

## A group-oriented inpatient CBT programme: a pilot study

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**Abstract.** The inpatient unit faces many challenges in the effort to deliver comprehensive psychiatric care to acutely ill patients with minimal lengths of stay. Cognitive behaviour therapy (CBT), a structured, problem-focused, time-limited form of treatment has been shown to be a promising intervention with the inpatient population. This paper describes a group-oriented inpatient CBT programme for women and reports pilot data on the experiences of 78 adult female patients. Repeated-measures ANOVAs revealed that participants exhibited improved psychosocial functioning from admission to discharge, with gains maintained at 1 month post-discharge. Partial correlations indicated that participation and engagement in CBT groups is related to improved functioning at discharge. Participants diagnosed with major depressive disorder, bipolar disorder, and psychotic disorders all evidenced similar positive treatment trajectories, suggesting that group-oriented CBT programming may be a useful addition to standard inpatient care.

**Key words:** Group psychotherapy, inpatient CBT, treatment outcome, women's issues.

### Introduction

The current economic climate emphasizing efficient provision of healthcare requires that inpatient units maximize the potential of the inpatient setting, providing empirically validated treatment in an accessible, appealing, yet cost-effective manner. An ongoing struggle for the inpatient unit remains how to provide efficient and effective treatment services for a heterogeneous inpatient population with the resources available. Briefer admissions, combined with fiscal limitations and fewer available staff, have led to a significant decrease in the range of services provided during inpatient hospitalization. Too often, the consequences of these changes have been units that focus primarily on pharmacotherapies and neglect opportunities to provide other services. However, for many patients, inpatient hospitalization can be a time and place for focused, intensive psychotherapeutic treatment, allowing individuals to learn more about how to help themselves and how best to promote their own wellbeing.

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### Cognitive behaviour therapy (CBT) on the inpatient unit

Wright (1996) identified several features of CBT that make it a good fit for inpatient treatment. He argued that CBT, as a problem-oriented, short-term treatment can provide an organizing structure for the unit. CBT's emphasis on collaboration between provider and patient empowers patients to take an active role in their treatment and facilitates the development of strong therapeutic alliances between patients and staff. Providing patients with psychoeducation about the effectiveness of CBT can also increase their positive expectations for their inpatient stay, thereby possibly improving outcomes.

More importantly, the cognitive model provides patients with a solid framework for understanding their difficulties. CBT's emphasis on the development of new skills, including behavioural activation and cognitive restructuring, allows patients to learn to better manage negative-thinking patterns that fuel intense negative emotions and maladaptive behaviours. Effective programming can teach patients how to incorporate these new skills into their lives, providing them with adaptive coping strategies for use both in the hospital and when they return to the challenges and difficulties of daily life outside the hospital.

While there is some question regarding the ability of CBT to work with certain patients struggling with more severe psychopathology, there is evidence that CBT can help address the needs of many patients. Research has suggested that CBT can be a component of effective inpatient treatment of severe symptomatology (Bowers, 1990; Davis & Casey, 1990; Thase *et al.* 1991; Whisman *et al.* 1991; Stuart & Bowers, 1995). Bowers (1990) conducted a controlled trial with a small sample of depressed inpatients (with an average hospitalization of about 30 days), comparing medication alone, relaxation therapy plus medication, and cognitive therapy plus medication. Results indicated that the combination of individual cognitive therapy and medication was superior to medication alone. Thase *et al.* (1991) examined outcomes among 16 unmedicated inpatients struggling with significant depression after receiving intensive individual therapy (five sessions per week over a maximum of 4 weeks). Their results provided preliminary support for the use of intensive CBT on the inpatient unit. Numerous other studies have examined the impact of the combination of inpatient and follow-up outpatient cognitive therapy for the treatment of depression (Miller *et al.* 1985; 1989; Whisman *et al.* 1991; Scott, 1992) highlighting patients' positive response and improvement in symptomatology, as well as maintenance of gains at follow-up (Miller *et al.* 1989; Shaw, 1980; Whisman *et al.* 1991). Friedberg *et al.* (1998) found that a combination of individual CBT sessions, group psychotherapy, and supplemental psychoeducation and skills training groups on the inpatient unit provided over 12 weeks led to increased knowledge of CBT principles and lower levels of depression among a sample of depressed inpatients.

There is much additional research highlighting the utility of CBT on the inpatient unit; however, the majority of these studies have focused on diagnostically homogeneous populations such as patients struggling with eating disorders (Wiseman *et al.* 2002; Bowers & Ansher, 2008), alcohol dependence (Ness *et al.* 2005), schizophrenia and psychotic disorders (Drury *et al.* 1996; Haddock *et al.* 1999; Valmaggia *et al.* 2005), and depression or anxiety (Bowers, 1990; Page & Hooke, 2003). A review of the literature by Stuart & Thase (1994) noted that on the inpatient unit, CBT was being delivered primarily through individual psychotherapy. These authors encouraged future clinicians and researchers to develop *group* psychotherapy protocols that may be more cost-effective and easier to implement on the inpatient unit.

Two more recent studies examined the effectiveness of cognitive behavioural group therapy on the inpatient unit. Veltro *et al.* (2008) found that mean length of stay steadily declined and patient satisfaction scores significantly improved following the introduction of group CBT programming on a mixed-diagnosis adult unit. On a structured inpatient unit incorporating a standard 10-day group CBT programme, researchers found improvements in self-esteem, locus of control, anxiety, depression, and stress, with gains maintained at 3 months follow-up (Page & Hooke, 2003).

### **Maximizing the inpatient experience**

To date, research has focused mainly on the impact of *individual* CBT sessions as an adjunct to standard inpatient care. However, given the limited resources available to inpatient units today, a group-oriented CBT programme might prove to be a more realistic, cost-conscious method of delivering empirically validated care in an efficient manner. With the work of Page & Hooke (2003) and Veltro *et al.* (2008) as a background, this paper first describes the group-oriented CBT programme developed for our unit. We then provide a preliminary report of patients' treatment experiences in this group-oriented CBT inpatient treatment programme.

### **Treatment programme**

Treatment took place on the Women's Unit, an acute inpatient unit serving women aged 18–65 years presenting with a wide variety of psychiatric conditions. The average length of stay on the Women's Unit is typically <2 weeks. The Women's Unit is a comprehensive CBT unit, which, as described by Wright *et al.* (1993) is a unit where all staff are trained in CBT and there is a solid commitment to a cognitive approach to treatment. Programming is designed to weave elements of CBT throughout the patient's day, helping her to implement and benefit from adaptive use of new cognitive skills gained on the unit. There are several key elements of our CBT programming including a morning Goals group, Skills and activity groups, daily CBT groups, Self-help time, and an evening Wrap-up group. The core CBT experiences, adapted from the work of Freeman *et al.* (1993), are comprised of daily CBT groups and Self-help time (see Table 1). Staff who participated in the running of these groups included nurses, social workers, the unit activity therapist, psychologist, psychology externs (doctoral students in clinical psychology completing training on the unit), and mental health (milieu) counsellors. The unit psychologist, who completed formal training in CBT at The Beck Institute, provided all staff with extensive training in CBT and with their assigned group modules (prior to the initiation of their respective groups). While three staff members (one nurse and two social workers) also completed formal CBT training at The Beck Institute, most staff had no training in CBT prior to the start of programme development. Given the significant variability in staff background and experience, training was individualized to each staff member and typically involved a combination of didactics, role play, co-facilitation and *in-vivo* supervision of groups, and ongoing supervision and consultation as needed. Psychology externs received a minimum of 2 hours supervision per week. There was an ongoing weekly open CBT supervision and training session available for all staff.

**Table 1.** *Women's Unit Core Group CBT programming (adapted from Freeman et al. 1993)*

Day	Group title	Description of group	Assignment
Monday	Recognizing Automatic Thoughts	Patients learn about the cognitive model, automatic thoughts, and the impact of thinking on emotions and behaviour	3-Column Thought Record focused on recognizing the impact of thoughts on emotions
Tuesday	Modifying Automatic Thoughts	Patients continue to learn to recognize automatic thoughts and begin to evaluate thoughts, focusing on assessing the validity of thoughts and how to develop more balanced reframes	7-Column Thought Record focused on evaluating evidence for and against automatic thoughts
Wednesday	Modifying Automatic Thoughts	Patients continue to work on evaluating automatic thoughts, focusing on assessing the utility of thoughts and how to develop more balanced reframes	7-Column Thought Record focused on evaluating utility of thoughts and developing balanced alternative thoughts
Thursday	Recognizing Cognitive Errors/ Distortions	Patients learn about the concept of cognitive distortions and focus on labelling their automatic thoughts. They also work on using this information to help develop more balanced thoughts	7-Column Thought Record focused on identifying and modifying cognitive distortions
Friday	Cognitive Behavioural Rehearsal	Patients learn about the impact of thoughts on behaviour, highlighting the negative feedback loop. They start to work on assessing costs and benefits of behaviours and how to make behaviour change	Worksheet highlighting the impact of thoughts on behaviours and steps for behaviour change

### **Daily CBT groups**

The centrepiece of the CBT programming on the Women's Unit is the daily CBT group (Freeman *et al.* 1993). These groups take place each weekday afternoon and are co-facilitated by a permanent staff member (social worker, nurse, or activity therapist) and one to two psychology externs. The manualized treatment emphasizes classic Beckian concepts including behavioural activation, identification of irrational and maladaptive automatic

thoughts and their influence on emotional and behavioural functioning, and evaluation and cognitive restructuring of automatic thoughts (Beck *et al.* 1979; Beck, 1995; Greenberger & Padesky, 1995; Leahy, 2003). The first half of each group includes a didactic presentation of the daily topic (recognizing automatic thoughts, evaluating automatic thoughts, etc.). The second part of group typically includes group discussion of patient examples, highlighting use of the new concepts. Group facilitators guide patients through the steps of recognizing automatic thoughts, helping them to evaluate their thinking in different situations and to develop more balanced responses. Patients are encouraged to participate actively in the group exercise, helping one another to identify and modify automatic thoughts. There is also time for discussion of patient questions and feedback. Each patient receives a workbook that covers topics presented in the CBT group that she is able to use both in the group and on her own time (see Table 2 for an example of a daily thought record from a patient's workbook).

### ***Self-help time***

This semi-structured hour in the late afternoon is a follow-up to the earlier CBT group. It is a time for patients to work on the 'assignment' from the CBT group. Two to three psychology externs and mental health counsellors are available to work individually with patients on applying CBT skills to their own lives and situations. While there is a specific daily worksheet, patients are encouraged to select an activity that is most appropriate for their daily treatment goal(s). In addition to daily thought records, during Self-help time patients have the opportunity to work on a variety of different options including creating activity schedules, practising use of relaxation skills, problem-solving exercises, cost-benefit analyses, and role plays of new skills with staff.

In addition to these groups, patients are encouraged to identify and develop specific daily goals consistent with their overall treatment goals. During the morning Goals group, patients are able to work with nursing and psychology staff to define specific goals, to identify ways to achieve the stated goals, and to evaluate and modify maladaptive thoughts that might interfere with goal achievement. In the evening, the Wrap-up group is led by nursing staff and provides an opportunity for patients to reflect on their work towards their goal each day, discussing adaptive coping strategies, as well as challenges that may have interfered throughout the course of the day. Additionally, patients are offered various skills and activity groups coordinated by the unit activity therapist. Skills groups, including relaxation techniques and stress management, build-in aspects of CBT, teaching patients to identify how negative thinking interferes in various areas of their lives and helping them to apply new cognitive and behavioural skills as needed. Activity groups, including poetry and exercise focus on helping patients learn more about how to incorporate rewarding activities into their daily lives, monitoring the impact of these activities on mood and overall satisfaction level.

## **Methods**

### ***Participants***

The preliminary results presented summarize the experience of 78 women who were admitted to the Women's Unit, a 25-bed inpatient psychiatric unit at a large, metropolitan public hospital during 2007–2009. This acute stabilization unit treats adult women presenting with

**Table 2.** Example of a completed Thought Record from a patient’s workbook (adapted from Greenberger & Padesky, 1995)

Evaluating and changing your automatic thoughts – use the evidence

Situation: What happened?	Feelings and intensity (scale 0–100; 0 = least intensity and 100 = most)	Automatic thoughts	Evidence FOR automatic thoughts	Evidence AGAINST automatic thoughts	Balanced/alternative thoughts	New intensity rating of feelings (scale 0–100)
Joan is laid off from her job after 10 years of employment where she received consistently high performance evaluations	Sad (80) Anxious/worried (100)	1. ‘I’m a <i>total</i> failure’ 2. ‘I’ll never be able to pay the bills’ 3. ‘My family will be out on the street’	1. ‘I’m a <i>total</i> failure’: <b>None</b> 2. ‘I’ll never be able to pay the bills’: Paying the bills will be a bit more challenging, but there is <b>no evidence</b> to support the fact that she will <i>never</i> be able to pay the bills 3. ‘My family will be out on the street’: <b>None</b>	1. ‘I’m a <i>total</i> failure’: Joan has been employed for more than 10 years and received consistently high marks on her performance 2. ‘I’ll never be able to pay the bills’: Joan will get unemployment benefit and she has savings 3. ‘My family will be out on the street’: Joan has savings and her husband’s pension for household expenses	1. ‘Although getting laid off is a setback I was not expecting, I have had a career I can be proud of’, or ‘I now have more time to spend with my husband and grandkids’ 2. ‘Although it may be a bit more challenging to pay the bills, it is definitely not impossible’ 3. ‘My family will be OK despite my lay off because we have savings in the bank to get us through’	Sad (20) Anxious/worried (0)

a range of psychiatric diagnoses using a combination of medication management and the comprehensive CBT group psychotherapy programme described. Participation in the research study was voluntary and written informed consent was obtained. The study was approved by the hospital's Institutional Review Board.

The participants ranged in age from 18 to 62 years, with a mean age of 35.8 years (S.D. = 11.5). Fifty percent of the sample identified themselves as Caucasian, 26% as Hispanic, 10% as African American, 3% as Asian, and 11% as mixed ethnicity or 'other'. Regarding education level, 12% reported a 'less than high school education', 16% had completed high school or achieved high school equivalence, 30% reported 'some college' experience, and 42% were college graduates. Length of hospitalization ranged from 3 to 58 days, with a mean stay of 12.3 days (S.D. = 10.2). The majority of the sample (82%) stayed for  $\leq 2$  weeks. Primary diagnosis at discharge as provided by the attending psychiatrist, included: major depression (51%,  $n = 40$ ), bipolar disorder (18%,  $n = 14$ ), a psychotic or schizophrenic disorder (14%,  $n = 11$ ), eating disorder (5%,  $n = 4$ ), and 'other' (e.g. anxiety, other mood, etc.) (12%,  $n = 9$ ).

Exclusion criteria included an inability to speak and read English, moderate to severe mental retardation, or significant thought disorder/disorganization that would limit the participant's ability to reliably complete self-report measures. The data reported here are those of women who were hospitalized on the unit for a minimum of at least three CBT group sessions (offered only on weekdays), in order to assess for impact of unit programming. One participant was omitted from analyses because discharge complications (housing issue), rather than clinical necessity, resulted in an extreme length of stay (79 days).

## ***Instruments***

### *Demographic/follow-up questionnaire*

At admission, all participants completed a basic demographic questionnaire including information regarding age, race, education level, and other variables. Additionally, when participants were contacted by phone about 1 month after discharge, they were asked a brief set of follow-up questions designed for this study. These included: 'What services are you currently receiving?', 'Have you consistently been taking your medications as prescribed?', and 'Have the CBT skills that you learned been helpful?'

### *Outcome Questionnaire-45 (OQ-45)*

The primary outcome measure was the Outcome Questionnaire-45 (Lambert *et al.* 1996). The OQ-45 is a 45-item measure of weekly psychosocial functioning assessing behaviours, mood states, and interpersonal skills, designed to assess change occurring during the process of psychotherapy. Total scores range from 0 to 180, with higher scores reflecting more impaired psychosocial functioning. Items include, 'I have difficulty concentrating', 'I have trouble falling asleep or staying asleep', 'I feel loved and wanted', and 'I have thoughts of ending my life'. In addition to the total score, this measure also yields three subscales: the Symptomatic Distress scale, Interpersonal Relations scale, and Social Role scale. The OQ-45 is internally consistent, with coefficient alphas ranging from 0.93 for the total score and 0.71–0.91 for the three subscales, and stable over time, with test–retest reliability coefficients ranging from 0.78 to 0.84 (Lambert *et al.* 1996). Previous research has shown that the proposed cut-off

score of 63, above which indicates a 'clinical' level of psychosocial impairment, can reliably discriminate patient from non-patient samples (Lambert *et al.* 2004).

### **Procedure**

Potential research participants were recruited through a flyer posted on the unit and mention of the research during a brief treatment orientation for all new patients. If a patient expressed interest in participating within the first 72 hours of admission, she was provided with general information about the study and informed consent was completed. Participants completed the OQ-45 at three time-points: within 72 hours of admission, within the 24 hours prior to their discharge from the unit, and about 1 month post-discharge (via telephone). They also completed the demographic questionnaire at admission and the follow-up questionnaire during the post-discharge telephone call. While hospitalized, research assistants recorded the total number of groups offered to and attended by each participant on a daily basis. Diagnosis was provided by each patient's attending psychiatrist and obtained from the final discharge report by a trained research assistant blind to the participant's scores on any self-report measures.

### **Results**

#### ***Participation in group psychotherapy***

This sample of patients attended an average of 71.5% of all groups offered during their inpatient stay, and 79.3% of all daily CBT groups. Self-help groups had a 51.3% average attendance rate. In terms of actual number of groups attended, 87% of the sample attended at least three daily CBT groups and 74% attended at least three Self-help groups.

Few differences emerged in group participation between patients with different primary diagnoses. A one-way analysis of variance (ANOVA) examining mean rate of group participation between participants with a primary diagnosis of depression ( $n = 40$ ), bipolar disorder ( $n = 14$ ), or a psychotic disorder ( $n = 11$ ), the three most prevalent diagnostic categories for patients in this study, indicated no statistically significant differences in percentage of total groups attended [ $F(2, 62) = 0.98, p = \text{n.s.}$ ], percentage of Self-help groups attended [ $F(2, 62) = 0.56, p = \text{n.s.}$ ], and number of total groups attended [ $F(2, 62) = 0.58, p = \text{n.s.}$ ], and number of Self-help groups attended [ $F(2, 62) = 0.15, p = \text{n.s.}$ ]. However, there was a significant difference in the percentage of daily CBT groups attended [ $F(2, 62) = 5.68, p = 0.01$ ]. Tukey's *post-hoc* analyses indicate that patients with a primary diagnosis of depression attended a greater percentage of groups than did patients with a primary diagnosis of schizophrenia or other psychotic disorder (82.5% compared to 59.5%;  $p = 0.01$ ). Notably, there were no significant differences in the number of actual daily CBT groups attended while hospitalized (participants in each diagnostic group attended an average of 5–6 groups). Participants with a primary diagnosis of a psychotic disorder were hospitalized an average of 4 days longer than those patients diagnosed with major depression. Thus, participants with different diagnoses received approximately the same amount of treatment (groups), but appeared to engage at different rates.

Additionally, preliminary analyses suggest that participation in group is modestly related to patient outcome at discharge (see Table 3). When controlling for a participant's score



**Table 3.** Partial correlations of group attendance with discharge OQ-45 subscales

Discharge subscale	% total groups attended	% CBT-specific groups attended
Symptomatic Distress	-0.39**	-0.31*
Interpersonal Relations	-0.17	-0.19
Social Role	-0.14	-0.17

\* $p < 0.01$ , \*\* $p < 0.001$ .

at admission on the OQ-45, her score at discharge showed statistically significant partial correlation with the percentage of total groups ( $r = -0.30$ ,  $p < 0.01$ ), and percentage of CBT-specific groups attended ( $r = -0.28$ ,  $p < 0.02$ ). The direction of these correlations suggests that there may be a relationship between increased attendance of groups and improved psychosocial functioning (lower scores on the OQ-45); however, these are preliminary results based on pilot data. Of note, correlational analyses indicated that length of stay was not significantly correlated with the percentage of total of CBT-specific groups attended or with OQ-45 total score at admission, discharge, or 1 month post-discharge and therefore was not included as a covariate in any analyses.

#### ***Patient response to hospitalization***

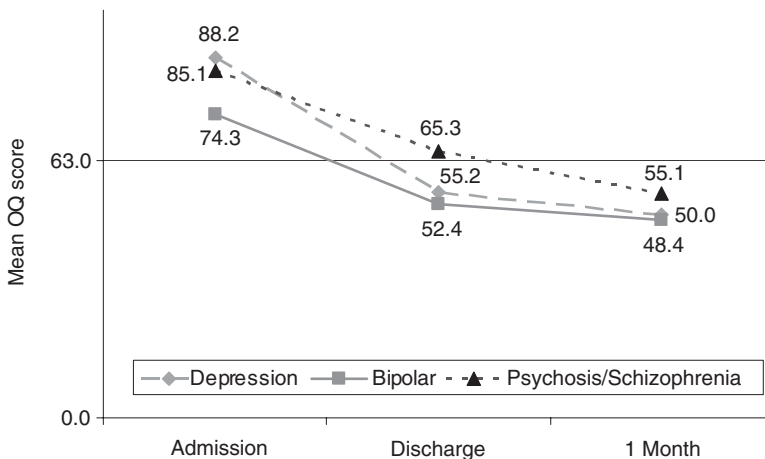
At 1 month post-discharge, 92% of the sample reported that the CBT skills learned while hospitalized were helpful and 91% reported that they were making use of the CBT skills learned on the unit. Ninety-five percent of patients were engaged in aftercare treatment. Only one participant reported not taking medication as prescribed, while 74 (95%) reported consistently taking their medication. Additionally, only 7.7% of the sample had been re-hospitalized ( $n = 6$ ) at 1 month; two participants were not asked this question. Independent-sample  $t$  tests revealed no significant differences in percentage of total groups or CBT-specific groups attended, length of stay, or OQ-45 scores at admission and discharge between participants successfully contacted at 1 month post-discharge ( $n = 78$ ) and those who were not ( $n = 59$ ).

A one-way within-subjects ANOVA with Bonferroni correction for multiple comparisons indicated that patients' psychosocial functioning improved significantly over time [ $F(2, 154) = 66.35$ ,  $p < 0.001$ ], with significant improvement from admission to discharge. The sample's mean OQ-45 score decreased from 87.0 (S.D. = 25.0) to 57.1 (S.D. = 26.1), a change from a clinical level to a non-clinical level of psychosocial impairment. The three OQ-45 subscales also significantly decreased from admission to discharge (see Table 4). Scores on the Social Role scale continued to significantly improve after discharge ( $p < 0.001$ ; see Table 4). Furthermore, a two-way, mixed ANOVA examining mean OQ-45 score within and between participants with a primary diagnosis of depression ( $n = 40$ ), bipolar disorder, ( $n = 14$ ), or a psychotic disorder ( $n = 11$ ), demonstrated that participants in all three groups evidenced significant change over time [ $F(2, 124) = 31.600$ ,  $p < 0.001$ ]. There were no significant differences between diagnostic groups in the level of improvement experienced (see Fig. 1).

**Table 4.** One-way within-subjects ANOVA of OQ-45 subscales

Subscale	Mean (S.D.)			F	df	p
	Admission	Discharge	1 Month			
Symptomatic Distress	52.2 (17.5)	31.6 (15.8)*	30.3 (17.4)	60.39	2,154	0.000
Interpersonal Relations	20.2 (6.5)	14.3 (7.1)*	13.0 (7.4)	42.64	2,154	0.000
Social Role	14.6 (5.5)	11.3 (5.4)*	7.8 (5.3)**	45.86	2,154	0.000

\*Significant change from admission,  $p < 0.001$ . \*\*Significant change from discharge,  $p < 0.001$ .



**Fig. 1.** Changes in mean OQ-45 total score from admission to follow-up for three diagnostic groups. A score of  $\geq 63$  on the OQ-45 indicates clinically impaired functioning (Lambert *et al.* 2004).

**Discussion**

Despite continuing pressure to provide optimum services in the face of growing fiscal constraints on inpatient care, there is relatively little research attention devoted to the topic. Here we report on the experience of a group of women who participated in a group-oriented CBT programme on an inpatient unit. It appeared that patients on this single-sex unit were open to engaging in CBT programming, evidencing high attendance rates at groups, even though attendance was not mandatory. Furthermore, most of these patients reported at follow-up that they found the CBT skills learned on the unit to be very helpful and most reported making use of their skills 1 month post-discharge. Preliminary data collected in this uncontrolled pilot study indicate that patients experienced a significant improvement in overall psychosocial functioning during the hospitalization and that their degree of participation in group psychotherapy was directly related to their degree of improvement in functioning at the time of discharge. These improvements were maintained 1 month post-discharge. Only a small percentage of participants had been re-hospitalized and an overwhelming percentage were engaged in psychiatric/psychological treatment and reported consistently taking their medications. Importantly, patients diagnosed with a range of psychological disorders, specifically major depression, bipolar disorder, and psychotic disorders, all

achieved significant improvement from admission to discharge, with maintenance of gains 1 month post-discharge.

Although the lack of a control group makes these results difficult to interpret, our results are consistent with the positive findings of Veltro *et al.* (2008) and Page & Hooke (2003), exploring the impact of a group-oriented inpatient CBT programme with a heterogeneous population of patients presenting with a wide variety of disorders. These preliminary data might be taken to suggest some promise for a structured, protocol-based, group-oriented inpatient CBT programme with a mixed population of patients in the inpatient setting. Certainly there is no ideal inpatient programme that would fit all settings and populations, but a group-oriented CBT inpatient programme may prove to be an attractive alternative, providing a level of patient empowerment, psychoeducation, and cognitive and behavioural strategies that allow patients to respond to interventions and benefit in a meaningful way.

We note several limitations to the interpretation of these data and their generalizability. First, this is an observational study of the experiences of inpatients on the Women's Unit. It is not a controlled study. As such, any changes which occurred during hospitalization or following discharge may be the direct result of the programme described or may be attributable to other factors not examined in this preliminary report. Our report of a significant relationship between degree of participation in the programming and improved outcomes offers encouragement for the further development of this programme or others like it but its specific contributions to treatment outcomes across different settings, populations, or resource opportunities warrants much additional study. In this spirit, we note that the majority of the participants in this study were taking psychotropic medications which were often adjusted in both dosage and type during their hospitalization. We chose not to control for any possible confounding effects of medication use and our results must be interpreted with this in mind. Moreover, patients were allowed to elect to participate in the study or not and in this and several other ways, the subjects were not randomized to either the type or quantity of treatment received. Finally, the exclusion criteria used in this study precluded the ability to make any observations on what will be in some settings, a great majority of the available treatment population.

Nonetheless, we believe that the value of research conducted in naturalistic clinical settings can provide useful guidance in bridging the often wide gap between research and actual clinical practice within the very real and very practical limitations that exist in the inpatient setting. Controlled studies more closely examining the effectiveness of group-oriented, inpatient CBT programmes are warranted and will be a logical next step in efforts to continue to improve treatment options available to patients requiring an inpatient level of care. Certainly, CBT may not be the most appropriate treatment option for all inpatients, and future research is also warranted to address the question of fit and how best to meet patients' needs.

## Conclusions

In sum, this paper reports data gathered from participants in a group-oriented, inpatient CBT programme for women. These women reported significant improvements from admission to discharge and the relationship between the degree of participation in CBT group psychotherapy and these improvements were positively related. Furthermore, these gains were

maintained at 1 month post-discharge. Patients presenting with major depressive disorder, bipolar disorder, or a psychotic disorder all evidenced similar positive treatment trajectories, indicating that a structured group-oriented inpatient CBT programme may hold promise as a solid intervention for the mixed population of patients typically found on inpatient units.

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### Declaration of Interest

None.

### Recommended follow-up reading

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**Learning objectives**

Upon reading this paper, the reader will be able to:

- Recognize the challenges facing inpatient units and consider the development of a comprehensive, group-oriented inpatient CBT programme as a way to enhance services.
- Discuss the outcomes gained by patients participating in an inpatient group-oriented CBT programme.
- Appreciate how use of structured CBT programming can foster patient participation in treatment, encouraging their active role and contributing to improved outcomes.