ORIGINAL ARTICLE

EFFECTIVENESS OF GROUP COGNITIVE BEHAVIOUR THERAPY AUGMENTATION IN REDUCING NEGATIVE COGNITIONS IN THE TREATMENT OF DEPRESSION IN MALAYSIA

Firdaus Mukhtar*; Tian PS Oei**; Mohd Jamil Mohd Yaacob***

***Department of Psychiatry, Universiti Putra Malaysia, 43400 Serdang, Selangor, Malaysia; **School of Psychology, University of Queensland, Brisbane, 4072 Australia; Department of Psychiatry, Universiti Sains Malaysia, 16150 Kubang Kerian, Malaysia.**

Abstract

Objective*: Cognitive Behaviour Therapy (CBT) for depression is popular in Western countries. In the context of Malaysia, CBT has been applied as an individual session in a clinical setting. However, there is limited research in the area of group CBT for depression among Malays. The aim of this study is to investigate the effectiveness of Group Cognitive Behavioural Therapy (GCBT) in reducing the negative cognitions that are related to depression in a group of Malay patients. *Methods*: One hundred and thirteen patients, diagnosed with depression, were randomly allocated to either a Treatment As Usual (TAU) group (*n* = 55), or a TAU plus GCBT group (*n* = 58). All participants completed two questionnaires that measured maladaptive cognitions at pre-treatment, midway through treatment, post-treatment (week 4), and at follow-ups after three (week 16) and six months (week 28). *Results*: The TAU+GCBT patients improved significantly more, and at a faster rate, than the TAU group; which showed minimal improvement. The effect size (Cohen's *d*) of the treatment group was 0.93 and 96.55% of the treatment group achieved a clinically significant change. *Conclusions*: The findings suggest that GCBT, when used in addition to the TAU, is effective in reducing negative thoughts and maladaptive attitudes of Malaysian patients suffering from depression. *ASEAN Journal of Psychiatry, Vol.12(1), Jan – June 2011: XX XX.

Keywords: Group Cognitive Behaviour Therapy, augmentation, cognition, depression, Malaysia

Introduction

The World Health Organisation (WHO) predicts that depression will be among the leading causes of worldwide disability by the year 2020 [1-4]. In the Pacific region,major depression (of at least one month in duration) has recently been measured at a rate of 1.3 to 5.5% in the general population [5]. Epidemiological studies indicate that rates of depression in the Asia Pacific are comparable to those in Western countries; and Malaysia is no exception. Depression is the most common mental illness reported in Malaysia, yet it

remains under-detected and under-treated [6-8].

It is generally accepted that two forms of treatment are associated with reasonably good results in terms of reducing depression, namely pharmacotherapy and Cognitive Behaviour Therapy (CBT) [9]. For more than 40 years, Beck's cognitive model of depression and CBT, have received significant attention as the subject of more randomised controlled trials, than any other psychotherapy for depression [10-11]. Numerous studies, including several meta-analyses, have examined the efficacy of treatments for depression [12-18]. Group-based CBT (GCBT) has been shown to be at least, as effective than as the individual approach [19-21].

To date, the majority of research into the efficacy of treatments for depression has been undertaken with Western populations, and thus, the applicability of Beck's theory of depression (and hence CBT) to Eastern populations is unknown. Although a small number of studies examining CBT have been reported in Asian countries (for example Hong Kong [22], China [23-25], Indonesia [26], India [27], and Japan [28]), these studies have usually lacked a randomised or controlled design. Thus, while GCBT and ICBT have gained popularity in Asia, few well-controlled studies are available to demonstrate their applicability for Asian populations; particularly for Malay patients.

This study investigated the suitability of CBT for the Malay subgroup of the Malaysian population, which has been shown to have a very specific set of aetiologies, psychopathologies, cultures, values, and belief systems [29]. In a comprehensive review of literature by Mukhtar and Oei [29], only two religious psychotherapy studies [30-31] and one psychodynamic study [32] could be identified in relation to Malaysian patients with depression. The feasibility of GCBT for treatment of depressed Malaysian patients is therefore worthy of investigation.

The objective of this study was to evaluate the effectiveness of GCBT in conjunction with Treatment As Usual (TAU), in treating patients with major depression in Malaysia. It was hypothesised that treatment with TAU+GCBT would be more effective in reducing negative cognitions than TAU alone. Patients in the TAU+GCBT group were expected to demonstrate a more reliable and clinically significant change in cognitive measures than the patients in the TAU group.

Methods

A total of 113 patients (51 male and 62 female), diagnosed with major depressive disorder or dysthymia, were randomly allocated to either the TAU+GCBT group (n = 58) or the TAU only group (n = 55). The patients were aged between 20 and 59 years old, with a mean age of 40.46 years. Nine patients (8%) had completed primary school only, 84 (74.3%) had completed secondary school, 13 (11.5%) had obtained certificates/diplomas, and seven (6.2%) patients had completed undergraduate studies. The majority (90.5%) of patients were taking antidepressant medication during the course of therapy.

The Automatic Thoughts Questionnaire-Malay (ATQ-Malay) [33] was also implemented in this study. The 17-item ATQ-Malay is a Malay-translated version of the original 30-item ATQ [34] that was designed to measure depressogenic cognitions. The Cronbach's alpha coefficient was found to range from .83 to .93 [33]. Evidence was also identified that supports the concurrent and discriminant validity of the ATQ-Malay. Scores ranged between 17

and 85, where the higher the score, the more negative were the thoughts that the patient was experiencing. For example, patients were asked to rank the frequency of the thought "I am a loser," and were given five options, from 1 (not at all) to 5 (all the time). The ATQ-Malay is a reliable and valid instrument for measuring negative automatic thoughts in the Malay population.

The Dysfunctional Attitude Scale-Malay (DAS-Malay) [35] was administered to participants in this study. The 19-item DAS-Malay is a Malay language version of the 40-item DAS [36], which was originally designed to measure beliefs constituting a predisposition to depression. The Cronbach's alpha coefficient was found to range from .79 to .86 [35]. Evidence was also found that supports the concurrent and discriminant validity of the questionnaire. One example question in this scale is "If a person asks for help, is it a sign of weakness?" and asks the participant to rate this statement from 1 (totally agree) to 7 (totally disagree). Scores ranged from 19 to 133, where the higher scores reflected a greater predisposition to depression.

Patients were recruited from psychiatric clinics in major local hospitals representing both east and west coasts of the Malaysian peninsular. For east coast Malaysia, studies were carried out at Hospital Raja Perempuan Zainab II and Hospital Universiti Sains Malaysia, whilst west coast Malaysia was represented by Hospital Kuala Lumpur and Hospital Selayang. Figure 1 depicts the steps taken to recruit and allocate participants to groups in the study.

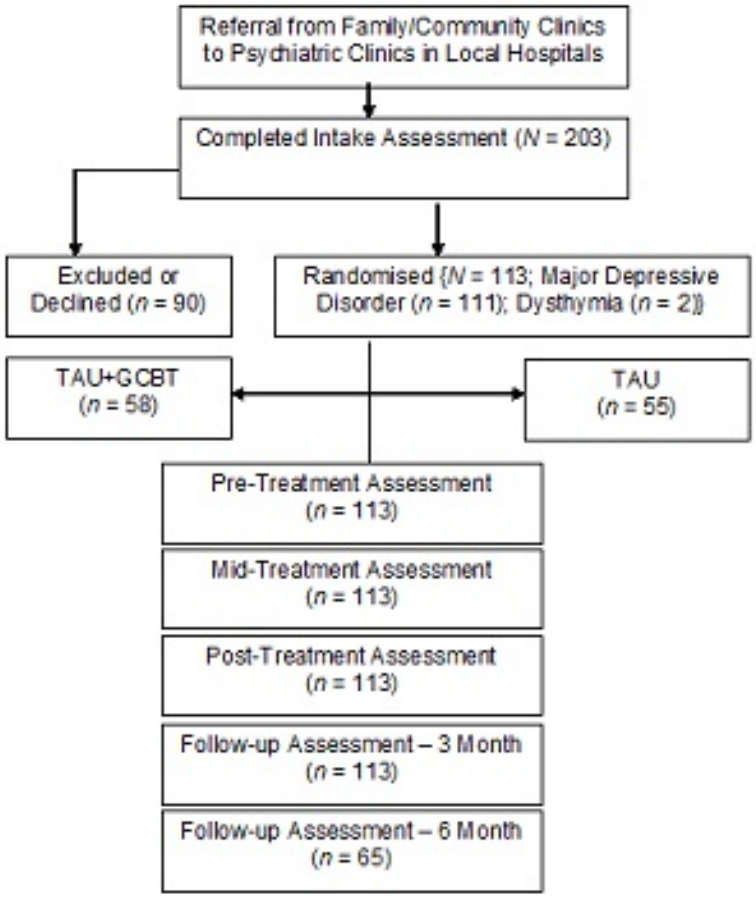

Figure 1 Steps in the recruitment and allocation of participants to treatment groups.

Initial diagnoses were made by psychiatrists according to the Diagnostic and Statistical Manual of Mental Disorders IV (DSM-IV) [9]. A total of 203 patients completed the initial intake assessment, of which 90 were either excluded from the study according to the criteria, or declined to participate. Further verification of diagnoses using the Structured Clinical Interview of DSM-IV (SCID) was also arranged by the researcher prior to the implementation of treatment. The inclusion criteria required that participating patients were aged between 20 and 60 years old, Malay literate, had never been treated with CBT, and met the DSM-IV criteria for Major Depressive Disorder (either single episode or recurrent) or Dysthymia. Exclusion criteria for the study included a DSM-IV-determined diagnosis of bipolar mood disorder or another major psychiatric disorder (e.g., schizophrenia, personality disorder), organic brain disorder, abuse of drugs and/or alcohol, major physical illness, or an inability to read, write, or speak in Bahasa Melayu. Patients with a co-morbidity diagnosis were then referred to another appropriate source. After the initial intake assessment was completed, the remaining 113 patients were randomly allocated to one of two groups. Altogether, there were seven groups (TAU=GCBT) in this study that consisted of 7 to 10 participants in each. Two groups attended the GCBT program twice a week, and in one and a half years, all groups completed the program. Only one therapist (the first author) conducted the CBT program.

In this study, the term 'Treatment As Usual' means that patients received medication prescribed by their psychiatrists, or received other forms of treatment, such as those administered by traditional healers. No medical profile details on the length of history of illness, type of medication taken, and type of other resources sought by patients, were noted prior to study intake. Patients attended any follow-up psychiatrist appointments that were required. The psychiatrists monitored the dosage of medication taken by the patients. No structured follow-up was undertaken to monitor the treatment of the TAU group, except for the administration of the assessment point questionnaires.

Simple odd-even numbering was used to randomly allocate patients to study groups. The control group in this study (n = 55) received TAU only, whereas the study group (n = 58) received TAU plus an additional two sessions a week for the four weeks of the GCBT program. Each GCBT session lasted approximately 3.5 hours. Both measures described above (i.e., ATQ-Malay, DAS-Malay) were administered to patients pre-treatment, mid-treatment, post-treatment (week 4), at follow-up after three months (week 16), and at follow-up after six months (week 28).

Treatment Manual

The GCBT treatment manual used in this study is based on the CBT manual for mood disorders developed by Oei [37], and was translated into the Malay language by the first author. The manual describes a total of eight CBT sessions, and provides a detailed description of CBT aims and strategies, classroom exercises, guided readings, and homework tasks. Sessions one and two provided a general orientation to cognitive therapy and taught participants to identify activities that stimulated their sense of achievement and accomplishment, aiming to replace patients' dysfunctional behaviours with positive thoughts. Sessions three and four taught participants to identify their automatic thoughts and core irrational beliefs, and asked them to create a strong,

motivational short sentence, which could act as an alarm for their dysfunctional condition. Sessions five and six taught patients to dispute or challenge the validity of their unhelpful beliefs, and identify core unhelpful beliefs using the vertical arrow method. Sessions seven and eight covered aspects of support system networking and techniques to prevent relapse of the symptoms of depression. Basically, the GCBT program in this study does not differ from that guided by Beck's approach [38]. The idea of an active self-help approach, rather than a passive "treatment" approach, focuses on education and training [37].

The program was delivered by the first author, who holds a doctorate degree in Clinical Psychology (Australia), and had previous training and clinical experience applying CBT in Malaysia and Australia. Two research assistants helped to distribute, explain, and collect the assessments during the treatment and at follow-ups. Patients in the control group were mailed the questionnaires along with a stamped envelope; once completed, patients could either mail the questionnaire back or deposit them at their psychiatric clinic. Most communication with the control group patients, regarding completion of the assessment, was undertaken via telephone.

Data was explored using the Statistical Package for the Social Sciences (SPSS). All of the analyses used data from all 113 patients, in accordance with the intent-to-treat approach [39]. The analyses used a series of 2 x 5 repeated measures analysis of variances (ANOVAs), with the two treatment conditions (TAU group and TAU+GCBT group) and the five assessment points (pre-treatment, mid-treatment, post-treatment [week 4], three-month follow-up [week 16], and six-month follow-up [week 28]) as independent variables. The dependent variables in the analyses were the patients' total scores from their assessment questionnaires. Paired t-tests and one-way ANOVAs were used to follow-up any significant main effects or interactions. Cohen's [40] commonly used guidelines for effect size were adopted (0.2 = small effect, 0.5 = moderate effect, and 0.8 = large effect). In addition, assessments of reliable statistically significant change and clinically significant change [41] over time were conducted to explore the nature of the differences in scores on the ATQ-Malay and the DAS-Malay over the five assessment points for the two treatment conditions. Jacobson and Truax [41] argue that there is a need to establish clinical significance of any therapy-related effect. By defining a clinically significant change, as a return to normal functioning, they provide a means of operationalizing this process by considering the level of functioning (after treatment) in relation to the range of the functional population.

All participants returned all of their questionnaires, except for at the six-month follow-up, where only 44 participants from the TAU+GCBT group and 21 participants from the TAU group returned their questionnaires. In light of this, Intent-To-Treat (ITT) analyses were used, whereby scores from the last assessment (at three-month follow-up) were used in place of the six-month follow-ups where necessary. ITT analyses are most reflective of treatment outcome for a population, as all randomised participants are included in the analyses. In addition, this technique does not affect the reliability of the effect size and the reliable and clinically significant changes, as there is no missing data at either pre- or post-treatment across all measures. Preliminary analyses revealed that there were no significant differences in the findings when using data from those who completed all

questionnaires only (N = 65), or from the completers plus substituted values. Thus, only the results from the ITT analyses are reported in the following section.

Results

Automatic Thoughts Questionnaire-Malay

Effect of treatment and maintenance at follow-ups. The means and standard deviations of the ATQ-Malay scores for the TAU+GCBT and the TAU groups at pre-treatment, mid-treatment, post-treatment, and the 3 and 6-month follow-ups, are presented in Table 1.

Table 1: Means and standard deviations of dependent variables at pre-treatment, mid-treatment, post-treatment, and at three and six-months follow-ups, using intent-to-treat analysis.

	TAU+GCBT			TAU		
Measure	*N*	*M*	*SD*	*n*	*M*	*SD*
ATQ-Malay						
Pre-treatment	58	50.52	15.7	55	43.3	15.3
Mid-treatment (week 2)	58	43.07	19.8	55	48.49	16.4
Post-treatment (week 4)	58	20.36	8.45	55	43.47	14.5
Follow-up (week 16)	58	18.17	3.01	55	52.11	16.6
DAS-Malay						
Pre-treatment	58	93.06	19.5	55	98.07	22.0
Mid-treatment (week 2)	58	51.02	23.0	55	97.85	23.3
Post-treatment (week 4)	58	41.29	21.8	55	107.8	22.7
Follow-up (week 16)	58	43.55	22.2	55	116.6	20.9
Follow-up (week 28)	58	18.40	3.88	55	49.62	16.2

A repeated measures ANOVA, using scores on the ATQ-Malay as the dependent variable, revealed significant main effects for group ($F(1, 111) = 76.82$, $p < .001$), and time ($F(2.43, 269.47) = 51.14$, $p < .001$). Follow-up paired t-tests then were used to analyse the differences in scores between the various assessment points in time, for each treatment group, independently. For the TAU+GCBT group, the ATQ-Malay scores showed significant decreases from pre-treatment to mid-treatment ($t(57) = 3.67$, $p < .001$), pre-treatment to post-treatment ($t(57) = 12.25$, $p < .0001$), pre-treatment to three-month follow-up ($t(57) = 14.23$, $p < .0001$), and pre-treatment to six-month follow-up ($t(57) = 14.24$, $p < .0001$). There were no significant differences between the scores at post-treatment and the three and six-month follow-ups points ($t(57) = 2.05$, $p = .045$; $t(57) = 1.62$, $p = .111$).

The TAU group experienced significant increase in ATQ-Malay scores from pre-treatment to mid-treatment ($t(54) = -4.13$, $p < .0001$), but no significant change was evident between pre-treatment and post-treatment ($t(54) = -0.337$, $p = 737$), indicating that scores on the TAU remained largely unchanged from the baseline. However, significantly higher ATQ-Malay scores were reported by this group at the three-month

follow-up, compared with those at pre-treatment ($t(54) = -6.51$, $p < .0001$). There was no significant change in ATQ scores between pre-treatment and the six-month follow-up ($t(54) = -2.81$, $p > .001$). The scores showed slight fluctuations between post-treatment and follow-up assessments. The post-treatment to three-month follow-up comparison was significant ($t(54) = -6.69$, $p < .0001$), with ATQ scores decreasing over time, but the ATQ-Malay scores showed a significant rise between post-treatment and the six-month follow-up ($t(54) = -2.81$, $p > .001$).

Overall, these results suggest that the TAU+GCBT group showed a significant reduction in ATQ-Malay scores from the baseline to post-treatment; with this reduction remaining stable across the two follow-up assessments. In contrast, the ATQ-Malay scores for the TAU group increased from pre-treatment to post-treatment and were consistently higher than those of the TAU+GCBT group at the follow-up assessments. This supports the claim that the use of CBT techniques could alleviate the negative automatic thoughts of patients with depression. The repeated measures ANOVA also revealed a significant time x treatment interaction ($F(2.43, 269.47) = 80.47$, $p < .001$). Further analyses using one-way ANOVAs were undertaken. Initially, scores on the ATQ-Malay were significantly different between the two groups ($F(1, 111) = 6.10$, $p < .05$), with the TAU+GCBT showing slightly higher scores than the TAU group. However, the results revealed that there were no significant changes in ATQ-Malay scores for the groups at the mid-treatment assessment ($F(1, 111) = 2.49$, *ns*). Furthermore, both the TAU+GCBT and TAU groups showed significant changes in ATQ-Malay scores at post-test, with the TAU+GCBT group's reduction in scores, larger than that of the TAU group ($F(1, 111) = 108.26$, $p < .0001$). At the follow-ups, both groups' scores remained stable after three and six months ($F(1, 111) = 235.54$, $p < .0001$; $F(1, 111) = 203.32$, $p < .0001$). Thus the TAU group consistently reported higher ATQ-Malay scores, and the TAU+GCBT group consistently maintained lower scores.

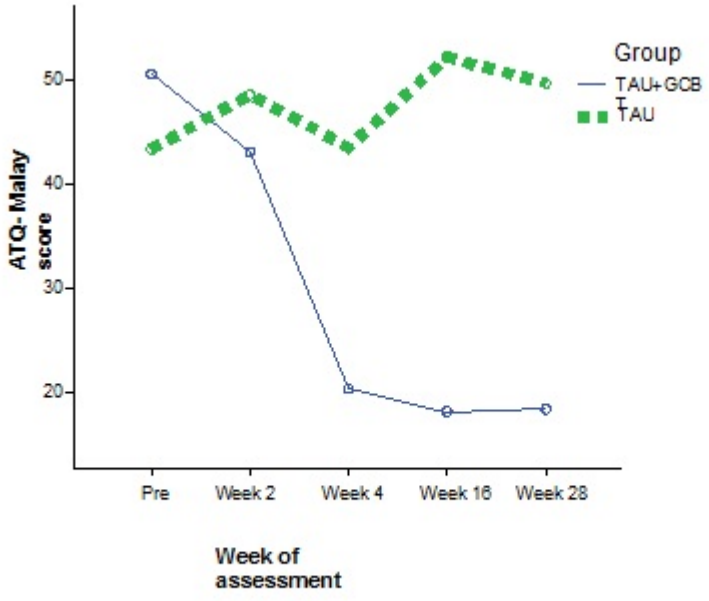

Figure 2 Mean scores of the ATQ-Malay at pre-treatment, mid-treatment (week 2), post-treatment (week 4), and follow-ups (weeks 16 and 28).

As is apparent in Figure 2, while the rate of change initially fluctuated for both groups, ultimately, the reduction in scores was observed faster in the TAU+GCBT group than in the TAU group at post-treatment, and large differences were maintained at both follow-ups.

Effect sizes. As depicted in Table 2, the treatment effect experienced by the TAU+GCBT group was of a moderate effect size (0.73), whereas the TAU group showed only a small effect size (0.002), from pre- to post-treatment. These results support the findings of the ANOVAs reported above. The treatment received by the TAU+GCBT group, was therefore more effective in reducing negative automatic thoughts in patients than TAU alone.

Table 2: Effect sizes (Cohen's d) between pre- and post-treatment for the TAU and TAU+GCBT groups for each of the dependent variables.

Measure	Group	*d*
Automatic Thoughts Questionnaire-Malay	TAU+GCBT	0.73
	TAU	0.002
Dysfunctional Attitude Scale-Malay	TAU-GCBT	0.77
	TAU	0.17

Note. TAU = Treatment-as-Usual; GCBT = Group Cognitive Behaviour Therapy.

Reliable and clinically significant change. The TAU+GCBT group results indicated that 82.75% of patients showed a reliable and clinically significant change in ATQ-Malay scores (see Table 3). However, only 1.81% of the control group demonstrated a reliable and significant change, and none showed a clinically significant change.

Table 3: Percentage of participants in each group who achieved a reliable and clinically significant change on the BDI-Malay, ATQ-Malay, and DAS-Malay.

Measure	Group (*n*)	Reliable Change (*n*, %)	Clinically Significant Change (*n*, %)
ATQ-Malay	TAU+GCBT (*n* = 58)	48 (82.75%)	48 (82.75%)
	TAU (*n* = 55)	1 (1.81%)	Nil
DAS-Malay	TAU+GCBT (*n* = 58)	50 (86.2%)	50 (86.2%)
	TAU (*n* = 55)	2 (5.45%)	1 (1.81%)

Overall, these findings suggest that the TAU+GCBT group experienced reduction in negative automatic thoughts during the treatment program, while the negative thoughts reported by the TAU group, increased over time. Therefore, adding CBT techniques to the treatment of patients with depression could help to alleviate negative automatic thoughts faster than treatment using medication only.

Dysfunctional Attitude Scale-Malay

Effect of treatment and maintenance at follow-ups. The means and standard deviations of the DAS-Malay scores for the

TAU+GCBT and the TAU groups at pre-treatment, mid-treatment, post-treatment, and three and six-month follow-ups, are presented in Table 1. The results of a repeated measures ANOVA revealed significant main effects for group ($F(1, 111) = 299.7$, $p < .0001$), and time ($F(3.075, 341.28) = 36.09$, $p < .0001$), and a significant time x treatment interaction ($F(4, 3.07) = 106.95$, $p < .001$). Paired t-tests were used to follow-up the significant main effect, examining the differences between scores at various assessment points for each treatment group. For the TAU+GCBT group, the DAS-Malay scores showed significant decreases from pre-treatment to mid-treatment ($t(57) = 10.36$, $p < .0001$), pre-treatment to post-treatment ($t(57) = 13.94$, $p < .0001$), pre-treatment to three-month follow-up ($t(57) = 13.03$, $p < .0001$), and pre-treatment to six-month follow-up ($t(57) = 16.48$, $p < .0001$). The differences in scores between post-treatment and the two follow-up assessments, were not significant ($t(57) = -1.22$, $p = .224$; $t(57) = 1.61$, $p = .112$).

The TAU group results revealed no significant changes in DAS-Malay scores from pre-treatment to post-treatment ($t(54) = 0.085$, $p = .933$), and from pre-treatment to post-treatment ($t(54) = -3.303$, $p > .001$), indicating that medication had no significant impact on dysfunctional attitudes from pre-treatment to post-treatment. However, the TAU group showed a significant increase in DAS-Malay scores between pre-treatment and both follow-up assessments ($t(54) = -4.47$, $p < .0001$; $t(54) = -7.23$, $p < .0001$), and between post-treatment and both follow-up assessment points ($t(54) = -4.092$, $p < .0001$; $t(54) = -4.14$, $p < .0001$).

In summary, the TAU+GCBT group showed significant reductions in DAS-Malay scores from baseline to post-treatment, and the reduction in dysfunctional attitudes remained stable at the two follow-ups. In contrast, the DAS-Malay scores for the TAU group increased from pre-treatment to post-treatment and remained high at follow-ups. Therefore, the DAS scores of the TAU group worsened over the course of the study.

Further analysis of the differences between the groups at each assessment point was undertaken using one-way ANOVAs. Initially, the pre-treatment DAS-Malay scores for the TAU+GCBT and TAU groups were not significantly different ($F(1, 111) = 1.640$, $p = .203$), indicating that the groups were similar prior to treatment. However, the results revealed significant decreases in the DAS-Malay scores for the TAU+GCBT group, and significant increases for the TAU group at mid-treatment and post-treatment ($F(1, 111) = 115.24$, $p < .0001$; $F(1, 111) = 251.80$, $p < .0001$). These differences were maintained at both follow-up assessments, with the TAU+GCBT group scoring significantly lower on the DAS than the TAU group ($F(1, 111) = 319.52$, $p < .0001$; $F(1, 111) = 429.10$, $p < .0001$). Figure 3 clearly shows that the rate of change from pre-treatment to post-treatment was faster for the TAU+GCBT group than it was for the TAU group. At the follow-up assessments, the TAU+GCBT group maintained their lower DAS-Malay scores and the TAU group retained their higher scores; thereby supporting the above interpretation.

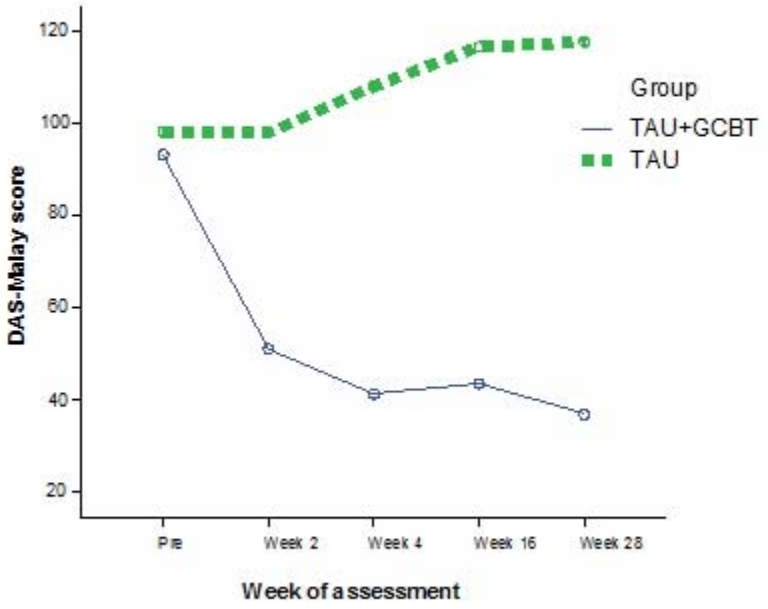

Figure 3 Mean scores on the DAS-Malay at pre-treatment, mid-treatment (week 2), post-treatment (week 4), and follow-ups (weeks 16 and 28).

Effect sizes. The pre-treatment to post-treatment effect sizes for the TAU+GCBT and TAU groups were calculated using the DAS-Malay scores as a measure of depressive symptoms (see Table 2). The TAU+GCBT group showed a moderate effect size of the treatment (0.77) and the TAU group showed a small effect size (0.17). Therefore, these findings support the results of the ANOVAs reported above, suggesting that the treatment received by the TAU+GCBT group was more effective in reducing the severity of depression, as indexed by the DAS-Malay.

Reliable and clinically significant change. The results of the TAU+GCBT group indicated that 86.2% of the patients showed a reliable and clinically significant change in DAS-Malay scores (see Table 3). However, only 5.45% of the TAU group showed a reliable and clinically significant change; and of these, only 1.81% demonstrated a clinically significant change. In short, the TAU+GCBT group showed a reduction in dysfunctional attitudes of depression during the treatment program, while dysfunctional attitudes in the TAU group, actually increased over time. These results suggest that using CBT techniques to treat patients with depression could help to alleviate the dysfunctional attitudes of depression faster than medication alone.

Discussion

The findings of this study support the experimental hypotheses. First, with respect to efficacy, the TAU+GCBT group consistently reported a significantly greater change in cognition, in the expected direction, compared with the TAU group. This change was maintained at both the three and six-month follow-ups for both measures. The strength of the effect was also evident through the larger effect sizes noted in the

scores of the TAU+GCBT group and the reliable and clinically significant change measures. These findings are consistent with the extant literature [13-14, 19, 42-45] that support Beck's cognitive model of psychopathology and CBT. Beck's theory would particularly suggest that CBT treatments should be associated with a reduction in scores on the symptoms, as well as the ATQ and the DAS. For example, Kwon and Oei [42] found such predicted reductions in reported scores, and also described non-significant changes between the eighth and final sessions in their study. That study also suggested that the therapeutic effects of CBT tend to be stabilised by the final phase of the treatment; a result confirmed in this study.

As the results have indicated that the TAU+GCBT group showed a greater change than the TAU group, it can be argued that GCBT contributed to the change in symptoms of depression. However, careful interpretation is required to explain the minimal change in symptoms reported by the TAU group. Informal reports from patients, and the author's observations, suggest three major reasons for the findings of the TAU group, namely technical difficulties, failure to monitor the TAU group's progress appropriately, and a lack of understanding of commitment in research. First, in terms of technical difficulties, patients in the control group failed to visit their psychiatrists regularly. Reasons given included side-effects of medication, long queues for an appointment, long waits at the clinic, transportation and location difficulties, simply forgetting the appointment date, and non-compliance with medication regimes. Second, in this study the researcher had little contact with the TAU group, only requesting that assessment measures be completed and returned at the assigned points, and informing the patients that they may seek any treatment for their depression. Finally, in terms of inadequate commitment in research contribution, there were informal reports among patients and family members that the patients did not clearly understood the reasons for filling in the questionnaires. This may be due to the lack of regular contact with the researcher and the lack of regular monitoring of the TAU patients.

Many TAU+GCBT patients reported that they were unlikely to miss any appointments with their psychiatrists, because they could change the appointment date to the same day as their therapy program. A therapeutic alliance appeared to develop throughout the sessions, and group processes (supporting and motivating each member; sharing their experiences) contributed to the success of the TAU+GCBT group. Interestingly, the lack of change in the TAU group does not imply that pharmacotherapy is not effective in treating MDD. This is simply because the TAU group in this study was not the same as the drugs trials reported in the literature. Further experiments are not needed to clarify the role of TAU in the treatment of MDD in Malaysia.

The findings of the current study make a significant contribution to both research and clinical practice, with respect to the treatment of depression. The results particularly suggest that GCBT is applicable not only in Western populations, but also Eastern populations; particularly for Malays in Malaysia. First, in terms of clinical implications, the group format therapy allows patients to encourage, correct, and motivate each other. Members tend to have negative thoughts, beliefs, or maladaptive behaviours regarding their problems, but are able to deal with these with help from their peers and by using the cognitive techniques that they learn during the sessions. Second, in terms of cultural issues, it has been

reported that many Malays are quite reserved with respect to expressing psychological problems [46], but tend to display characteristics of loyalty and obedience [47]. Therapists should be aware of this characteristic of Malay individuals and use cultural sensitivity. Compared to Western societies, Eastern populations (particularly Malays) do not easily or commonly associate their depression with thoughts. The idea that mood, cognitions, and behaviour, are associated with depression is rarely discussed in Eastern populations [35]. Therefore, at the beginning of the GCBT sessions, it was expected that patients would not be expressive and that discussions about thoughts would be difficult. However, by using simple language in the client's own dialect, and clear interpretation and examples, these issues can be overcome. Thus, by understanding the cultural and religious factors of the Malay population, therapists can attain optimal results that are beneficial to patients. One of the strengths of this study is that the research design has been clearly stated, and thus, future researchers can readily replicate the method and subsequent findings. Nathan, Stuart, and Dolan [48] note that one criterion for study efficacy is the inclusion of an appropriate control condition. The use of a treatment manual, a competent CBT therapist, and specific measures of pathology, (such as the ATQ and the DAS), all provide support for the efficacy criteria mentioned by Nathan and his colleagues [48].

This was the first study to compare treatment outcomes for a TAU+GCBT group with a TAU group, and the first to have assessed changes in two cognition measures in Malaysia; specifically using a Malay population. This study can be generalised to all Malays in Malaysia, because participants were recruited from both the east and west coasts of the Malaysian peninsular. In contrast to Western studies, the number of drop-outs from the study group was very low, which is consistent with the findings of a local psychotherapy study that Malays tend to show loyalty and obedience [49]. This finding might also signify that psychological treatment is acceptable for patients, or perhaps, merely because patients were given breaks and refreshment from time to time during the sessions.

In summary, consistent with studies using Western populations, this study has provided results which support the application of GCBT for the treatment of major depressive disorders or dysthymia in Malaysia. Specifically, results from this study confirm that GCBT is an effective intervention for Malays suffering from mood disorders.

Acknowledgements

Special thanks go to all participants in this study, all of the nurses in the psychiatry departments for their kind heart in assisting this project to the end.

References

1. Freeman A, Oster CLL. Cognitive therapy and depression. In V. E. Caballo (Ed.), International Handbook of Cognitive and Behavioural treatments for psychologicaldisorders. 1998; Oxford: Elsevier Science Ltd.
2. National Institute of Mental Health. Depression. 2002; Retrieved 29th September 2004 from http://www.nimh.nih.gov.
3. Ohayon MM. Epidemiology of depression and its treatment in general population. J Psychiatr Res.2007; 41 (3-4): 207-13.

4. World Health Organization. Depression.2005; Retrieved 15th May 2005 from http://www.who.int/mental_health/depression/definition.
5. Chiu E. Epidemiology of depression in the Asia Pacific region. Australasian Psychiatry,2004; 12: 4-10.
6. Deva MP. Depressive illness - the need for a paradigm shift in its understanding and management. Malaysia Medical Journal.2006; 61(1)
7. Jamaludin N. Kesihatan Mental: Kemurungan. [Mental Health: Depression] Harian Metro. 2006; 9 April 2006.
8. Malaysian Psychiatric Association. Consensus statement on management of depression.Community programme on depression. 2004; Retrieved 9th August 2004, from http://www.psychiatry-malaysia.org/html.
9. American Psychiatric Association. Practice Guideline for the treatment of patients with major depressive disorder (revision). Am J Psychiat. 2000; 157: 1-45.
10. Hollon SD, DeRubeis RJ. Effectiveness of Treatment for Depression. In R. L. Leahy (Ed.), Contemporary Cognitive Therapy: Theory, Research, and Practice.2004; New York: The Guildford Press.
11. Strunk DR, DeRubeis RJ. Cognitive Therapy for Depression: A Review of Its Efficacy. J Cognitive Psychother. 2001; 15: 289-345.
12. Beck AT, Steer RA, Garbin MG. Psychometric properties of the Beck Depression Inventory: Twenty-five years of evaluation. Clin Psychol Rev. 198*8;* 77-100.
13. Dobson KS. A meta-analysis of the eficacy of cognitive therapy for depression.
J Consult Clin Psychol. 1989; 57(3): 414-419.
14. Butler AC, Chapman JE, Forman EM, Beck AT. The empirical status of cognitive-behavioral therapy: A review of meta-analyses. Clin Psychol Rev.2006; 26: 17-31.
15. Haaga DA, Dyck, MJ, Ernst D. Empirical status of cognitive therapy of depression. Psychol Bull.1991;110(2): 215-236.
16. Kwon S-M, Oei TPS. Roles of two levels of cognition in the development, maintenance and treatment of depression. Clin Psychol Rev.1994; 143: 331-358.
17. Oei TPS, Bullbeck K, Campbell JM. Cognitive change process during cognitive behaviour therapy for depression. J Affec Disorder.2006; 92: 231-241.
18. Robinson LA, Berman JS, Neimeyer RA. Psychotherapy for the treatment of depression: A comprehensive review of controlled outcome research. Psychol Bull. 1990; 108(1): 30-49.
19. DeRubeis RJ,Crits-Christoph P. Empirically supported individual and

group psychological treatments for adult mental disorders. J Consul Clin Psychol.1998; 66: 37-52.

20. Warman DM, Grant P, Sullivan K, Caroff S, Beck AT. Individual and group cognitive behaviour therapy for psychiatric disorder: A pilot investigation. J Psychiat Pract. 2005; 11(1): 27-34.

21. Zettle RD, Haflich JL, Reynolds RA. Responsivity to cognitive therapy as a function of treatment format and client personality dimensions. J Clin Psychol. 1992; 48(6): 787-797.

22. Tang CS-K, Lee A. Behavior Therapy in Hong Kong. In T. P. S. Oei (Ed.), Behavior Therapy and Cognitive Behavior Therapy in Asia. 1998; New South Wales: Edumedia Pty Ltd.

23. Luk S, Kwan CSF, Hui JMC, Bacon-Shone J, Tsang AKT, Leung AC, et al. Cognitive-behavioural group therapy for Hong Kong Chinese with mental health problems. Australian and New Zealand Journal of Psychiatry.1991; 25: 524-534.

24. Shen EK, Alden LE, Sochting I, Tsang P. Clinical observations of a Cantonese Cognitive-Behavioral Treatment Program for Chinese Immigrants. Psychotherapy: Theory/Research/Practice/Training.2006; 43: 518-530.

25. Qian M, Chen Z. Behavior Therapy in The People's Republic of China. In T. P. S. Oei (Ed.), Behavior Therapy and Cognitive Behavior Therapy in Asia.1998; New South Wales:Edumedia Pty Ltd.

26. Hadiyono JP. Behavior Therapy in Indonesia. In T. P. S. Oei (Ed.), Behavior Therapy and Cognitive Behavior Therapy in Asia. 1998; New South Wales: Edumedia Pty Ltd.27. Prasadarao PSDV. Behavior Therapy in India. In T. P. S. Oei (Ed.), Behavior Therapy and Cognitive Behavior Therapy in Malaysia.1998; New South Wales: Edumedia Pty Ltd.

28. Sakano Y. Behavior Therapy in Japan. In T. P. S. Oei (Ed.), Behavior Therapy and Cognitive Behavior Therapy in Asia.1998; New South Wales: Edumedia Pty Ltd.

29. Mukhtar F, Oei TPS. Depression in Malaysia: A comprehensive literature Review. Thesis dissertation for PhD. 2007. University of Queensland, Australia.

30. Azhar MZ, Varma SL. Religious psychotherapy with depression patients. Psychother Psychosom. 1995; 63(3-4): 165-173.

31. Razali SM, Hasanah CI, Aminah K, Subramaniam M. Religious-sociocultural psychotherapy in patient with anxiety and depression. Aust NZ J Psychiat. 1998; 32(6): 867-872.

32. Woon TH, Teoh CL. Psychotheraputic management of a potential spirit medium.Aust NZ J Psychiat. 1976; 10: 125-128.

33. Oei TPS. Mukhtar F .Exploratory and confirmatory factor analysis and psychometric properties of Automatic Thoughts Questionnaire for Malays in Malaysia. Hong Kong

Journal of Psychiatry. 2008; 18: 92-101.

34. Hollon SD, Kendall PC. Cognitive self-statements in depression: Development of an automatic thoughts questionnaire. Cog Ther Res. 1980; 4: 383-395.

35. Mukhtar F, Oei TPS. Exploratory and confirmatory factor validation of the Dysfunctional Attitude Scale for Malays (DAS-Malay) in Malaysia", Asian J Psychiat. 2010;3 (3):145 -151.

36. Weissman AN, Beck AT. Development and validation of the Dysfunctional Attitude Scale: A preliminary investigation.1970. Paper presented at the Paper presented at the meeting of the Association for the Advancement of Behavior Therapy, Chicago.

37. Oei TPS. CBT Mood Disorder Day Treatment Program Work Book.2002; Toowong, Queensland: Toowong Private Hospital.

38. Beck AT, Ward CH, Mendelson M, Mock J, Erbaugh J. An Inventory for Measuring Depression. Arch Gen Psychiat. 1961; 4: 53-63.

39. Kendall PC, Flannery-Schroeder EC, Ford JD. Therapy outcome research methods. In P. C. Kendall, J. N. Butcher & N. Holmbeck (Eds.), Handbook of research methods in clinical psychology (2nd ed ed.).1999; Hoboken, NJ, US: John Wiley & Sons, Inc.

40. Cohen J. Statistical power analysis for the behavioral sciences (2nd ed ed.). 1988; Hillsade,NJ: Lawrence Earlbaum Associates.

41. Jacobson NS, Truax P. Clinical Significance: A Statistical Approach to Defining Meaningful Change in Psychotherapy Research. J Consult Clin Psychol. 1991; 59: 12-19.

42. Kwon S-M, Oei TPS. Cognitive change processes in a group cognitive-behaviour therapy of depression. J Beh Ther Exper Psychiat.2003; 34: 73-85.

43. Oei TPS, Dingle G. Cognitive and biochemical processes in depressed adult outpatients: A test of the circular process model. J Beh Ther Exper Psychiat.2001; 32: 91-104.

44. Oei TPS, Browne A. Components of Group Processes: Have They contributed to the Outcome of Mood and Anxiety Disorder Patients in a Group Cognitive-Behaviour Therapy Program? Am J Psychother. 2006; 60: 53-70.

45. Oei TPS, Sullivan LM. Cognitive changes following recovery from depression in a group cognitive behaviour therapy program. Aust NZ J Psychiat. 1999; 33: 407-415.

46. Furlong M, Oei TPS. Changes to automatic thoughts and dysfunctional attitudes in group CBT for depression. Beh Cog Psychother, 2002; 30: 351-360.

47. Razali SM, Najib MAM. Help-seeking pathways among Malay psychiatric patients. Int J Soc Psychiat.2000; 46: 281-289.

48. Nathan PE, Stuart SP, Dolan SL. Research on Psychotherapy Efficacy and Effectiveness: Between Scylla and Charybdis ? Psychol Bull. 2000; 126: 964-981.

49. Razali SM. Masked Depression: An ambigious diagnosis. Aust NZ J Psychiatry. 2000; 34: 167.

Corresponding Author: ***Dr Firdaus Mukhtar, Lecturer, Department of Psychiatry, Faculty Medicine and Health Sciences, Universiti Putra Malaysia, 43400 Serdang, Selangor, Malaysia.***

E-mail: drfirdaus@medic.upm.edu.my.

Received: 17 February 2011 Accepted: 16 Mac 2011