

# Patient's Outcome Expectancies and Treatment Outcome

Influence of Patient's Outcome Expectancies on Symptom Improvement and Drop-out in Interpersonal Psychotherapy and Cognitive Therapy for adult depression

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## Abstract

This study aims to explore the influence of expectations on treatment outcome of depressed patients following Interpersonal Psychotherapy or Cognitive Therapy. Patients' baseline outcome expectations might influence post-treatment symptom improvement and dropout during treatment. Outcome expectations are hypothesized to influence the level of symptom improvement and the drop-out risk. The current study is based on data collected in a large RCT in which participants are assigned to either Cognitive Psychotherapy ( $N=76$ ) or Interpersonal Psychotherapy ( $N=75$ ) in order to be treated for a primary depressive episode. The Outcome Expectations Questionnaire was conducted at baseline, followed by a 7 months intervention phase. The primary outcome measurement is symptom improvement, which is the difference in symptoms at 7 months and at baseline. The second outcome measurement, drop-out, is the percentage participants that stop the treatment after following less than 12 session, while still having complains. The relationship between outcome expectations and symptom improvement and between outcome expectations and drop-out were analyzed separately. Contradictory to the hypothesis, the data did not show a significant relationship between outcome expectations and symptom improvement or drop-out. These findings implicate that patients with low outcome expectations have the same symptom improvement and risk

to drop-out of the treatment as patients with high expectations. Other studies support this findings. However, more well-designed major studies are needed in order to gather more evidence-based information on the influence of outcome expectations on treatment outcome.

### Keywords

Depression, Therapy, Outcome Expectations, Treatment outcome, Symptom improvement, Drop-out

## Introduction

Depression is one of the most common mental disorders with a life time prevalence of 18.7% in 2007 in the Netherlands (De Graaf, Ten Have, & van Dorsselaer, 2010). There is an upward trend, because the life time prevalence in 1996 was 15.4% (Bijl, Ravelli, & Van Zessen, 1998). However, these numbers are likely to underrate the size of the real problem of depression, because not all people with symptoms visit the doctor and therefore they stay off the radar. By 2030, depression is expected to be the leading global cause of years of health lost due to disease (Mathers, Fat, & Boerma, 2008). However, in middle- and high-income countries – including the Netherlands - depression already achieved this first place in 2004 (Mathers et al., 2008). The rising prevalence is increasing the contribution of depression in the global burden of disease. Therefore, depression is becoming a bigger problem for society.

Psychotherapies and antidepressant medication are found to be effective in treating depression, but there is still 40% of the patients that do not benefit from the treatment. Even when an episode of MDD is treated effectively, recovery is often incomplete causing people to relapse many times later in life. The relapse and recurrence rate of depression is up to 87% over the course of 15 years (Van Londen, Molenaar, Goekoop, Zwinderman, & Rooijmans, 1998). Improvement of existing treatment or the development of more efficient treatments is therefore of high importance. In order to improve treatments for depression, research on the factors that influence treatment, for example expectations, is essential.

Outcome expectations reflect patients' prognostic beliefs about the consequences of engaging in treatment (Constantino, Arnkoff, Glass, Ametrano, & Smith, 2011). In other words, the expectations that the treatment might lead to improvement of symptoms and to which extent the symptoms will be reduced (Arnkoff, Glass, & Shapiro, 2002).

## Current Study

This study will conduct research on the influence of patients' outcome expectations on symptom improvement and dropout of depressed patients following Interpersonal Psychotherapy or Cognitive Therapy. Patients' outcome expectations are quantified by a higher score for higher expectation and classified based on content (improvement, coping or no-effect expectations).

Outcome expectations are hypothesized to influence the symptom improvement and drop-out risk. It is expected that higher expectations lead to more symptom improvement and less drop-out of the treatment. The influence of treatment type will be taken into account, but is not expected to be influencing outcome expectations.

## Aim

Outcome expectations is referred to as the most 'neglected' and 'ignored' common factor (Greenberg, Constantino, & Bruce, 2006). There is limited well-designed research conducted on the topic of outcome expectations. Besides that it is one of the only main common factors of treatment that was not emphasized on by any major school of psychotherapy (Greenberg et al., 2006). Therefore more research focused on expectations is needed.

This study aims to show the importance of expectations in psychotherapy for depression. More knowledge on the factors that influence treatment outcome can help to develop new treatments or improve existing treatments in order to be more efficient. More knowledge about these factors can also lead to tailor-made therapies, which would lead to a better treatment for depressed patients.

## Material and methods

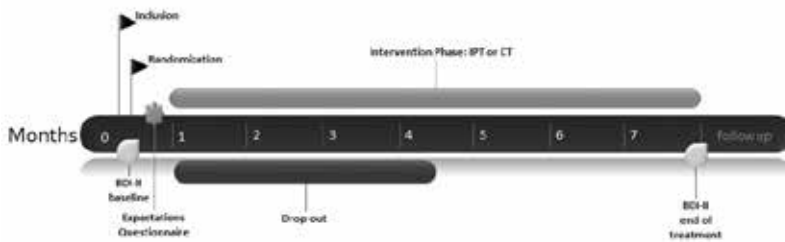
The current study is based on data collected in a large RCT with a parallel group design (Lemmens et al., 2015). Depressed male ( $N=51$ ) and female ( $N=100$ ) patients were randomly assigned to either Cognitive Therapy ( $N=76$ ) or Interpersonal Psychotherapy ( $N=75$ ). All participants had an age between 18-65 years and had a primary diagnosis of Major Depression Disorder. Patients were excluded if they had a chronic depression for longer than 5 years, were using antidepressant medication or already received psychotherapy. Furthermore, patients with urgent comorbidities that needed to be treated first, elevated acute suicide risk, drug- and/or alcohol abuse or dependence and mental retardation ( $IQ<80$ ) were excluded. Participants were recruited during regular intakes at the Academic Community Mental Health Centre (RIAGG) Maastricht.

After inclusion and randomization, the Expectations Questionnaire was conducted and all participants entered the 7 months intervention phase with 16-20 weekly therapeutic sessions. The first outcome measurement, symptom improvement, was measured using is the Beck Depression Inventory-II (BDI-II) to measure depressive symptoms at baseline and post-treatment (7 months). The second outcome measurement, drop-out, is measured every time a person terminates the treatment prematurely with less than 12 sessions, while still having complaints.

### Instruments

The BDI-II (Beck, Steer, & Brown, 1996) is a self-report questionnaire containing 21 items with a 4-point Likert scale. Higher scores reflect a higher severity of depressive symptoms. A meta-analysis of the reliability found an average Cronbach alpha of 0.84, indicating a high overall reliability of all questions in measuring depressive symptoms (Yin & Fan, 2000). The BDI-II is a strong screening instrument for depression (Beck et al., 1996; Van der Does, 2002; Whisman, Perez, & Ramel, 2000).

The Expectations Questionnaire used in this study is based on the Credibility and Expectancy Questionnaire (CEQ) developed by Devilly and Borkovec (2000). This questionnaire is validated and has a high internal consistency within each factor and a high test-retest reliability (Deville & Borkovec, 2000)



**Figure 1.** Time Line of Treatment phase and measurements of Outcome Expectations, Drop-out and Depressive Symptoms (BDI-II)

## Results

Participants scored, on average, 30 points at baseline on the BDI-II. That means this sample is a severe depression sample (Van der Does, 2002). On the Outcome Expectancy questionnaire participants scored an average of 33.10 ( $SD = 6.2$ ) points. There is no significant difference found in the outcome expectations between the two treatment groups. At post-treatment, the mean BDI-II score was 14.8 points ( $SD = 12.1$ ). This indicates that there was an average drop of 15 BDI-II points over the course of the treatment, which is the primary outcome. Concerning the secondary outcome, 24 out of the 151 participants (16%) dropped out of treatment.

Correlations and single regression analyses of the total outcome expectancy have not found significant results in the relationship between outcome expectancy and symptom improvement (*Pearson's*  $r = 0.04$ ,  $p = 0.68$ ;  $B = 0.06$ ). Multiple regression on all items of the questionnaire found similar non-significant results ( $p > 0.05$ ). Furthermore, type of outcome expectancy - improvement, coping, no-effect - does not influence symptom improvement ( $F = 0.41$ ,  $p = 0.75$ ).

Correlation analyses showed a non-significance for the relationship between outcome expectancy and treatment drop-out (*Pearson's*  $r = -0.12$ ,  $p = 0.14$ ). Moreover, logistic regression analyses did not find significant support for this relationship ( $B = -1.67$ ,  $SD = 0.22$ ,  $p = 0.14$ ). The type of outcome expectations was not significantly related with drop-out ( $X^2 = 0.79$ ,  $p = 0.85$ ).

## Discussion/Conclusion

Contradictory to the hypothesis, the data analysis was unable to show a significant relationship between outcome expectations and symptom improvement and outcome expectations and drop-out. It was expected that a higher outcome expectancy would lead to more symptom improvement, while a low outcome expectancy would lead to a higher risk of drop-out.

These findings implicate that the expectations a patient has about the outcome of the treatment do not influence the effectiveness of the treatment in improving the symptoms or the risk of the patient ending the treatment prematurely. In other words, patients with low outcome expectations have the same symptom improvement and risk to drop-out of the treatment as patients with high expectations. This implies that therapist could recommend a treatment for a patient, although the patient does not have high expectations about the effect of the treatment.

These findings were contradictory to the hypotheses of this study. The hypothesis for the relationship of outcome expectations and symptom improvement was based on the majority of the literature of outcome expectancy and symptom improvement (Cohen, Beard, & Björgvinsson, 2015; Constantino et al., 2011; Greenberg et al., 2006). On the other hand, there were studies that found the same non-significant results for outcome expectancy and symptom improvement as this study (Chambless, Tran, & Glass, 1997; Vogel, Hansen, Stiles, & Götestam, 2006). Borkovec, Newman, Pincus, and Lytle (2002) found in their RCT that expectations of improvement were not associated with post-treatment outcome for patients following CT. Similarly, the study of Martin and Sterne (1975) showed that patient's expectations of recovery were not associated with symptom reduction.

The hypothesis for the relationship between outcome expectations and drop-out was based on goal theory and studies about treatment drop-out (Meyer et al., 2002; Webb, Kertz, Bigda-Peyton, & Björgvinsson, 2013). However, other studies found no support for the relationship between outcome expectancy and treatment drop-out, which corresponds with the findings of this study. For example, Tsai, Ogrodniczuk, Sochting, and Mirmiran (2014) found no significant difference between drop-outs and completers in their ratings of outcome expectancies at baseline.

#### **Methodological considerations**

The current study has multiple strengths and the most important one is the recruitment of participants at regular intakes of a mental health institution. One of the benefits is that participants are motivated to engage in treatment, because they contacted the mental health institution on their own initiative. Besides that, this sample is a good reflection of the normal populations following treatment for depression. For example, the gender ratio (Female : Male) in the sample is 2 : 1 and this is corresponding with the gender ratio of depression in the prevalence (Bijl et al., 1998).

The study also has some limitation. One of the limitations is the fact that the sample had relative high expectations on average. Consequence of this was that the variety in the sample was relatively small. Low expectations were underrepresented in the sample which might have led to non-significant results when low versus high expectations were compared.

The most important limitation of the study is the design of the RCT. The advantage of the RCT was that the groups were comparable and there were no differences between

the groups. The downside was that in daily practice patients have an influence on the selection of the treatment, while in the RCT the patients did not have this. This might have influenced the level of outcome expectancy in a way that is different from daily practice of psychotherapy. It would have been better if outcome expectancy was measured in a naturalistic setting where people were not randomised, for example a cohort study.

### Future Research

This study does not affect the clinical working field directly, but more in an indirect manner. There was no support found for the relationship between outcome expectancy and therapy outcome, but the study contributed to the knowledge on how to conduct research on outcome expectations.

The inability to find support in this study for the relationship between outcome expectancy and treatment outcome, stresses the need for more research. A better understanding of the mechanisms that influence treatment and treatment outcome is essential in order to improve treatment for depression. Better treatments for depression leads to a lower prevalence of depression, less symptoms after treatment completion and a lower reoccurrence and relapse rate.

## Role of the student

Carlijn Verhagen was an undergraduate student conducting research for her bachelor thesis. Her supervisor proposed which data could be used, but the student worked the research question out in detail. Due to time limitation of this thesis period Carlijn was unable to be part of the clinical data collection. She received data of a large RCT and conducted a data analysis. The background information, processing of the results as well as formulation of the conclusions and the writing of the thesis were done by the student.

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