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Does starting with the behavioural component of cognitive behavioural therapy (CBT) increase patients' retention in therapy?

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Abstract

This study examined whether starting with the behavioural component of cognitive behavioural therapy (CBT) decreases the drop-out rate in outpatients with co-morbid anxiety and depression. Retrospective data were collected on sixty patients with anxiety and depression. Mean values of different psychosocial assessment scales during screening, mid-session and discharge session were compared between the patients receiving and not receiving any type of behavioural interventions and among the patients receiving different types of behavioural interventions. A significant relationship was found ($p < 0.05$) between behavioural interventions and retention in therapy. Patients who did not receive any sort of behavioural intervention showed a greater rate of drop-out than those who received behavioural interventions. In the group of patients receiving different types of behavioural interventions, there was significant improvement in mental health scores between the screening and discharge sessions in those who received exposure therapy. The study findings will be helpful to retain patients with co-morbid anxiety and depression in an out-patient therapy setting. If patient retention is increased, CBT can be more effectively delivered and thereby achieve better health outcomes for patients, more effective use of therapy service resources, and decrease the socioeconomic burden of anxiety and depression on the community.

Key Words: Cognitive behavioural therapy (CBT); drop-out; co-morbidity; anxiety; depression; exposure therapy; behavioural activation

Does starting with the behavioural component of cognitive behavioural therapy (CBT) increase patients' retention in therapy?

Cognitive Behavioural Therapy (CBT) has been being successfully used in a wide variety of conditions like anxiety disorders, mood disorders, psychosis, eating disorders and substance abuse (Wright, Basco, & Thase, 2006). Our thoughts, emotions, physical sensations and behaviours are related to each other. CBT is based on two central views. One is by changing negative thought patterns one can improve emotions as well as maladaptive behaviours. The other view is, if we can change our maladaptive behaviours we can modify our erroneous thought patterns too. CBT targets the combination of cognitive restructuring and behavioural interventions (Barlow, 2002). Behavioural approaches were advanced by Ferster (1973) and Lewinson (1974). These therapists recognised the link between avoidant behaviour and depression and proposed behavioural activation strategies to increase the person's experience of positive reinforcement from the environment. While cognitive approaches have tended to dominate the field since Beck's similar work in this area, a number of studies have clearly found behavioural approaches to be as effective as cognitive therapy (Gortner, Gollan, Dobson, & Jacobson, 1998; Jacobson, Dobson, Truax, & Addis, 1996). Dimidjian and colleagues (2006, pp. 667-668) found strong evidence that behavioural approaches "are sufficient to produce symptom change [for depressed patients] irrespective of whether improvement is mediated by cognitive change or not". This was especially so for the more severely depressed clients. Their work clearly challenged existing clinical guidelines for the treatment of depression and it also challenged the long-held assumption that "directly modifying negative beliefs is essential for change". Beck and colleagues (1995a) suggested that behavioural strategies should be used early in treatment and revisited later in treatment if symptoms worsen. Despite the availability of these evidence-based options there is no specific guideline about the appropriate timing of behavioural and cognitive interventions in order to implement therapy successfully and to increase patients' motivation to stay in the therapy. Also, more research is needed to understand the mechanisms of change; a view supported by others (Dimidjian et al., 2006).

Treatment Drop-out

Twenty to fifty-seven percent of the patients in general psychiatric clinics fail to return after the first visit (Baekeland & Lundwall, 1975). Several studies have showed that 30-50% of those scheduled for

treatment either fail to commence or to complete treatment (Wierzbicki & Pekarik, 1993; Bostwick 1987; Macharia, Leon, Rowe, Stephenson, & Haynes, 1992; Killapsy, Banerjee, King, & Lloyd, 2000; Berghofer, Schmidi, Rudas, Steiner, & Schmitz, 2002; Morlino, Martucci, Musella, Bolzan, & De Girolamo, 1995; Grunebaum et al., 1996; Coles, Turk, Jindra, & Heimberg, 2004). Studies of treatment attrition for people with anxiety disorders are not well reported, but studies have found that nearly 50% of people who are scheduled for treatment either fail to commence or to complete treatment (Grunebaum et al., 1996; Coles et al., 2004).

The definitions used for drop-out vary (Bados, Balaguer & Saldaña, 2007; Baekeland & Lundwall, 1975): ending the treatment prior to achieving the proposed therapeutic objectives, stopping therapy against the therapist's advice or without discussing with the therapist, and being absent in a scheduled appointment and in spite of having been sent a reminder not requesting a new one (Bados et al., 2007). Many studies have defined drop outs in terms of number of therapy sessions attended or treatment duration (Wierzbicki & Pekarik, 1993) and some excluded the definition if the patients failed to attend at least 3 sessions (Baekeland & Lundwall, 1975). In spite of variations in the definition of drop-out in different studies, it is universally accepted that drop-out causes major problems for the patient, the therapist and the whole health system (Bados et al., 2007; Trepka 1986; Baekeland & Lundwall, 1975). Treatment drop-out represents a definite problem for the delivery of effective and efficient care for mental disorders (Bebbington et al., 2000; Kessler et al., 2001; Edlund et al., 2002).

Although CBT has emerged as a widely used and effective treatment for a variety of psychological conditions (Farmer & Chapman, 2008), treatment drop-out is still a common problem in CBT, with little understanding of the reasons for drop-out (Bados et al., 2007). CBT drop-out rates of more than 43% have been reported (Trepka 1986; Persons, Burns & Perloff, 1988).

It appears that the main reasons of drop-out are improvement of the condition or perhaps, frustration with some portions of treatment in spite of the improvement (Mueller & Pekarik, 2000). Good contact of referrers with psychologists seems to prevent early drop-outs (Trepka, 1986). While investigating the reasons for drop-out [population type, etc], Bados et al., (2007) found that 46.7% of drop-outs were due to low motivation and/or frustration with the treatment or the therapist, 40% because of some difficulties like transport problems, moving house, new responsibilities, etc., and

13.3% because of improvement in mental health status and patient perception of no longer needing therapy. They also mentioned that patients' drop out was not related to patients' age, sex, marital status, employment status, duration of their disorder, use of psychotropic medication, number of previous attempts to resolve their problems, having received previous treatment or not, or the type of treatment received. Whereas some authors argued that drop out is strongly related to patient's socio economic status, female gender, mild problem etc (Wierzbicki & Pekarik, 1993).

Several studies showed that the majority of drop-outs occur during the early stages of treatment (Bados et al., 2007; Trepka, 1986). Bados et al., (2007) also suggested that many patients do not find the appropriate help they are seeking or do not feel comfortable while working with the therapist. Lack of patient satisfaction, unmet patient expectations and poor outcomes have been cited as some of the most important reasons of drop out in the first few sessions (Wierzbicki & Pekarik, 1993). Baekeland and Lundwall, (1975) posed another question focusing on the reasons of drop-out: "Does dropout simply mean that the patient abandons treatment or is the patient abandoned or pushed out of it?" Whatever the cause of drop-out is, it reflects a collapse in the delivery of treatment (Bebbington et al., 2000; Straker, 1968) and means that the patient did not receive the appropriate treatment or the probable benefit of a mutually decided termination (Bebbington et al., 2000).

In spite of variations in the definition of drop-out in different studies, it is universally accepted that drop-out causes major problems for the patient, the therapist and the whole system (Baekeland and Lundwall, 1975).

Although the question of altering the therapeutic intervention or approach in CBT, in order to decrease drop-out, has been posed, no study has been done to find out what alterations can be done or no clear result has been found regarding the specific way to be taken to change intervention in order to decrease drop-out.

Co-morbid Anxiety and Depression and Drop-out

The symptoms of anxiety and depression can overlap, or enhance each other. In depression low activity in approaching is a consequence of higher withdrawal. This leads depression to be associated with anxiety (Davidson & Sutton, 1975; Wittchen & Essau 1993; Rouillon 1999). The blend of anxiety and depressive features is perhaps the commonest emotional disorder seen in psychiatric outpatient departments (Mountjoy & Roth, 1982; Hirschfeld, 2001; Issakidis & Andrews, 2004). According to some studies (Scott et al., 2007; Kessler & Ustun, 2004; Scott, McGee, Browne & Wells, 2006), 50% of the people with a current mood disorder also have a comorbid anxiety disorder. Whereas according to others depression and anxiety co-occur with one another up to 50% of the time (Mountjoy & Roth, 1982; Lowe et al., 2008). Co-morbid depression or depressive symptoms with anxiety disorders are associated with higher probability of pre-treatment attrition, dropout and increased utilization of medical services (Hirschfeld, 2001; Issakidis & Andrews, 2004). Even among those with a primary anxiety disorder, severity of co-morbid depressive symptoms predicted both pre-treatment attrition and dropout (Issakidis & Andrews, 2004).

Patients with co-morbid anxiety and depression have more social impairment than patients with a pure diagnosis of only depression (48%) or anxiety (19%) (Wittchen & Essau, 1993). According to the Munich follow-up study (Wittchen & Essau, 1993) patients with co-morbid anxiety and depression (51%) utilised mental health services more than patients with pure anxiety disorder (14%) or depression (35%). Therefore increasing the retention of this group into the service can ensure the delivery of the service and thereby reduce associated illness burden.

Depression is related to lack of motivation (Miller, 2007). Therefore when depression is present with anxiety, the lack of motivation can also affect the motivation to stay with the therapy and this may increase drop out rates. The question is how to increase their motivation and retention?

Social isolation can cause anxiety like behaviours (Barrot et al., 2005). Therefore gradual enhancement of socialization expected to act as a strong motivator. This is especially important for targetting avoidance behaviours which have been proposed as a fundamental phenomenon problem underlying many mental illnesses (Barlow, Allen, & Choate, 2004). By blocking avoidance, the immediate success of the performance increases the expectation as well as the motivation (John & Birch, 1978).

Likewise modification in negative automatic thoughts and core beliefs can promote adaptive behaviours. Therefore it is often essential to blend cognitive and behavioural techniques (Wright et al., 2006) and the therapist faces a challenge regarding the choice and timing of the CBT interventions (Beck et al., 1995a).

At the commencement of therapy, patients are usually interested in making changes and usually want clear information and steps to making those changes. Therefore if the therapist suggests behavioural action, the patient takes it as a sign that he or she can move forward with the help of the therapist and it stimulates their hope for recovery (Wright et al., 2006). Moreover, immediate success is related to retention (John & Birch 1978; Higgins, Shah, & Friedman, 1997) and this also helps to increase self efficacy by increasing positive affect (Izadikha & Jackson, 2011).

On the other hand cognitive intervention works by altering thought patterns and core beliefs. Impaired mood affects comprehension and judgment (Ellis, Ottaway, Varner, Becker & Moore, 1997). The induction of a depressed-mood state can produce poorer recall (Ellis et al., 1997). Therefore this initial stage of lack of judgment, comprehension and recall can affect cognitive interventions (Wright et al., 2006). Depressed patients may require behavioural techniques prior to cognitive techniques to elicit cognitions (Beck et al., 1995a).

Beck stated *"In the early stages of cognitive therapy, it is often necessary for the therapist to concentrate on restoring the patient's functioning to the premorbid level"* (Beck et al., 1995b). *These forms of behaviors are generally instruments for achieving satisfaction and maintaining one's self esteem"* (Wright et al., 2006). When self esteem starts to develop and the patient gets confidence back, they get rid of the labelling of 'ineffectual' and get the encouragement to work. Therefore starting with behavioural techniques can form the background for further cognitive interventions. Moreover the initial adaptation of expected behaviours is likely to increase motivation and thereby reduce drop-out. Though many studies support this idea, no study has been done so far to see the effect that starting with behavioural components of CBT has on increasing retention of patients in therapy.

This study examined whether starting with the behavioural component of CBT decreases the drop-out rate in outpatients with co-morbid anxiety and depression at CARD. It also compared the differences in mood and level of functioning at different stages of therapy after getting different types of behavioural interventions in order to find out more about the specific paths taken to change intervention in order to decrease drop-out.

Methods

Study Site

The Centre for Anxiety and Related Disorders (CARD) is situated at Flinders Medical Centre (the teaching hospital of Flinders University) in South Australia. CARD provides CBT to patients with anxiety and depression that are referred by social workers, nurses, general practitioners, psychiatrists and other sources. These patients are diagnosed and managed at CARD by qualified CBT therapists and trainee therapists under their supervision. In the first session at CARD, therapists do the diagnosis through a structured questionnaire on the basis of DSM-IV (*Diagnostic and statistical manual of mental disorders*, 2000) criteria. Different measurements and questionnaires are used at different stages of therapy to monitor the condition and progress of patients. They include the Kessler Psychological Distress Scale (K10) (Kessler et al., 2002), fear questionnaire (Marks & Mathews, 1979), Depression Anxiety Stress Scale (DASS-21) (Henry & Crawford, 2005) and Work and Social Adjustment Scale (WSAS) (Mundt, Marks, Shear & Greist, 2002). These are used usually during the screening, mid assessment and discharge sessions.

Measures

The scales used in this study were the anxiety-depression scale of the Fear Questionnaire and Work and Home Management Scales of the WSAS. The aim of the therapy was to measure patients' current mood and functionality in three different stages of the therapy; not patients' anxiety level. The K10 is a widely used measure to see patients' distress level but it includes questions about the last four weeks and, as in CBT where they get weekly therapy it does not indicate the current condition in that particular stage of the therapy. The DASS-21 has been being used at the CARD for the past two years only. As the study included case notes from the last 12 years, the DASS-21 data for all study participants were not available for analysis. This is why the K10 and the DASS-21 were not taken as the measures to see the patients' existing mental state.

The Fear Questionnaire has two different parts: the phobic scale reflects the phobic condition of a patient and the anxiety depression scale explains the non phobic symptoms of phobic people (Marks & Mathews, 1979). This describes mainly the overall mood of people. As the study tried to see the change in patients' mood and motivation, only the anxiety depression scale was used.

The WSAS illustrates one's functionality; therefore this scale was also examined. The WSAS has 5 scales; among them only the work and home scales were taken as a person's functioning and mental state mostly revolves around his or her home and work environment (Backontrack, 2010). It was originally developed and validated for mental health populations (Mundt et al., 2002).

The patients' journey through CARD was studied using retrospective case note data tracking (Tomison & Goddard, 1999). Retrospective data were collected on sixty patients with co-morbid anxiety and depression from CARD for those patients who received therapy services over the period 1998 to 2009. Inclusion criteria included patients who completed at least four sessions of CBT or full therapy. At CARD the first two sessions focus mainly on assessment, and setting up problem and goal statements; the third session is usually the first treatment session. Therefore patients who dropped out before the fourth session were not expected to have done any home work task related to the therapy. That is why patients who have done less than four sessions are not included in this study.

Due to different cognitive impairments patients with psychosis were excluded. Patients with generalized anxiety disorders were excluded due to the invasive nature of the disorder. As adjustment disorders have different type of symptoms and progress than other anxiety disorders, this type of disorder was also not included in the study. Likewise, patients with only anxiety or only depression did not fulfil the inclusion criteria. New learning and cognitive processes are hampered by substance abuse; therefore patients with substance abuse were also excluded.

The first sixty patients according to the alphabetic order of their surnames who completed at least four sessions of CBT or full therapy were selected for data collection. Patients who had incomplete data were not considered for data collection.

Data were collected on age, sex, occupation, education, mental status, diagnosis, therapy completion, intervention types, number of sessions done and components within the WSAS (enjoyment at work scale; enjoyment at home) and the anxiety depression scale of the fear questionnaire. CARD preserves data on these variables under five different sources namely: (i) Patient Referral Record; (ii) Behaviour and Cognitive Screening Assessment Form; (iii) Progress notes / Target sheet / Homework sheet; (iv) WSAS; and (v) Fear Questionnaire. The study protocol was submitted to the Flinders Clinical Research Ethics Committee for approval. Individual patient consent was deemed as not required given research output was based on pooled data from a retrospectively sourced clinical database. Identification information of patients was not collected or disclosed. A data extraction form was developed to record data in a de-identified way to analyse in a statistical way from the above five sources. All data were entered into and analysed using SPSS (SPSS Inc. 2008) software.

Data Analysis

Descriptive analyses of characteristics of study patients' mental status, diagnosis, therapy, sessions and interventions were conducted. Mean values of the 'enjoyment at work' and 'enjoyment at home' components in the WSAS and the anxiety depression scale of the fear questionnaire during screening, mid-session and discharge session were estimated. The estimated mean values were compared between the patients receiving and not receiving any type of behavioural interventions and among the patients receiving different types of behavioural intervention. Paired sample t tests were conducted to find out statistical differences between screening and mid-session and between screening and discharge session.

Results

Table 1 shows background characteristics of the study patients who fulfilled study selection criteria. Participants received services at CARD during 1998-2009. Average age of the 60 patients was 36.6 years. The oldest patient was 70 years old and the youngest was 19. The majority of patients were

female (63.3%). Sixty percent of patients were unemployed. Only 12.3% were employed in full time jobs, with 8.8% being employed part-time. With regard to education, 56% had 11-12 years education. 25.6% had less than 10 years of education and 19% had more than 12 years of education.

Insert Table 1 here

Table 2 provides information on mental states of the participants at initial assessment. This information on mental state was done through patient interview at the first session using a structured questionnaire. The patients reported the levels of their mental states. Low current mood, poor memory and poor concentration were found in most of the patients. The majority of patients had disturbed sleep (75.4%) and most had changes in appetite and weight related to their mental state. Eighty five percent felt lack of energy and 67% had decreased libido. Among the 61.4% patients who had any history of suicidal ideation or attempt or self harm; this was current in 56% of cases.

Insert Table 2 here

Frequency of different types of diagnoses is shown in Table 3. One fourth of patients had depression and social phobia. Depression with obsessive compulsive disorder (OCD) and depression with panic disorder (PD) with agoraphobia were 11.7% and 10.0% respectively. A similar percentage (8.3%) of the patients had depression with post traumatic stress disorder (PTSD) and depression with panic disorder without agoraphobia. Only a few patients had other diagnoses (Table 3) or different combinations of diagnoses. In 1.7% cases, classification of anxiety was not specified.

Insert Table 3 here

The mean number of days patients were in therapy was 144 (range:28-413). The mean number of total sessions attended was 11 (range: 4-32). Out of the 60 patients, 68.3% completed therapy and 73.3% received different types of behavioural interventions. The drop- out was 31.7%, which is similar to the drop-out rate found across psychiatric practice generally in Australia and overseas (Trepka, 1986; Persons et al., 1988). Exposure therapy, behavioural activation, cue exposure and response prevention, social skills training, problem solving and maintaining a sleep diary were the different types of behavioural interventions used. Among these interventions the most frequently used were exposure therapy (70.5%) and behavioural activation (34.0%).

At CARD the first session is for assessment and the second session is for formulation of a problem and goal statement. In the third session, which is the first treatment session, the therapist and the patient decide and agree on the home work the patient is expected to do before the fourth session. From the perspective of CARD's therapy approach, patients are not expected to have the effect of therapy before the fourth session. For that reason, definition of drop-out for this research did not include the patients who left therapy before the fourth session. In a study conducted by Baekeland and Lundwall, (1975), the authors did not include patients who attended less than three sessions in their definition of drop-out.

Among the completers, 68.3% did their first behavioural home work by the fourth session and only 10.6% of the non-completers did it by the fourth session (Table 4). Therefore early behavioural intervention may have played a role in patient retention. Among the completers, the percentage of people not getting any behavioural intervention (with or without cognitive therapy) was 4.9, whereas the percentage in the non-completers was 73.7. A significant relationship was found ($p < 0.05$) between behavioural interventions and retention. Therefore patients who did not receive any sort of behavioural Intervention when comparing the completers and non-completers showed a greater rate of drop-out than those who received behavioural interventions.

Insert Table 4 here

Interpretation of three measurement scales

Enjoyment at work scale

In this scale patients are asked to rate their impairment of the ability to work due to their problem, on a scale from 0 to 8. In this scale 0 means 'not at all' impaired and 8 means 'very severely' impaired. As shown in figure 1a there was no change in this scale for patients not getting any type of behavioural interventions and significant changes were not found between mean differences of screening assessment and mid sessions; also between screening and discharge sessions for these patients (Table 5). In patients receiving behavioural interventions, a gradual decline in the scale was observed from screening to mid-assessment then to discharge session. Significant differences were observed between the sessions (Table 5). This indicated that as therapy progressed patients receiving behavioural interventions started enjoying their work environment and they maintained this

improvement till discharge. Patients not receiving behavioural interventions did not enjoy their work environment more than before they received therapy.

Insert Table 5 here

Among those getting behavioural interventions, the mean scores at screening, mid session assessment and discharge sessions for patients who received exposure therapy were 5.38, 4.83 and 3.1 respectively. For those who received behavioural interventions other than exposure therapy, their scores were 5.82, 4.56 and 4.15 respectively. This means those who received exposure therapy showed gradual improvement ($p=0.189$) from the screening to the mid assessment session, then the change is more rapid from mid assessment to discharge (Figure 1b). The mean differences between screening and discharge sessions were more significant for patients who received exposure therapy than for those who received behavioural interventions but not exposure therapy (Table 5). Patients getting behavioural interventions but not getting exposure therapy showed rapid change from screening to mid assessment, but then from mid assessment to discharge the change was very slow.

Insert fig 1a, 1b & 1c here

Patients receiving behavioural activation and those getting behavioural interventions other than behavioural activation showed almost similar rate of improvement in these three sessions (Figure 1c). Mean differences between screening and discharge sessions were more significant in patients who received behavioural intervention other than behavioural activation than those who received behavioural activation ($p=0.031$ vs 0.000).

Enjoyment at home scale

In this scale patients are asked to rate their impairment of home management due to their problem, on a scale from 0 to 8. In this scale 0 means 'not at all' impaired and 8 means 'very severely' impaired. Figure 2a illustrated that those who received behavioural interventions showed gradual improvement from screening to mid assessment session ($p=0.005$) and the improvement between the assessment and discharge session was more significant ($p=0.000$). The scores increased in patients not receiving any behavioural interventions and the increase was significant between screening and discharge session ($p=0.009$). It indicates that these patients had significant deteriorations. Therefore patients

receiving behavioural interventions started enjoying their home environment and maintained this improvement till discharge; whereas patients not getting any behavioural intervention showed deterioration in their state of enjoyment at home.

In Fig 2b, the mean scores in the enjoyment at home scale among patients receiving exposure therapy in screening, mid session assessment and discharge sessions were 4.74, 3.37 and 2.22 respectively. Patients who received behavioural interventions other than exposure therapy had mean scores of 4.64, 3.33 and 3.54 respectively. Mean differences between screening and mid-session and between screening and discharge session were more significant (Table 5) in patients who received exposure therapy than those who received behavioural interventions other than exposure therapy. Therefore it shows patients receiving exposure therapy started enjoying their home environment and maintained this till discharge. Patients getting behavioural interventions other than exposure although started to enjoy their home environment in mid session assessment more than the screening assessment, they did not show any further improvement in this scale even there was a little deterioration from mid assessment to discharge, therefore they did not maintain the improvement.

Insert fig 2a, 2b & 2c here

Patients receiving behavioural activation, showed gradual improvement (Fig. 2c) from screening to mid session assessment ($p=0.02$), but no further improvement after that ($p=0.06$). Who received behavioural interventions other than behavioural activation showed gradual improvement from screening to discharge ($p=0.001$). Therefore patients receiving behavioural activation initially started enjoying their home and then after a certain period did not continue to improve further. Patients receiving behavioural interventions other than behavioural activation continued this improvement from screening till discharge.

Anxiety depression scale of fear questionnaire

In figure 3a patients receiving behavioural interventions showed significant improvement in this scale from screening to mid assessment session ($p=0.000$). They maintained the improvement afterwards till discharge but at a slower rate. The improvement between screening and discharge session was also significant ($p=0.000$). Patients not receiving any behavioural interventions also showed gradual improvement in this scale but the improvements were not significant and less than those getting behavioural interventions. The scores in the three mentioned sessions for patients receiving

behavioural interventions were 27.59, 18.62 and 16.26. For those patients not receiving any behavioural interventions scores were 29.62, 25.33 and 22.50. Therefore patients receiving behavioural interventions showed a decline in their depression more than those not getting any behavioural interventions.

Insert fig 3a, 3b & 3c here

Patients who received exposure therapy showed mean scores of 27.35, 18.69 and 14.6 in screening, mid assessment and discharge sessions respectively in the anxiety depression scale (Fig. 3b). Patients receiving behavioural interventions other than exposure therapy showed initial improvement from screening to mid assessment session but after mid assessment there was deterioration in this scale. The scores were 28.3, 18.38 and 20.18 respectively. Patients who received exposure therapy showed significantly more improvement than the patients who received behavioural interventions other than exposure therapy. Therefore patients receiving exposure therapy started to become noticeably less depressed after starting the therapy and they maintained the improvement till discharge. On the other hand the other group, although showing initial improvement in their mood, deteriorated after the mid assessment session.

Patients receiving behavioural activation (Fig. 3c) showed rapid improvement from screening to mid assessment ($p=0.006$) then they showed marked deterioration after the mid assessment to discharge session. This means patients receiving behavioural activation showed improvement in their depression initially but could not maintain that if they did not get any other behavioural interventions. Patients receiving behavioural interventions other than behavioural activation maintained their improvement from screening till discharge. Mean differences between screening and mid-session and between screening and discharge sessions were statistically significant ($p=0.002$ and $p=0.000$ respectively) for patients receiving behavioural interventions other than behavioural activation.

Discussion

This study examined retrospectively a sample of CARD patients' case notes for those who received CBT; to find out if early behavioural interventions can play a role in patient retention and what role

different interventions had on patients' mood and functioning via various standard scales used at CARD. The study was conducted in an outpatient setting and there were no follow-up data.

Findings showed that most of the study patients (about 60%) were unemployed. As unemployment is related to mental health problems (Sasseville & Grunberg, 1987), this can be one of the reasons for this higher percentage of unemployment among those people with co-morbid anxiety and depression.

About one-third of these patients had social phobia and this is supported by findings from previous studies that social isolation is a major factor for depression (Barrot et al., 2005). People with generalized anxiety disorder, adjustment disorder and psychosis were not included in the study but these diagnoses include a large number of patients seeking therapy. Therefore the findings will not be applicable for all anxiety disorders. In 1.7% of cases the anxiety was unspecified, which might have included these three disorders.

There were 41 therapy completers and 19 drop-outs in this study group. Among the 41 completers a high percentage of patients (95.1%) received some type of behavioural interventions, and among the non-completers a high percentage of patients (73.7%) did not get any type of behavioural interventions. Behavioural attainments could have played a role in creating the motivation to stay in the therapy. This research is not about comparing the effect of cognitive and behavioural therapy but to see the effect of early behavioural interventions. So absence of behavioural interventions does not mean that cognitive therapy was provided. The study did not consider how many patients in the group receiving behavioural interventions received only behavioural interventions and how many received both behavioural and cognitive therapy.

Most of the completers completed their first behavioural home work within four sessions. During data extraction it was found that most of the therapists actually introduced behavioural interventions even before the third session, which in turn reinforced the findings of the study. From the perspective of CARD, it means the majority of the completers' group received behavioural interventions in the beginning. The findings suggest and support the results of other research that

early change in activity during the therapy helps people to develop the hope that they are able to make change in their lives (Wright et al., 2006).

The findings from the three scales used in this study demonstrated that patients receiving behavioural interventions showed marked improvement in their functionality at home and work and also in their mood. Exposure therapy caused more improvements than behavioural activation and other behavioural interventions. These changes may have increased patients' motivation to remain in the therapy. As exposure therapy has demonstrated more improvement in patients' functioning and mood, there is a probability that depression was secondary to anxiety in this co-morbid group. The results also suggest clear benefits related to the timing and sequencing of different behavioural interventions as part of the therapy process. For example behavioural activation needs to be followed by other types of interventions like exposure therapy, once initial behavioural activation is undertaken to help the patient to warm into the process of therapy.

Limitations

A number of limitations should be noted. First, this study was completely focused on the different types of interventions used in CBT and did not explore the effect of other factors proven to be important for patients' motivation and retention such as: therapists' experience, level of established therapeutic relationship, and previous experience of receiving therapy; and patient related factors such as comorbidity, gender, level of education, and age. Second, the use of retrospective data which relied on potentially variable quality of therapists' case-note reporting of activities that occurred with therapy sessions. Third, how patients were assigned to behavioural vs non-behavioural treatment was not random as this decision was made by the therapists who individually would have been systematic. However the differences in outcomes may reflect differences between therapists and/or differences between patients. This latter issue is especially problematic given that therapists may have used "non-behavioral" techniques with some of the more difficult patients. Fourth, the definition of drop-out for this study excluded the patients who left the therapy before four sessions, according to the definition most noted and used by previous studies. Therefore, the results may not capture fully the implications for drop-out of people who attend for less than 4 sessions.

Conclusion

Findings of this study demonstrated that behavioural interventions (with or without cognitive therapy) can help to decrease the drop-out rate in CBT in outpatients with co-morbid anxiety and depression. Early behavioural interventions can cause significant improvement in patients' mood and functioning. Exposure therapy among different behavioural interventions was found to be the most effective in improving patients' functionality and mood during the therapy. The study findings will be helpful to therapists wishing to retain patients with co-morbid anxiety and depression in therapy in out-patient settings. If patient retention is increased, CBT can be more effectively delivered and thereby achieve better results for patients, more effective use of therapy service resources, and decrease the socio economic burden of anxiety and depression on the community.

Patients who did not receive any behavioural interventions might have been offered behavioural interventions but were not able to do them or may have refused for some reasons; further exploration is needed in this regard. The effect of the combination of behavioural and cognitive therapy was not explored. Additional research could be conducted to explore and examine this effect. Similar research conducted in inpatient settings would also be useful in understanding how to deliver more effective therapy to patients in that context. Given the limited time and training needed to implement behavioural activation (Jacobson, et al., 1996; Hopko et al., 2003) and the implications for using peer and paraprofessionals to deliver such treatments, combined with increasing pressures on mental health service systems internationally, further exploration of behavioural approaches are warranted.

Disclosure statement

The authors declare no conflict of interest

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Table 1 Background characteristics of the study patients

Age	
Mean	36.67
Maximum	70
Minimum	19
Sex	
Male	36.7%
Female	63.3%
Occupation	
Unemployed	59.6%
Employed	12.3%
Part-time work	8.8%
Student	7.0%
Business	5.3%
Volunteer	3.5%
Self-employed	1.8%
Casual	1.8%
Education	
<= 10 years	25.6%
11-12 years	55.8%
>=13 years	18.6%

Table 2 Mental state examination of patients at initial assessment

Mental states	Status	Percentage
Current mood	Low	87.5
	Normal	12.5
Memory	Poor	78.4
	Normal	21.6
Concentration	Poor	79.6
	Normal	20.4
Sleep quality	Normal	22.8
	Disturbed	75.4
	Hypersomnia	1.8
Appetite	Normal	43.8
	Poor	43.8
	Increased	12.5
Weight loss gain	Loss	28.2
	Gain	33.3
	No change	38.5
Fatigue and energy	Normal	14.8
	Poor	85.2
Libido	Normal	33.3
	Poor	66.7
Suicidal ideation, attempt / self harm	Present	61.4
	Absent	38.6
Suicidal ideation, attempt / self harm if present*	Current	55.9
	Past	44.1

* Among the patients who had suicidal ideation, attempt / self harm

Table 3 Diagnoses of patients

Name of diagnosis	Percentage
Depression & Social Phobia	25.0
Depression & OCD	11.7
Depression & PD with Agoraphobia	10.0
Depression & PTSD	8.3
Depression & PD without Agoraphobia	8.3
Depression & PD without Agoraphobia & Social Phobia	6.7
Depression, PTSD & Social Phobia	5.0
Depression & PD without Agoraphobia & OCD	3.3
Depression, Social Phobia & Specific Phobia	3.3
Depression, Social Phobia & OCD	3.3
Depression, PTSD & Agoraphobia	1.7
Depression, PTSD & PD with Agoraphobia	1.7
Depression, Agoraphobia & Social Phobia	1.7
Depression & PD with Agoraphobia & Social Phobia	1.7
Depression & PD with Agoraphobia & OCD	1.7
Depression, Social Phobia & Somatoform Disorder	1.7
Depression & specific phobia	1.7
Depression & anxiety	1.7
Depression & Somatoform Disorder	1.7
Total	100

Table 4 Therapy completion, types and stages of behavioural intervention

Category	Sub-category	%
Therapy completion (n=60)	Completed	68.3
	Not completed	31.7
Total number of sessions attended (n=60)	Mean total number of sessions attended	11
	Maximum number of sessions attended	32
	Minimum number of sessions attended	4
Interventions (n=60)	Behavioural intervention	73.3
	No behavioural intervention	26.7
Types of behavioural intervention (n=44)	Exposure	70.5
	Behavioural activation	34.0
	Cue exposure & resp. prevention	11.3
	Social skills training	4.6
	Problem solving	2.3
	Sleep diary	2.3
Number of sessions when behavioural intervention done	(complete group, n=41)	
	Second session	12.2
	Third session	29.3
	Fourth session	26.8
	Fifth session	9.8
	Sixth session	2.4
	Seventh session	14.6
No behavioural intervention	4.9	
Number of sessions when behavioural intervention done	(incomplete group, n=19)	
	Third session	5.3
	Fourth session	5.3
	Fifth session	5.3
	Sixth session	5.3
	Eighth session	5.3
No behavioural intervention	73.7	

Table 5 P values of mean differences between measurements by sessions and scales

Types of intervention	Mean differences between measurements	Enjoyment at work scale	Enjoyment at home management scale	Anxiety Depression Scale
Behavioural intervention (BI)	Screening assessment & mid session assessment	0.020	0.005	0.000
	Screening assessment & discharge assessment	0.000	0.000	0.000
No Behavioural Intervention (No BI)	Screening assessment and mid session assessment	0.423	0.114	0.420
	Screening assessment & discharge assessment	0.657	0.009	0.942
Behavioural intervention (BI) & Exposure	Screening assessment & mid session assessment	0.189	0.033	0.001
	Screening assessment and discharge assessment	0.000	0.001	0.000
Behavioural intervention (BI) & No Exposure	Screening assessment & mid session assessment	0.056	0.094	0.035
	Screening assessment and discharge assessment	0.019	0.094	0.013
Behavioural Intervention (BI) & Behavioural Activation (BA)	Screening assessment & mid session assessment	0.156	0.022	0.006
	Screening assessment & discharge assessment	0.031	0.064	0.010
Behavioural Intervention (BI) & No Behavioural Activation (BA)	Screening assessment & mid session assessment	0.071	0.065	0.002
	Screening assessment & discharge assessment	0.000	0.001	0.000

Enjoyment at work scale

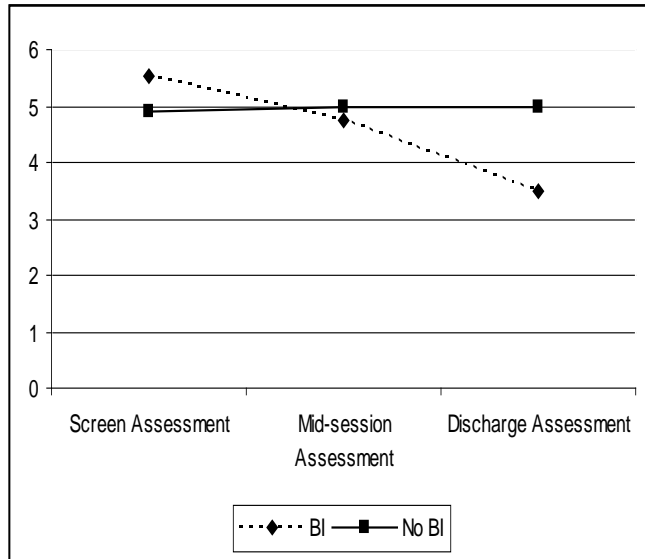


Fig 1a

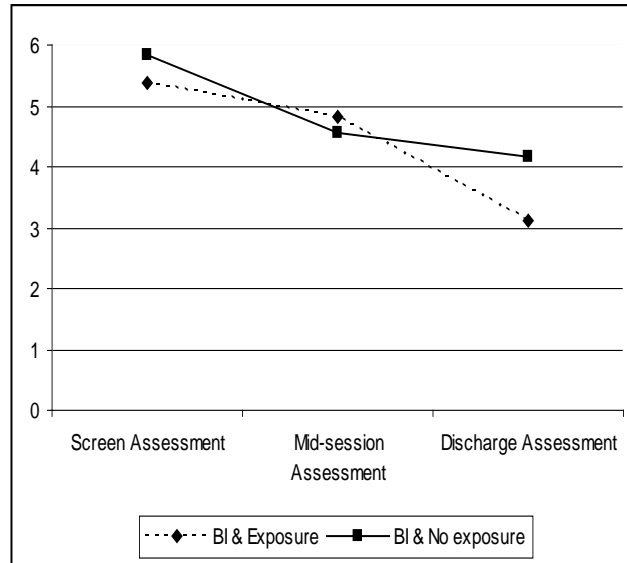


Fig 1b

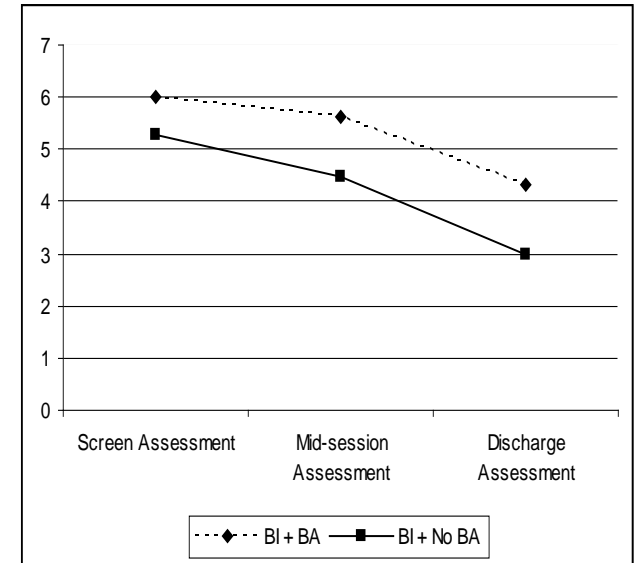


Fig 1c

Enjoyment at home management scale

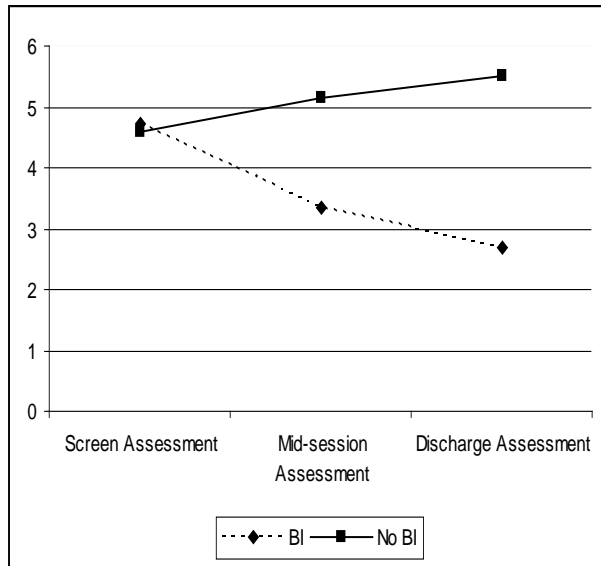


Fig 2a

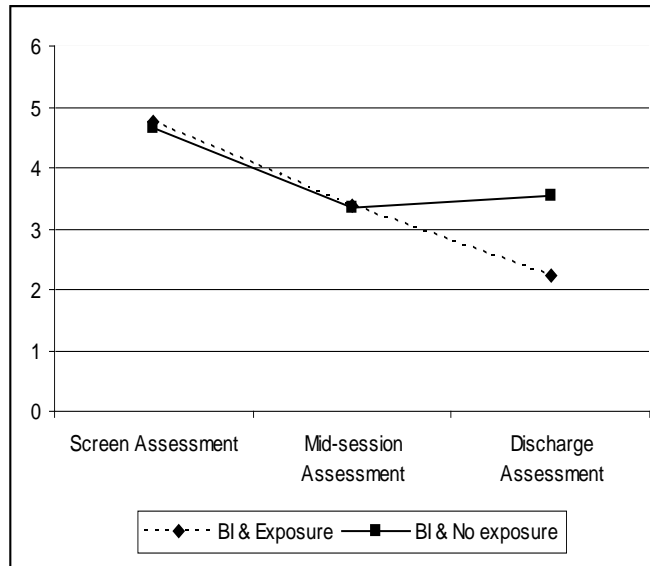


Fig 2b

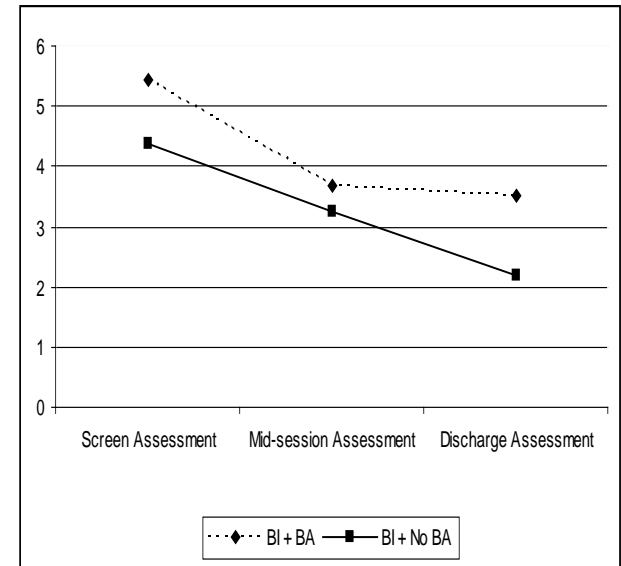


Fig 2c

Anxiety depression scale of the fear questionnaire

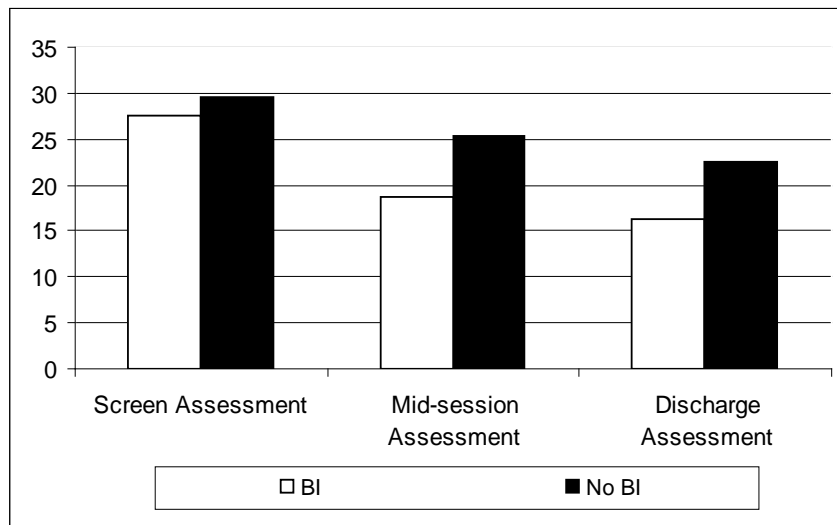


Fig. 3a

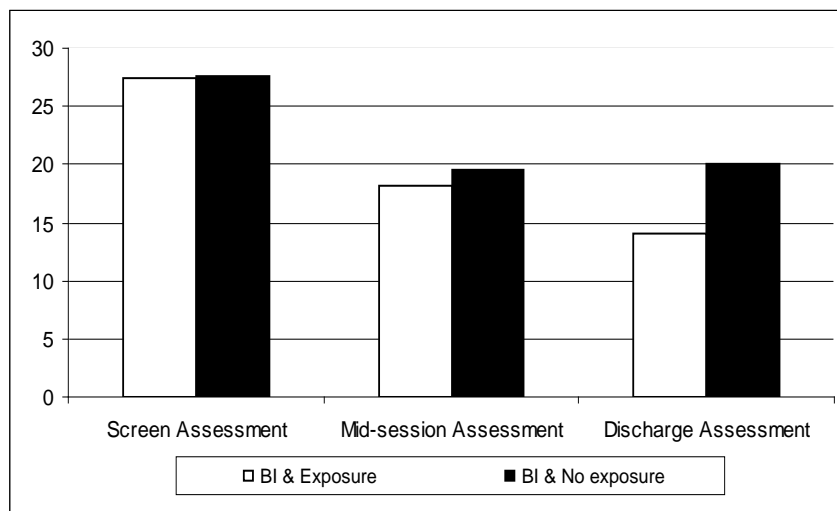


Fig. 3b

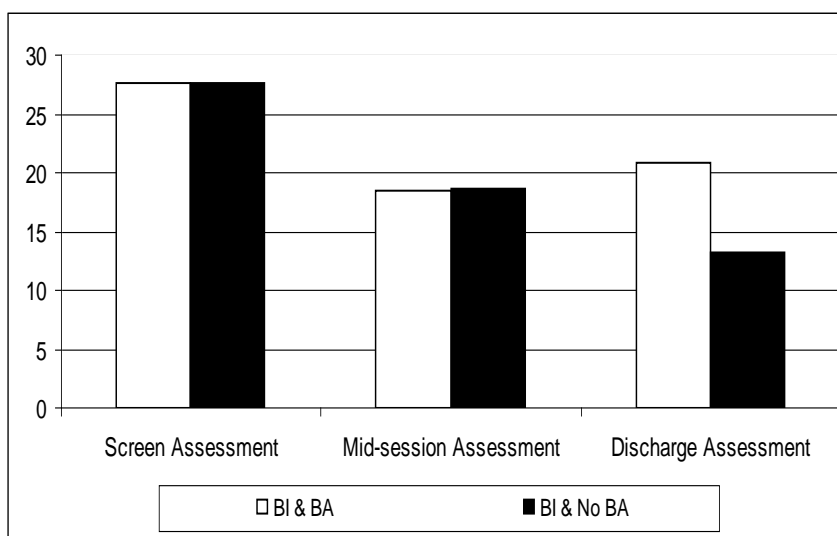


Fig. 3c