



# Predictors of Group Cognitive Behaviour Therapy outcomes for the treatment of depression in Malaysia

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## ABSTRACT

The aim of this study was to identify predictors of response to treatment for depression in Malaysia, using demographic and cognitive predictors. 113 patients, that were diagnosed with depression, were randomly assigned to the Treatment-As-Usual (TAU) ( $n = 55$ ), or TAU plus eight sessions of Group Cognitive Behaviour Therapy (TAU + GCBT;  $n = 58$ ). Pre-treatment using the Beck Hopelessness Scale (BHS), the Automatic Thoughts Questionnaire-Malay (ATQ-Malay), the Dysfunctional Attitude Scale-Malay (DAS-Malay), a quality of life scale, and demographic characteristics, were used in a series of multiple regression models, as potential predictors of the Beck Depression Inventory-Malay (BDI-Malay) post-assessment scores. Regression results revealed that age, the quality of life scale, and all three cognitive measures were significant predictors of outcomes in the Group Cognitive Behaviour Therapy (GCBT) group, showing that Beck's cognitive model for depression could be applied in Malaysia.

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## 1. Introduction

Our previous study demonstrated that scores on the various measures of maladaptive mood and cognition showed significant decreases after patients with depression were exposed to Group Cognitive Behaviour Therapy (GCBT) (Mukhtar et al., 2006). Specifically, the treatment group (i.e., those who received Treatment As Usual (TAU) plus eight sessions of GCBT) showed significantly decreased scores on the Beck depression scale and cognitive measures from pre-treatment to post-treatment, when compared to the TAU only group. These findings provide evidence for the effectiveness of GCBT, in terms of modifying maladaptive schemas, dysfunctional attitudes, and symptoms of depression in Malay patients. However, the factors associated with the successful use of GCBT in Eastern countries remains unclear. Subsequently, it is vital to understand the role of pre-treatment variables in predicting treatment outcomes when using GCBT to treat depression.

In Western literature, a wealth of empirical studies has identified a range of factors that tend to be associated with positive Cognitive Behaviour Therapy (CBT) treatment outcomes. These include pre-treatment scores on the Beck Depression Inventory (Hamilton and Dobson, 2002), demographic values (e.g., marital status (Jarrett et al., 1991)), historical features of the illness (Hamilton and Dobson, 2002), specific intra-personal factors (e.g., automatic thoughts and dysfunctional attitudes

(Oei and Shuttlewood, 1996)), and non-specific external factors (e.g., the nature of the therapeutic alliance or group processes (Oei and Browne, 2006)).

Two other potential predictor variables, affecting the effectiveness of CBT, that were not discussed in previous studies, are a sense of hopelessness and quality of life. Hopelessness is a core factor in the cognitive-behavioural explanation for the development and persistence of depression, but is often overlooked by researchers (Henkel et al., 2002; Westra et al., 2002). In terms of 'quality of life' as a predictor variable, numerous studies have found evidence that there is a significant relationship between this variable and depression (McAlinden and Oei, 2006; Ola et al., 2006; Ong et al., 2006). One study, by Gore-Felton et al. (2006), identified it as the most important predictor of depression among patients with a major depressive disorder. Therefore, besides demographic and cognitive variables, quality of life was also investigated in this study, as a potential predictor variable for treatment outcome.

Although a number of predictor variables for CBT treatment of depression have been identified for Western populations, it is unknown what predictor variables are useful for Eastern populations; particularly for patients suffering from depression in Malaysia. It is important to discover these predictor variables, as they can assist in the management of depression. This present study was designed to investigate potential predictors of CBT treatment outcomes, for the Malaysian population. As there were no previous relevant Eastern studies, the hypotheses were guided by existing Western literature. Consequently, it was hypothesised that negative automatic thoughts, dysfunctional attitudes,

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hopelessness, and quality of life, would significantly predict Beck Depression Inventory-Malay (BDI)-Malay scores during post-treatment.

## 2. Methods

### 2.1. Participants

One hundred and thirteen patients (51 males) with major depression were randomly divided into group one ( $n = 58$ ) who received TAU + CBT and group two ( $n = 55$ ) who were in TAU only. The patients were 20–59 years old, with an average age of 40.5 years. In terms of level of education, nine patients completed primary school, 86 patients (74.1%) completed secondary school, 14 patients (12.1%) completed certificate/diploma courses, and seven patients (6.0%) completed undergraduate studies. The majority of patients (90.5%) were taking anti-depressant medication during the course of therapy.

### 2.2. Materials

The (BDI-Malay; Mukhtar and Oei, 2008), the Automatic Thoughts Questionnaire-Malay (ATQ-Malay; Oei and Mukhtar, 2008), and the Dysfunctional Attitude Scale-Malay (DAS-Malay; Mukhtar and Oei, 2010) description and psychometric properties, have been described in detail in our earlier study.

The Beck Hopelessness Scale-Malay (BHS-Malay) is a translated version of the original BHS (Beck and Steer, 1988) with a 20-item scale for measuring negative attitudes about the future. The scale's manual, reports KR-20 coefficients (measures of the scale's internal consistency) ranging from 0.82 to 0.93 and a test-retest reliability of 0.69 (Beck and Steer, 1988). Three subscales derived from the BHS, are feelings about the future, loss of motivation, and future expectations (Beck et al., 1974).

The WHO Quality of Life (WHOQOL) Brief version in Bahasa Malaysia (WHOQOL Malay) (Hasanah et al., 2003) has 26 items. It has been validated by a Malaysian population, indicating good discriminant validity, construct validity, internal consistency (0.64–0.80), and test-retest-reliability (0.49–0.88). The scale is a valid and reliable assessment of quality of life; especially for those with illnesses. The four domains that have been derived from this quality of life scale are physical health, psychological, social, and environmental.

### 2.3. Procedure

A total of 203 patients completed the initial intake assessment, 90 of which were either excluded from the study according to the criteria, or they declined to participate. The remaining 113 patients were randomly allocated into two groups following the initial intake assessment. Initial diagnosis was made by psychiatrists, with appropriate training on the diagnostic interview, which followed the Diagnostic and Statistical Manual of Mental Disorders – IV (DSM-IV), and further verification of diagnoses was done by the first author, using the Structured Clinical Interview for Diagnostic and Statistical Manual of Mental Disorders (SCID). Participants were recruited from psychiatry clinics over a period of 1 year. The inclusion criteria required that participating patients should be aged between 20 and 60 years old, Malay literate, never been treated with CBT, and meet the DSM-IV criteria, for major depressive disorder (either single episode or recurrent) and Dysthymia. Exclusion criteria included a DSM-IV determined diagnosis of bipolar mood disorder or other major psychiatric disorder, organic brain disorder, abuse of drugs and/or alcohol, or having any other major physical illness. The study was conducted at psychiatric clinics, in both East and West Malaysia, to gain a

more representative sample of the whole population. The scales were distributed and collected by research assistants with an undergraduate degree in psychology and who had been trained to use the instruments. The raters were blind about the treatment allocation throughout the study. Data was collected at baseline and after treatment was completed.

The GCBT was conducted by the first author (a qualified clinical psychologist, who trained at an Australian university), where CBT was deemed to be the most applicable mode of intervention in practice. The GCBT treatment manual for depression is based on Oei's (2002) group CBT for depression workbook; Oei and Browne (2006), which was later translated and adapted into Malay language by the first author. Both authors of these studies are qualified clinical psychologists, with extensive GCBT experience. The GCBT program consisted of two sessions per week, for 4 weeks; where each session lasted for approximately 3 hours. The programs format included mini-lectures, group exercises, guided readings, and homework tasks (see Oei (2002) for the full program). In this study the criterion variable was the post score of the BDI-Malay.

## 3. Results

### 3.1. Assumption testing

Before the main analyses, the data was checked for missing data, the presence of outliers, multicollinearity and singularity, normality, linearity, and homoscedasticity. No multicollinear or singular relationships were detected. An absence of univariate outliers was evident from a series of box plots; screening of Mahalanobis distances revealed no significant multivariate outliers. Table 1 describes the significant pattern of the treatment outcome between the two groups.

Pairwise comparison showed a significant pattern between pre and post treatment of the BDI score ( $df = 4$ , 2.85;  $F = 130.36$ ). Meanwhile, Table 2 shows the results of the correlational analyses between predictor variables and respective criterion variables (BDI-Malay post).

### 3.2. Predicting BDI-Malay post-treatment scores after controlling for pre-treatment BDI-Malay

The predictor variables were demographic variables (i.e., age, gender, and level of education) and the pre-treatment total scores of the ATQ-Malay, the DAS-Malay, the BHS, and the WHOQOL-BREF. All pre-treatment scores were mean-centred before the analyses were conducted. In Step 1, demographic variables (i.e., age, gender, and education) and pre-treatment scores of the BDI-Malay were entered into the first regression model, and then Hierarchical Multiple Regression (HMR) was conducted. This was followed by pre-treatment scores on the ATQ-Malay and DAS-Malay in Step 2, and finally, the pre-treatment scores on the BHS and WHOQOL-BREF were entered. The results of the HMR are shown in Table 3, which revealed that at Step 1, age was significant ( $p < 0.01$ ) and at Step 2, both the ATQ-Malay ( $p < 0.05$ ) and the DAS-Malay ( $p < 0.05$ ) were significant, with an  $R^2$  of 2%. At Step 3, both the BHS ( $p < 0.01$ ) and the WHOQOL-BREF ( $p < 0.01$ ) were found to significantly predict BDI-Malay post-treatment scores, with an additional  $R^2$  change of 21%. All independent variables together explain 40% of the total variance in the BDI-Malay post-treatment scores.

**Table 1**

Mean scores for the BDI at pre and post-treatment for both groups.

Time	GCBT (mean/SD)	Waitlist (mean/SD)
Pre-treatment	34.24 (5.47)	34.53 (5.022)
Post-treatment	4.33 (6.12)	36.64 (7.163)

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