'how will I structure my day?', 'how will I cope with being reminded of my illness?', or 'how will I manage crises?' on the back).

After patients have chosen the relevant situation/obstacle cards or phrased individual problems, problem-solving training (D'Zurilla & Goldfried 1971) is initiated. During training, patients define problems and corresponding individual goals in more detail. After brainstorming to develop solutions and rating their potential for success, patients generate action plans for behaviour and coping with the potential problems. The problem-solving training relies on patients' decision-making skills, individual strengths, and experiential knowledge.

The post-discharge section of the STeP consists of between one and six post-discharge contact sessions involving primary nurses and patients. Dates and times are fixed during the problem-solving training. The contact is mutually agreed and includes interventions such as phone calls; text messages; e-mails; or personal meetings in cafés, on the ward, or at any other location. As the STeP aims to help patients to manage the week following discharge, it is terminated approximately seven days subsequent to discharge, with patients' cooperation.

The STeP was manualized to allow accurate application and provide answers to the most frequently asked questions (Bachnick et al. 2014a). In addition, a theory-based, didactically founded training course was developed to deliver all components of the intervention and support professional and independent implementation (Bachnick et al. 2014b).

Participants

We aimed to recruit a convenience sample of 20 participants for each study arm. The inclusion criteria were as follows: age of 18 years or older; a primary psychiatric diagnosis according to the International Classification of Diseases-10 (World Health Organization 1994); and as the intervention is based on the therapeutic relationship, hospitalization of at least seven days. The exclusion criteria were as follows: cognitive impairment and insufficient German language skills to allow questionnaire completion.

Data collection

Data were collected between 1 June and 15 September 2015. Patient recruitment and baseline assessments were performed approximately two weeks prior to planned discharge. A psychology student who was not a member of the ward team assessed patients' eligibility and invited eligible patients to participate in the study. Once participants had provided written informed consent, the student performed the baseline assessment. Follow-up interviews regarding the intervention were conducted by AH and BK via telephone seven days subsequent to discharge. This time period corresponds with the main aim of the STeP, which is to provide support during the days immediately following discharge.

The study was conducted in accordance with the ethical standards laid down in the Declaration of Helsinki (World Medical Association 2013). Ethical approval was granted by the Ethics Committee Northwestern/Central Switzerland (EKNZ 2015-127).

Outcome measures

Coping was the primary outcome, assessed using the self-rated Coping subscale of the Questionnaire to Assess Resources and Self-Management Skills (FERUS [in German]; Jack 2007). The FERUS is a reliable, valid instrument, and the 12-item Coping subscale has demonstrated good internal consistency (Cronbach's α : .73 to .89) and factorial homogeneity. Total scores range from 12 to 60, and higher scores indicate better coping skills.

We collected baseline data regarding patients' demographic characteristics and diagnoses from patients' documentation and assessed the following variables as potential confounding factors:

- Self-efficacy, which was measured using the FERUS Self-efficacy subscale. The nine subscale items are rated by patients using a five-point Likert scale, and the subscale has demonstrated good internal consistency (Cronbach's α : .78 to .91) and factorial homogeneity (Jack 2007).
- Working alliance between patients and primary nurses, which was measured using the German version of the 12-item self-rated Working Alliance Inventory–Short Revised (Hatcher & Gillaspay 2006; Wilmers et al. 2008). The scale has demonstrated good internal consistency (Cronbach's α : .81 - .91), and the confirmatory factor analysis showed an acceptable to good model fit in inpatients and outpatients (Wilmers et al. 2008). Total scores range from 12 to 60, and higher scores indicate better working alliance.
- Concern regarding forthcoming discharge, which was rated using a 10-point scale ranging from 1 (not worried) to 10 (extremely worried).

At follow up, we asked participants about their unscheduled healthcare use, which included number of admissions to a psychiatric hospital or crisis resolution team or any unscheduled contact with healthcare services, their experience of transition following discharge (rated using a four-point Likert scale ranging from 1 [very easy] to 4 [very difficult]), and the number of difficulties faced during the week following discharge, as secondary outcomes.

To assess the feasibility of the intervention, the STeP documentation was obtained and analysed with respect to the frequency with which obstacles were chosen; duration of the pre-discharge section; completeness of problem-solving training; and type, frequency, and duration of post-discharge contact. In addition, feedback regarding the STeP was obtained from participants in the intervention group. We asked participants whether they would recommend the intervention to others and which parts of the intervention they considered useful (e.g. identifying possible obstacles, problem-solving training, or post-discharge contact sessions).

Data analysis

We compared baseline characteristics between the intervention group and patients who had withdrawn from the study, using Fisher's exact test for categorical variables and a non-parametric Wilcoxon rank sum test or t-test for continuous variables. Multivariate linear regression was performed to examine coping scores at the second time point, with baseline coping scores and other baseline variables adjusted for. We imputed missing replies using median values for the available replies from the same patient or those in the same group. The intraclass correlation coefficient (ICC) was calculated using a one-way ANOVA. All analyses were performed using the R Language and Environment for Statistical Computing and a report generated by the ReporteRs package (R Development Core Team 2016).

Results

Participants

Of the 24 patients eligible for inclusion in the intervention group, 20 (83%) consented to participate in the study, and 20 of 29 (69%) potential participants were included in the control group. Six and five patients in the control and intervention groups, respectively, did not undergo follow-up assessment; therefore, their data were excluded from the analysis (Figure 1). There was no significant difference in socio-demographic characteristics between retained participants and those lost to follow up.

(Figure 1: Flow diagram)

Participants' characteristics are shown in Table 1. The median duration of inpatient hospitalization reported for participants in the intervention group was significantly longer relative to that observed for those in the control group (intervention group: median = 49.00 [interquartile range: 45.00, 56.50] days; control group: median = 42.00 [interquartile range: 39.50, 42.00] days; $p = 0.003$). The other parameters measured did not differ significantly between the two groups.

(Table 1: Participants' baseline characteristics)

Outcomes

The intervention and control groups' mean coping scores increased from 25.53 (SD = 6.98) to 27.27 (SD = 4.85) and from 25.79 (SD = 8.44) to 29.93 (SD = 6.70), respectively, between baseline and follow up seven days subsequent to discharge. However, coping scores did not differ significantly between the intervention and control groups ($p = .300$). The ICC was 0 (confidence interval: .00 to .32; $N = 2.00$, $k = 14.48$, variance within groups: 59.56, variance between groups: 0).

All participants described the discharge experience as difficult. The scores did not differ significantly between the intervention ($M = 2.67$, $SD = 0.62$) and control ($M = 2.43$, $SD = 0.76$) groups ($p = .360$). In addition, 80.0% and 64.3% of the patients from the intervention and control groups, respectively, reported at least one problem during the week following discharge. However, none of these problems led to admission to a psychiatric hospital or crisis resolution team or unscheduled contact with healthcare services (Table 2).

Multivariate analysis showed no significant interactions between coping at follow up and sex, age, diagnosis, previous admissions, concern regarding discharge, self-efficacy, or working alliance.

(Table 2: Results for secondary outcomes)

STeP feasibility and feedback

The pre-discharge section of the STeP was administered to all participants in the intervention group and lasted between 30 and 85 ($M = 52.86$, $SD = 16.26$) minutes. The frequency with which obstacles were chosen is documented in Table 3. In three cases, the problem-solving training was not completed; missing sections included ratings for the solutions developed by brainstorming ($n = 2$) and the action plan ($n = 1$).

(Table 3: Frequency with which obstacles were chosen by participants in the intervention group)

Fourteen patients participated in a post-discharge contact session following discharge. One patient did not respond to several calls and therefore had no post-discharge contact with his primary nurse. Overall, 29 sessions were provided, with an average of 2.07 per patient (SD = 0.73, range: 0–3). Most contact occurred via telephone (n = 21) or during meetings at the hospital (n = 6), in town (n = 1), or at the patient's home (n = 1). The mean contact time for each patient was 44.79 (SD = 21.78; range: 15–75) minutes.

All participants who received the STeP (n = 15) stated that they would recommend the intervention to other service users. They rated the post-discharge contact (n = 8, 53 %), identification of possible obstacles (n = 4, 26 %) and problem-solving training (n = 3, 20 %) as important features of the STeP.

Discussion

The STeP was designed to prepare patients for the transition from inpatient wards to the community in a resource- and patient-oriented manner and support them during the week following discharge. The STeP adheres to the recommendations outlined in the expert standards established by the German Network for Quality Development in Nursing (2009). This pilot study evaluated the newly designed STeP in a small sample for the first time. It lacked sufficient power to measure effects with statistical significance, but it was sufficient to demonstrate trends in improvements that could be studied in a subsequent larger study. In addition, valuable information regarding the feasibility of the intervention and participants' appraisal of the STeP was obtained.

The obstacles discussed most frequently by participants who received the STeP included 'When I am overcome by emotions and feelings again...' and 'When I'm alone in my apartment...'. Both themes correspond to themes that were previously identified by service users (e.g. experiencing symptoms and problems concerning structuring the day or locating community based support;

Wells 1992; Nolan et al. 2011; Gerson & Rose 2012). However, four of the 11 obstacle cards integrated into the STeP were not used by the participants. Our study design did not allow for the identification of problems that occurred during the week following discharge. This information would have allowed further development or adaptation of the STeP and discharge interventions in general. In particular, the accuracy of the pre-discharge section of the STeP could be assessed by determining whether the chosen obstacles occurred during the transition and how the patients coped with those problems.

The pre-discharge section of the STeP and the worksheet used by the control group were similar, as the worksheet covered themes that could also have been addressed during the pre-discharge section of the STeP. Therefore the post-discharge section, which was unique to the STeP, constituted the only distinctive element of the intervention. By targeting patients' individual needs and providing post-discharge contact sessions, the STeP accounts for the frequently reported problems, 'being bounced from one pathway to the next' and 'being dumped back in the home situation' (Wright et al. 2016). Participants' feedback supported the importance of post-discharge contact sessions by highlighting them as an important feature of STeP. In addition, the effectiveness of some components of post-discharge interventions has been demonstrated in previous research (Vigod et al. 2013). Therefore, we considered the post-discharge contact sessions a key element of the intervention.

The median duration of inpatient hospitalization reported for the intervention group was significantly longer relative to that reported for the control group. In psychiatry, the duration of inpatient hospitalization has been associated with behavioural manifestations of illness and lack of social support structures (Zhang et al. 2011). This could indicate that participants hospitalized for longer periods experienced severe social problems resulting in difficult discharge experiences. The finding that participants in the intervention group exhibited greater concern regarding discharge, relative to that observed in those in the control group, supported this hypothesis. The relationship between the duration of hospitalization and concern regarding discharge could be explored further to enhance understanding of their effects on discharge.

The number of participants in the intervention group who reported facing at least one problem subsequent to discharge was higher relative to that of those in the control group. However, this could have been a consequence of the specific nature of the intervention. The STeP relies on the assumption that anticipated problems are resolved or avoided more easily relative to unexpected situations (Hegedüs et al. 2013). Through the active examination of the discharge experience and related potential problems via the STeP, patients in the intervention group could have been more aware of potential difficulties, relative to those in the control group, and therefore reported a higher number of obstacles. Future studies should assess the perceived appraisal of obstacles and patients' problem-solving skills, rather than the frequency with which difficulties are reported.

Similar to the findings of the pilot study, other pre- and post-discharge interventions have also been found to be ineffective with respect to the reported outcomes (Puschner et al. 2012; Hengartner et al. 2016). One reason for findings indicating that discharge interventions exerted no or negative effects could be the use of inappropriate outcome measures. Previously assessed outcomes were frequently related to the process involved in patient care (e.g. readmission rates or adherence to outpatient treatment; Steffen et al. 2009). Gaynes et al. (2015) recommended the use of outcomes that are not directly related to hospital readmission or the duration of inpatient hospitalization. For example, the measurement of successful functioning in the community could be a meaningful alternative (Gaynes et al. 2015). The decision to use coping as the primary outcome in the current study was made in accordance with these recommendations. However, the results indicated that coping, or the items of the FERUS Coping subscale (Jack 2007), did not capture the essential elements of the STeP or potentially important changes in patients' attitudes. The standardized instrument could not account for the entire psychiatric post-discharge experience. Therefore, the choice of patient-relevant outcome measures for discharge interventions should be emphasized. Comprehension of the process of readaptation to the community would facilitate the choice of outcome

measures and study designs for evaluation of the impact of transitional interventions on patients' lives.

Strengths and limitations

The study was conducted in a real-life setting. The mental health nurses on the intervention ward had administered the STeP for over a year prior to data collection. Therefore, the fidelity of the intervention was high.

However, the pilot study had several limitations: First, we did not perform any formal power calculations. The small sample size might have resulted in inadequate power for the detection of differences between the intervention and control arms. Second, as we could not randomize participants' group allocation, there were significant differences in baseline characteristics between the study groups. In addition, the study was conducted at a private clinic to which acute readmission was impossible because of the hospital's waiting list policy. Third, the absence of long-term follow up could have prevented us from capturing the effect of the intervention over time. Therefore, the generalizability of the results should be interpreted with caution.

Conclusion

This pilot study provides insight regarding the feasibility and initial effects of a short, multi-component, transitional intervention. The findings demonstrated good feasibility and reflected participants' appraisal of the intervention, particularly the post-discharge contact sessions. Quantitative data showed a slight tendency towards improvement in coping scores in both study groups but no differences between groups over time. The findings could be used to inform study designs and sample size calculation for subsequent studies examining the effectiveness of the STeP. In addition, the results indicate that further research is required to improve understanding of the discharge experience and identify relevant patient outcomes. In particular, qualitative studies would facilitate understanding of the phenomenon, the process involved, and the importance of readaptation to the community from the perspective of service users.

Regarding the effectiveness of the STeP, future studies, such as randomized clinical trials, should assess the intervention's impact on relevant patient outcomes. A mixed-methods design would also allow exploration of patients' coping strategies via qualitative research methods. This could enhance understanding of the effects of identification of possible obstacles and their anticipation via problem-solving training. The findings of such studies could extend the international literature and inform future research examining transitional interventions.

Relevance for clinical practice

The newly designed STeP was shown to be a feasible transitional intervention that aimed to prepare patients for the individual challenging situations that arose during the days following discharge, and provided support through post-discharge contact. Patients' feedback accentuated the importance of post-discharge contact, which allows mental health nurses to extend their support to include the days immediately following discharge.

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Tables

Table 1: Participants' baseline characteristics

	Intervention group	Control group	
	(n = 15)	(n = 14)	p value
	n (%)	n (%)	
Sex, female	10 (66.7)	10 (71.4)	
Previous inpatient hospitalization, yes (%)	9 (60.0)	7 (50.0)	.715
Main diagnosis			.205
F1: Mental and behavioural disorders due to use of psychoactive substances	3 (20.0)	3 (21.4)	
F2: Schizophrenia, schizotypal and delusional disorders	3 (20.0)	0 (0.0)	
F3: Mood [affective] disorders	8 (53.3)	6 (42.9)	
F4: Neurotic, stress-related and somatoform disorders	0 (0.0)	3 (21.4)	
F5: Behavioural syndromes associated with physiological disturbances and physical factors	0 (0.0)	0 (0.0)	
F6: Disorders of personality and behaviour in adult	1 (6.7)	2 (14.3)	

persons			
	Mean (SD)	Mean (SD)	p value
Age,	36.00 (8.43)	42.00 (9.59)	.084
Duration of inpatient hospitalization, days	52.27 (10.02)	44.21 (13.59)	.079
median [IQR]	42.00 [39.50, 42.00]	49.00 [45.00, 56.50]	.003
Concern regarding discharge, [†]	6.00 (2.36)	4.54 (2.33)	.112
Self-efficacy score, [†]	19.27 (5.64)	19.93 (7.98)	.797
Working alliance score, WAI-SR, [†]	29.47 (8.61)	29.00 (9.70)	.892

[†] One value missing in control group; SD = standard deviation; IQR = interquartile range; WAI-SR = Working Alliance Inventory–Short Revised

Table 2: Results for secondary outcomes

	Intervention group[†] n (%)	Control group[‡] n (%)	p value
Number of difficulties following discharge			.741
0	3 (20.0)	5 (35.7)	
1	5 (33.3)	5 (35.7)	
2	6 (40.0)	3 (21.4)	
3	1 (6.7)	1 (7.1)	
Readmission to a psychiatric hospital (yes)	0 (0.0)	0 (0.0)	
Admission to a crisis resolution team (yes)	0 (0.0)	0 (0.0)	
Unscheduled contact with healthcare service (yes)	0 (0.0)	0 (0.0)	

[†] n = 15; [‡] n = 14

Table 3: Frequency with which obstacles were chosen by participants in the intervention group

(n = 15; multiple responses possible)

	n (%)
'When I am overcome by emotions and feelings again...'	9 (60 %)
'When I'm alone in my apartment...'	6 (40 %)
'When I need something...'	3 (20 %)
'When I have a difficult night...'	2 (13 %)
'When I attend work/school again for the first time...'	1 (7 %)
'Until I have arrived home...'	1 (7 %)
'When I meet relatives/close friends again for the first time...'	1 (7 %)
'When I meet...again for the first time in my neighbourhood...'; 'When I have to live with...again'; 'When I need medication...'; 'When I have my first appointment with...'	0 (0 %)

Figure legends

Figure 1: Flow diagram of study participation

