

Patients' perceptions of treatment credibility and their relation to the outcome of group CBT for depression

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Summary

Background: While there has been some evidence supporting the relevance of patients' perceptions of treatment credibility to the process and outcome of individual cognitive-behavioral therapy (CBT), its importance to group CBT remains unknown. Moreover, no studies to date have explored potential mechanisms through which perceived treatment credibility may contribute to therapeutic change.

Aims: To address this void, this pilot study investigated associations between patients' perceptions of treatment credibility and outcome among psychiatric outpatients receiving group CBT for depression. A secondary aim was to determine whether the therapeutic alliance mediated the effect of credibility on treatment outcome.

Method: Consecutively admitted outpatients (N=80) completed measures of credibility, alliance and outcome.

Results: Findings indicated that higher ratings of credibility were associated with greater improvement in interpersonal problems, but were unrelated to changes in depression, anxiety and quality of life. We did not find evidence for the alliance serving as a mediator. However, we found a direct relationship between credibility and alliance.

Conclusions: Depressed patients who perceive treatment to be more credible may be more likely to engage in meaningful exchanges with fellow group members, thus leading to improvement in interpersonal problems.

therapist credibility, group therapy, CBT

INTRODUCTION

The construct of credibility and its relevance to therapeutic process and outcome of psychotherapy have been espoused in the literature for

many years [1–3]. Credibility refers to the extent to which patients believe that the specific therapy they are to receive sounds logical, seems likely to be helpful, and is an intervention they would recommend to a friend [4]. Some researchers have argued that patients' prognostic beliefs about the consequences of engaging in treatment depend, in part, upon how credible the therapy seems [5]. Others have implicated credibility as a crucial factor in shaping patients' experiences of treatment [6]. Strong's [7]

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social influence theory views psychotherapy as an interpersonal influence process whereby therapists gain influence through establishing credibility with clients and subsequently use that influence to bring about desired change in client behavior and ways of thinking. In fact, several authors have stressed the importance of credibility as a key ingredient for change common to all psychotherapy approaches [8].

While there is widespread clinical conviction that patients' perceptions of credibility are important to treatment outcome, research on this topic has yielded mixed results. For instance, Thornett & Mynors-Wallis [9] found no evidence of associations between patient perceived credibility and symptom change among depressed patients receiving medication, individual problem-solving therapy, or a combination of both treatments. Ladouceur et al. [10] found treatment credibility to be unrelated to change in generalized anxiety disorder (GAD) and associated symptoms among patients receiving individual cognitive-behavioral therapy (CBT). In a study of individual behavior therapy for panic disorder with agoraphobia, perceived treatment credibility was not found to be a significant predictor of outcome [11]. Likewise, Carlbring et al. [12] found that perceived treatment credibility was not associated with outcome among patients undergoing internet-delivered self-help CBT or relaxation treatment for panic disorder.

Contrary to these findings, other studies have demonstrated positive associations between credibility and improved outcomes. Interestingly, all of these studies focused on individual CBT. Hardy et al. [5], for instance, found early therapy perceptions of credibility to be positively associated with treatment outcome among depressed patients receiving short-term individual CBT. Morrison & Shapiro [13] also found perceived credibility early in therapy to be positively related to improvement in depression among depressed patients receiving individual CBT. Further, Fennell & Teasdale [14] found that higher ratings of treatment credibility correlated with lower levels of post-treatment depression among depressed patients receiving individual CBT. In another study of internet-based CBT for panic disorder, Carlbring et al. [15] found higher treatment credibility to be associated with great-

er reduction in anxiety symptoms and increased life satisfaction. More recently, Newman & Fisher [6] found that increases in credibility ratings during individual CBT for GAD positively predicted post-treatment GAD symptom improvement. Milling et al. [16] showed that perceived treatment credibility mediated the effect of individual CBT on reduction of pain.

Though the findings have been mixed, there is some evidence suggesting that credibility is a potentially important construct related to the success of psychotherapy, yet this has occurred in the specific context of individual CBT. There has been no study examining the relevance of credibility in the setting of group therapy (including group CBT). As group CBT has been demonstrated to be an effective treatment modality for a range of psychological disorders [17–20], the association between patients' perceptions of credibility and outcome of group CBT merits empirical investigation. One cannot assume that findings from individual therapy studies generalize to the context of group therapy. The presence of multiple participants in a therapy group creates a therapeutic environment that is inherently different from individual therapy, which may alter the influence of presumed therapeutic factors such as treatment credibility.

With some studies pointing to the relevance of patient perceived credibility for treatment outcome, new questions arise, such as, how might credibility actually influence change in psychotherapy? This speaks to the issue of mechanisms of change and the identification of variables that may mediate the effect of credibility on treatment outcome. We are unaware of any studies that have specifically addressed this issue. However, various studies have implicated the therapeutic alliance as one potential mediator. It is well established that the therapeutic alliance is a robust outcome predictor in various forms of therapy for depression, including individual CBT [21–23]. Additionally, a handful of studies have provided evidence of significant associations between the therapeutic alliance and outcome in various forms of group psychotherapy [24–26], and in group CBT specifically [27–29]. Furthermore, there is emerging evidence of an association between credibility and the therapeutic alliance in individual psychotherapy.

Higher therapist credibility was found to be predictive of a stronger alliance in counseling dyads [30,31], individual CBT for GAD [32], and individual therapy for substance abuse [33]. Collectively, these various findings provide a reasonable foundation for considering the therapeutic alliance as a potential mediator of the effect of treatment credibility on outcome of group CBT.

AIMS

Current literature has pointed to the potentially important role of patients' perceptions of treatment credibility in the process and outcome of individual CBT. Yet certain questions related to patients' perceived credibility, such as whether it predicts treatment outcome in the setting of group CBT, have been left unanswered. Moreover, potential pathways through which credibility might influence treatment outcome have not been explored. In an attempt to fill this void, the primary aim of this pilot study was to investigate the relationships between patients' perceptions of treatment credibility and various outcomes in group CBT for depression. A secondary aim was to determine whether the therapeutic alliance mediated the effect of credibility on treatment outcome in group CBT. In light of the empirical findings in the literature on individual CBT for depression, we predicted that (a) patient perceived credibility would directly and significantly predict outcome, and (b) the therapeutic alliance would mediate the effect of credibility on treatment outcome.

METHOD

Participants

Participants (N=80) were consecutively admitted patients from the Group CBT Program of the Richmond Mental Health Outpatient Services, a community mental health service located at Richmond Hospital in Richmond, British Columbia, Canada. Referrals to the program are made by family doctors and psychiatrists. Many patients are on stress or disability leave as they seek help to return to their previous level of functioning. Criteria for inclusion in the program are: diagnosis of current major depressive

disorder according to the criteria of the DSM-IV-TR, 18 years of age or older, and an ability to set goals for treatment and to commit to regular and punctual attendance. Diagnoses were provided by the referring source. Patients were excluded from the program if they were acutely suicidal or homicidal, displayed antisocial behaviors, or presented with psychotic disorders or primary substance use disorders. The study received ethics approval from local hospital and university ethics boards, and participants provided written informed consent.

The average age of participants was 47.82 years (SD = 10.58, range 20–72); 73% (N=58) were women. The sample was primarily Caucasian (77.9%). Approximately one third (31.6%) of the participants were in receipt of disability benefits. Of the total sample, 71.1% had previous psychiatric treatment, 22.2% had previous psychiatric hospitalization, 4% struggled with substance use problems, 14.9% had attempted suicide before, and 20% had recurring suicidal thoughts.

TREATMENT

The treatment was a time-limited, structured, group CBT program for depression consisting of 10 weekly 2-hour sessions co-led by a female clinical psychologist and a male psychiatrist. The program followed the format of *Mind over Mood: Change How You Feel by Changing the Way You Think* [34]. The group sessions were divided into three major themes: how thoughts and behaviours influence moods (sessions 1, 2); how to challenge self-denigrating thoughts and assumptions about oneself, others and the world (sessions 3–7); and how to set realistic daily and weekly goals as well as preparing for the future, including relapse prevention (sessions 8–10). A treatment rationale and outline of group CBT for depression was provided in the first two sessions. Patients were actively encouraged to offer support, feedback and practical advice to each other. Skills taught included self-monitoring of how daily activities influence mood and sense of self-efficacy (pleasure and mastery mood monitoring), the identification and modification of core dysfunctional or irrational beliefs and thought processes, behavior

activation, as well as increasing social contacts and resolving interpersonal conflict situations. Handouts outlining the principles and strategies of managing depressive feelings were provided, and participants were required to engage in between-session homework tasks over the course of the program.

Assessments

Credibility measure: the Credibility Scale (CS)

The CS is a 6-item self-report questionnaire that was developed for the purpose of the present study to assess patients' perceptions of the credibility of the treatment they were being provided. Participants responded to each item by rating the extent to which the treatment makes sense and is logical to them on a 5-point Likert-type scale ranging from 1 to 5. The six treatment credibility items are: (a) How credible do you think this therapy is? ("not at all credible" to "very credible"); (b) How logical does this therapy seem to you? ("not at all logical" to "very logical"); (c) How much do you trust this therapy to help you? ("not at all" to "very much"); (d) How credible does your therapist seem? ("not at all credible" to "very credible"); (e) How much do you trust your therapist to be able to help you? ("not at all" to "very much"); and (f) How knowledgeable does your therapist appear? ("not at all knowledgeable" to "very knowledgeable"). Parallel sets of items were created for "this therapy" and "the therapist" to allow for the possibility that patients may perceive these entities as distinct. However, principal components analysis of the scale revealed a single factor that accounted for 65.18% of the variance in item ratings. The internal consistency of CS was shown to be high ($\alpha = 0.89$).

Process measure: Working Alliance Inventory (WAI)

The WAI [30] is a 36-item self-report instrument for assessing the quality of the working alliance between patient and therapist. Items are rated on a 7-point Likert-type scale. It has three subscales: (a) goals: agreement about the goal of the therapy; (b) tasks: agreement about the tasks of the therapy; and (c) bonds: the bond between the client and therapist. A total score can be derived,

with higher scores reflecting a stronger working alliance. Internal consistency of the total score was 0.93 for client version, which was used in the present study.

Outcome measures

Beck Depression Inventory, 2nd Version (BDI-II). The 21-item BDI-II [35] is a self-report questionnaire that measures common depressive symptoms on a 4-point Likert-type scale. The total score ranges from 0 to 63, with higher scores representing greater severity of depressive symptomatology. A meta-analysis of the reliability of the BDI indicated an average Cronbach alpha of 0.84 [36].

Beck Anxiety Inventory (BAI). The 21-item self-report BAI measures the severity of anxiety symptoms [37]. Respondents rate each item on a 4-point Likert-type scale. The total score (range 0 to 63) provides an estimate of the severity of anxiety symptoms. Beck et al. [37] found the BAI to have high internal consistency ($\alpha = 0.92$).

Quality of Life Inventory (QOLI). The 16-item QOLI [38] is a brief but comprehensive measure of life satisfaction, assessing well-being and satisfaction in 16 areas of life. Respondents rated each item in terms of its importance to their overall happiness and satisfaction, and their satisfaction with the area. A total score representing overall quality of life is provided. The QOLI was shown to have good internal consistency (range 0.77 to 0.89) across three clinical and three non-clinical samples [38].

Inventory of Interpersonal Problems-28 (IIP-28). The IIP-28 [39,40] is a 28-item self-report questionnaire designed to assess highly maladaptive interpersonal problems. Respondents rated each item on a 5-point Likert scale. The IIP-28 has three subscales: interpersonal sensitivity, interpersonal ambivalence, and aggression. A total score can be derived, with higher scores indicating greater interpersonal difficulties. Reliability of all scales of the IIP-28 is excellent (Cronbach alpha > 0.80) [40].

PROCEDURES

Prior to beginning therapy, participants completed the following measures at baseline: BDI,

BAI, QOLI and IIP-28. After session 1, participants completed the CS and WAI. After session 5, the participants once again completed the WAI. Finally, post-therapy, the participants repeated the four baseline assessments.

STATISTICAL ANALYSES

The relationships between baseline patient characteristics and patients' perceptions of treatment credibility were explored and analyzed using bivariate correlation, independent samples *t*-test and one-way ANOVA. Tests of correlation, for example, were undertaken to assess the relationships that patient credibility ratings had with baseline symptoms (BDI, BAI, IIP-28) and quality of life. Independent sample *t*-tests and ANOVA were conducted to compare the mean credibility ratings between different patient subgroups (e.g. those with and without current suicidal thoughts, men vs. women, marital status), depending on the number of categories for the grouping variables.

Next, hierarchical regression analysis was used to examine the associations between patients' perceptions of treatment credibility and outcomes in group CBT for depression. Change scores for each of the BDI, BAI, QOLI and IIP-28 were created to serve as the dependent variables. In the first step of each analysis, the baseline score for the respective outcome variable was entered. In the second step, the treatment credibility score was entered.

Finally, we used Baron & Kenny's [41] approach to mediation testing to determine whether the therapeutic alliance mediated the effect of credibility on change in outcome from baseline to post-therapy. Baron & Kenny's approach involves four steps, each utilizing linear regression to test for different effects. In step 1, the association between credibility (predictor variable) and change in outcome was tested. In step 2, the association between credibility and the therapeutic alliance (proposed mediator) was examined. In step 3, both credibility and the therapeutic alliance were entered simultaneously, with change in outcome serving as the dependent variable. Two features must be evident at this step. First, a significant relationship between the therapeutic alliance and out-

come must be observed. Second, the strength of the relationship between credibility and outcome must be reduced relative to step 1. In step 4, the regression coefficient for credibility in step 3 must be significantly smaller than the regression coefficient in step 1. This is tested with a *z*-test [42]. If all of the above criteria are met, there is evidence that the effect of patients' perceptions of credibility on outcome is mediated by the therapeutic alliance.

RESULTS

Treatment credibility and treatment completion status

Of the 80 participants, 15 people dropped out of therapy prematurely. Results of an independent samples *t*-test revealed no statistically significant difference between dropouts and completers in their ratings of treatment credibility ($t(60) = -0.62, p = 0.54$). Thus, it appears that patients' perceptions of treatment credibility had minimal association with premature termination in our study. Subsequent analyses utilized the sample of 65 completers only.

Potential confounding variables

A total of 11 baseline patient characteristics were examined as potential confounders of treatment credibility. None of the baseline variables were found to be significantly associated with patients' ratings of treatment credibility, thus excluding them from being controlled in subsequent analyses.

Patients' perceptions of credibility and treatment outcome

Patient ratings of credibility were found to be significantly associated with change in IIP-28 scores from baseline to post-therapy ($F_{\text{change}} = 7.18, df = 1,49, \beta = 0.35, p = 0.010$), but unrelated to changes in BAI, BDI and QOLI scores. The findings indicated that higher levels of treatment credibility were associated with greater improvement in interpersonal problems.

Therapeutic alliance as a mediator of the effect of credibility

Mediation testing was conducted for the association between credibility and change in interpersonal problems only. Given that credibility was not significantly associated with changes in the other outcome variables, mediation testing utilizing these outcome variables was not attempted.

Step 1.

As reported above, credibility was directly and significantly associated with change in interpersonal problems ($F(1,51) = 6.56$, $t = 2.56$, $p = 0.013$, $\beta = 0.34$, $R^2 = 0.12$).

Step 2

We also found that credibility was directly and significantly associated with the therapeutic alliance at both session 1 ($F(1,63) = 72.99$, $t = 8.54$, $p = 0.000$, $\beta = 0.73$, $R^2 = 0.54$) and session 5 ($F(1,46) = 56.15$, $t = 7.49$, $p = 0.000$, $\beta = 0.74$, $R^2 = 0.55$). The findings indicated that higher treatment credibility was associated with a stronger alliance early in, and halfway through, therapy. These findings suggested that patient-rated alliance could be tested as a mediator of the effect of credibility on outcome.

Step 3.

Session 1 alliance and session 5 alliance were not significantly associated with change in IIP-28 scores ($t = -1.24$, $p = 0.22$, $\beta = -0.24$, $R^2 = 0.14$ and $t = 0.70$, $p = 0.49$, $\beta = 0.16$, $R^2 = 0.12$). Given that the alliance was not significantly associated with change in interpersonal problems, it could not be considered as a potential mediator of the effect of credibility on this outcome variable. Mediation testing was ceased at this point.

Post-hoc analysis: treatment credibility and therapeutic alliance

As reported above, patient ratings of credibility after session 1 were found to be directly and significantly associated with the alliance at both

sessions 1 and 5. Further, patient perceived treatment credibility was significantly correlated with the therapeutic alliance at session 5 ($r = 0.42$, $p = 0.00$), while controlling for the effect of session 1 alliance.

DISCUSSION

While there is a growing literature demonstrating the relevance of treatment credibility to the outcome of individual therapy, no studies to date have examined the role of treatment credibility in the process and outcome of group therapy. The current pilot study examined the questions of (a) whether patient perceived credibility predicted treatment outcome, and (b) whether the therapeutic alliance mediated the effect of credibility on treatment outcome among depressed psychiatric outpatients receiving group CBT. Patient perceived credibility was found to be unrelated to changes in depression, anxiety and quality of life, but it was significantly associated with favorable change in interpersonal problems. The therapeutic alliance was hypothesized to mediate the effect of credibility on treatment outcome, but our findings did not support this hypothesis. Nevertheless, a positive relationship between credibility and the alliance was found.

The lack of an identifiable link between credibility and outcome may be the consequence of the manner in which credibility was measured in this study. We assessed credibility only once and early in the treatment process (after session 1). Others have found that changes in credibility ratings during therapy predicted treatment outcome [6], suggesting that different relationships could have emerged in the present study had credibility been assessed at different points through treatment.

Furthermore, it is possible that ratings of credibility were solicited before group participants had sufficient time to formulate an opinion about the credibility of the treatment.

It is also possible that the influence of group processes could have attenuated the potential impact of credibility. For example, Oei & Browne [43] found that a group environment that promoted patients' open expression of feelings and independent action was most condu-

cive to favorable outcome, overriding the effects of other potentially influential factors. In a study of whole-group and member-leader relationship dynamics [44], found that cohesion amongst group members most strongly influenced treatment outcome for depressed patients receiving psychodynamic group therapy. Such findings suggest that the possible influence of credibility may be overshadowed by the more powerful interpersonal and social dynamics that are intrinsic in a group environment.

While we found that credibility had minimal association with changes in symptoms and quality of life, a significant relationship between credibility and improvement in interpersonal problems did emerge. Perhaps the perception of high treatment credibility is an important condition for enabling a patient to engage more fully into the social microcosm of the therapy group, and thus make use of the growth-promoting environment in group psychotherapy [43]. Depressed patients who perceive treatment to be more credible may be more likely to engage in meaningful disclosure, affective expression and feedback exchange with fellow group members, thus leading to greater improvement in interpersonal problems.

Contrary to expectations, we did not find evidence for the therapeutic alliance serving as a mediator of the effect of credibility on change in interpersonal problems, primarily because the alliance was not significantly related to change in this outcome variable. However, we did find evidence for a direct and positive relationship between credibility and the alliance. The findings indicated that those patients who perceived treatment to be more credible were more likely to rate the alliance as stronger in sessions 1 and 5. Even after controlling for the effect of session 1 alliance, the relationship between credibility (assessed after session 1) and session 5 alliance was highly significant, suggesting that one's perception of treatment credibility may contribute to the development of the therapeutic alliance, as implied by previous studies [30–32]. This is consistent with Strong's [7] social influence theory whereby psychotherapy is viewed as an interpersonal influence process. In this view, therapists could build their "influence power" through enhancing patients' perceptions of the treatment's credibility, thus strengthening the working alliance.

STRENGTHS AND LIMITATIONS

This pilot investigation is the first study to examine the relevance of treatment credibility to the outcome of group psychotherapy, specifically group CBT for depression. Other notable features of the study include its use of a reasonably large clinical sample of psychiatric outpatients and its attempt to identify a mediator of the effect of credibility on treatment outcome.

Despite these positive attributes, several limitations of the study warrant mentioning. One limitation was the use of a credibility measure that was developed for the purpose of this study. While the measure demonstrated strong psychometric characteristics in the present study, these properties have not been established across different samples. In addition, treatment credibility was only measured at a single time point, thereby introducing the possibility that the lack of significant findings was a function of inappropriate timing for the measurement of the construct. Are patients' ratings of credibility subject to change over the course of therapy, and if so, what is the relationship between changes in perceptions of credibility and outcomes of group CBT for depression? Regarding identification of possible mediators of the effect of credibility, we examined only the therapeutic alliance. While a logical choice given the findings of previous research, this construct does not tap into important group process constructs such as cohesion. In a group context, there are many agents of influence, with the other group members, the therapist, and the group as a whole each having some effect. How are an individual's perceptions of treatment credibility influenced by characteristics of the group? Are there certain characteristics or behaviors of the therapist that affect patients' perceptions of credibility? These are but a few questions and ideas that may inspire researchers and clinicians to pursue future investigation of treatment credibility in group therapy.

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