Evaluating the Effectiveness of Cognitive Behaviour Therapy for General Anxiety Disorder

Jiaqi Peng
School of Health in Social Science, The University of Edinburgh, Edinburgh, UK

Abstract: Generalized Anxiety Disorder (GAD) is a common and challenging anxiety disorder with origins in DSM-III and later DSM-III-R. It involves persistent, uncontrollable worry and various symptoms affecting people of various ages. While GAD has received less research attention compared to other anxiety disorders, this essay examines Cognitive Behavioral Therapy (CBT) as an effective GAD treatment. It introduces two theoretical models, compares CBT to control groups, and highlights its partial effectiveness and potential long-term benefits. CBT is applicable across age groups, with limitations in older adults. It may also impact cognitive function. In conclusion, evidence supports CBT as a useful GAD treatment, acknowledging potential bias and the need for research into cultural influences.

Keywords: Generalized Anxiety Disorder; Cognitive Behaviour Therapy; Worry.

1. Introduction

Generalized anxiety disorder is identified as a kind of challenging anxiety disorder to be diagnose and treat. GAD is first occurred as a diagnostic category in DSM-III while it is clearly defined as a disorder later in DSM-III-R (American Psychiatric Association Content, 2016). The basic symptoms of GAD are involved uncontrollable worry that last for at least six months, and the worry is related to at least three characteristics: restlessness or feeling trapped, fatigue easily, difficulty concentrating or mental sluggishness, irritability, muscle tension and sleep disturbance (American Psychiatric Association Content, 2016; Ladouceur et al., 2000). GAD is one of the most prevalent in terms of anxiety disorders, and it is common in a wide age group. However, compared with other anxiety disorders such as PTSD, social disorder and panic disorder, GAD seems to be less concerned, and more researches are needed. (Öst & Breitholtz, 2000). When looking for evidence-based treatment for GAD, it can be seen that many pieces of literature mention Cognitive behavioural therapy. Generally, CBT focus on reducing dysfunctional emotions through developing alternative behaviours and cognition process. By reviewing and integrating a number of studies, this essay will be argued that CBT is an effective treatment for GAD. Firstly, two theoretical models of general anxiety disorder will be introduced to explain the pathology of GAD, and explore how the difference in pathology will affect the experiment. After that, the two experiments were compared to explore whether CBT showed an advantage in comparison with the waitlist control group and placebo control group to prove the partial effectiveness of CBT. The third part will study whether CBT has generalization, and to find out whether it can be applied to different groups of people. Finally, it is going to explores how CBT affects cognition and treats GAD from the aspect of brain nerve structure.

2. Trustworthy Evidence in the Context of Cognitive Behavioral Therapy for GAD

Before analyzing studies, it is significant to identify that what contributes to a trustworthy evidence. There are three main criteria should be examined (Chambless & Hollon, 1998). The first is to analysis whether the statistical significance is superior to non-treatment groups, waitlist group or placebo treatment groups. Secondly, the sample size of each group in a single case experiment should be 3 at least. Then, the validity of experiment should be evaluated. If a treatment that is considered to be effective for GAD, it should decrease or even dismissed the level of pathological worry that impact patients’ daily lives. In addition, this beneficial outcome should be preserved for a long time after the treatment is completed (Covin, Ouimet, Seeds, & Dozois, 2008). At present, the research on the internal mechanism of cognitive behavioral therapy is generally realized through intermediary variables. The intermediary variable demonstrate the relationship between cognitive behavioral therapy and changes in anxiety symptoms. Cognitive-behavioral therapy leads to changes in the intermediary variables so that affect patient’s anxiety. Therefore, it is necessary to introduce two theoretical models of GAD. As most of intermediary variables in studies are proposed based on the pathology given by theoretical models. For example, in terms of intolerance of uncertainty model, its emphasis that people with GAD are more likely anxious and worried about uncertain situations (Behar, DiMarco, Hekler, Mohlman, & Staples, 2009). It is believed that intolerance of uncertainty is a significant indicator to distinguish GAD from other clinical diseases. Therefore, improving IU is considered to be a key mediating variable for reducing anxiety symptoms. In addition, recent studies identified irritability as one of the clinical criteria for the diagnosis of GAD (American Psychiatric Association Content, 2016). Hence, it is hypothesized that IU and irritability are relevant, and a high IU may cause individuals to be more sensitive to the perception of unfairness so that lead to anger (Fracalanza, Koerner, Deschênes, & Dugas, 2014). Laposa and Fracalanza (2019) found that CBT for GAD may improve internal and external anger expression as well as IU. It provides evidence that IU mediate the express of anger so that reduce the symptoms caused by GAD. Therefore, CBT may treat GAD by improving IU. However, there is no control group in this study, which cannot compare with non-treatment group. Therefore,
the effectiveness of CBT is unclear.

The metacognitive model proposed by Wells (2006) emphasizes the two elements that lead to pathological worry, using worrying as a coping strategy and negative evaluation of worry. It identifies two types of worry in terms of these. The first type of worry refers to the positive belief of worry that worry may help to cope with problems while the second type of worry links to the negative perspective of worry (Wells, 2006). People with negative metacognitions to worry are likely belief that worry is uncontrollable and threatening. Therefore, people who are in the state of pathological worry might try to avoid threatening situations or suppress negative thoughts through control strategies. Nevertheless, these two resolution strategies are believed to further lead to a more negative awareness of concerns. As experiential avoidance is believed to lead to a decrease in positive emotions (Gross & John, 2003). Based on this mechanism, individuals with GAD may suppress their positive affect because they believe worry may help but eventually become more worried and depressed. Based on this perspective, it seems that CBT may not work effectively when considered PA, Bosley, Fisher, and Taylor (2018) tested and compared the scores of three indicators of GAD individuals after CBT treatment. Three indicators are the score of worry, negative affect and positive affect. According to the research, it is found that approximately five out of seven clients reported significant decline tendency in terms of positive affect during the treatment, while the overall tendency of negative affect is unclear (Bosley et al., 2018). Although all participants have improved in terms of the controllability of worry, the decline of positive affect may also influence personal wellbeing. In addition, the sample size of this study seems small, with only seven participants. Therefore, more evidence is needed.

Linden et al. (2005) compared the efficacy of CBT treatment in conjunction with contact control group and waitlist treatment group in a sample of 72 outpatients aged from 18 to 65. By evaluating the score on Hamilton Anxiety Oberserver Rating Scale and Spielberger State-Trait Anxiety Inventory, it is found that post-treatment scores in CBT treatment group was around 17.3 in the HAM-A (SD=8.9) and 44.6 in the STAI-S (SD=13.6), which dropped by 9.5 points in HAM-A and 7.6 points in STAI-S compared with the score of pre-treatment in CBT treatment group. While in the contact-controlled group, only 1.5 points of decline can be seen on the score of HAM-A. The same participants in CCG accepted CBT at the end also showed a deduction of symptoms with 10.3 points (SD=7.7) dropped in the HAM-A. It can be seen that the CBT treatment of GAD was effective.

However, the choice of different theoretical models will affect the mediator variables chosen to assess anxiety in the experiment. For example, choosing IUM will emphasize the change of IU to evaluate the treatment effect. Therefore, focus is different when evaluating various aspects of anxiety in different types of research treatments. The HAM-A scale is often used to assess the physical and cognitive characteristics of GAD. However, the assessment of cognitive characteristics is less than the standard requirement in DSM-IV or DSM-III (Mitte, 2005). It is found that different scales might present significant difference results. For instance, the significant differences between the results on PSWQ and STAIT were found in the study by Borkovec and Costello (1993). A year after the CBT treatment completed, STAI-T evaluated that the patients’ recovery rate 77 percent, while at the same time, the recovery rate shown on PSWQ was only 47 percent. It can be explained by that although STAI has been widely used in GAD clinical trials and has assessed some of the core of GAD, it might not directly assess the core characteristic of GAD that is difficult to control excessive concern about individuals (Fisher, 2006). It seems that study from Linden et al. (2005) may not trustworthy because of the STAI scales it applied. However, another scale is also used for evaluation at the same time, and no significant differences are found. Thus, it supports the proposition that CBT is effective for GAD treatment, and it excludes the influence of drugs in this study.

Further, the present studies also point out that the beneficial effect of CBT can be maintained for long-term. Borkovec et al. (2001) reviewed 13 psychotherapy studies for GAD, evaluating 13 outcomes of CBT treatment groups compared with results in terms of placebo or waitlist control groups. It is found that CBT was statically superior compared with non-treatment groups, with an average score on HAM-A decrease from 21.53 points to 8.49 points. In addition, the beneficial outcomes of CBT seem can be maintained for a period of time according to 12-month follow-up data. However, Borkovec et al. (2001) points out that there are some patients with comorbidities among participants. Although it might be reasonable that there exist patients with psychiatric comorbidity since the average duration of GAD in terms of these clients was about seven years. The problematic samples may compromise the validity of the results. Because it has also been found that CBT also effective for other psychological issues such as depression and other anxiety disorders. Therefore, it seems to be difficult to distinguish whether CBT improves the symptoms of venereal diseases or merely improves the symptoms of other diseases and relieves venereal diseases. Dugas et al. (2009) tested the efficacy of CBT through three randomized clinical traits. It is found that CBT showed superiority in the treatment of GAD compared with waitlist control condition in terms of overall severity of GAD, somatic symptoms, pathological worry as well as clinical improvement. In addition, result shows that there will be continuous improvement within two years after CBT treatment finished. Although changes in terms of trait anxiety and depressive symptoms are not significant in both condition groups. It can be explained by that 58.5 percent of participants were diagnose with comorbid symptoms in this study.

Covin et al. (2008) revealed that age is a moderating variable that may influence the efficiency of CBT for GAD by analyzing 10 researches. Although it seems that younger adults may improve better at post-treatment, the scores on PSWQ of older people are also within normal rage at after treatment. As it is hypothesis by that, the differences in the effects of CBT might be because the disorder is more ingrained within older clients. Nevertheless, this meta-analysis also supports the effectiveness of CBT in the treatment of GAD. Even though the sample size of the study is relatively small and most of participants are women, which may weaken the validity of the results. From another perspective, this study controls the interference factors related to the evaluation of anxiety and excludes the interference of research including cognitive therapy and behavioural therapy. Supportively, a meta-analysis from Hall, Kellett, Berrios, Bains, and Scott (2016) that studied the effect of CBT for GAD in older adults found similar results as Covinetal. (2008). Compared with waitlist control groups, CBT has a greater impact on reducing the worry tendency at post-
treatment state in terms of older adults. Furthermore, approximately half of patients may continue benefit from CBT when treatment finished after 6 months. However, it is similar to the study from Dugas et al. (2009) that 31.4 percent of the sample in this research were diagnosed with depression. Therefore, it seems to be difficult to distinguish whether CBT directly improve pathological worry or it was contributed to the improvement of depression. In fact, it is found that the incidence of depression comorbidities is common especially within elderly (Parmelee, Katz, & Lawton, 1993). For instance, it is indicated that the sudden onset of anxiety disorder is closely associate with the current medical disease (Wolitzky-Taylor, Castriotta, Lenze, Stanley, & Craske, 2010). In clinical practice, it is likely that other comorbidity might be found in clients. Therefore, it might be argued that current evidences support that CBT has a significant effect on treating GAD and comorbid conditions for most individuals (Covin et al., 2008; Ladouceur et al., 2000). Although it is worth highlighted that the efficacy of CBT maybe limited for some groups. For instance, elderly individuals with cognitive function impaired or memory decrease may not be able to remember CBT skills taught in treatment (Wolitzky-Taylor et al., 2010).

Since the present research sample are all adults. It is still unclear whether CBT is effective for children and adolescents with GAD. In order to investigate whether CBT intervention is applicable to people of different agea, more evidence is needed. A study from the Unite State in 2014 found that a-year prevalence of GAD among individuals aged between 6 and 18 years in the community is around one to three percent, and these children as well as adolescents are likely to be diagnosed comorbidities such as social anxiety disorder and separation anxiety disorder at the same time (Copeland, Angold, Shanahan, & Costello, 2014). Therefore, it is common that sample in studies may likely to comorbid other disorders except for GAD. For instance, Perrin, Bevan, Payne, and Bolton (2019) compared the effective of CBT for GAD among children and adolescents through randomized control trails. 40 Participants were assigned randomly into CBT or waitlist control groups, and received 10 sessions in three months. At post-treatment, both parent-report and clinician-report revealed that CBT participants' symptoms improved compared with waitlist group. More specifically, significant differences in terms of IU, cognitive avoidance, and negative beliefs can be seen between CBT and waitlist control groups while positive beliefs toward worry did not seem to change. Although this study failed to explain why the positive beliefs did not change, it evaluated changes in various indicators before and after treatment from multiple angles. For example, PSWQ, HAM-A, or STAI-T scale was used commonly in previous studies to assess the improvement of symptoms. This study added parental evaluation and self-evaluation as additional evidence. However, another limitation of this study is that the sample size is relatively small. Another trial with a relatively large sample size also regarded CBT as an effective evidence-based therapy for children with GAD, with 60 percent of recovery rate was found (Wehry, Beesdo-Baum, Hennelly, Connolly, & Strawn, 2015). In addition, the efficacy of CBT seems might not be affect by developmental mismatches, which means that the level of benefit from CBT is similar between children and adolescents (Copeland et al., 2014; James, 2013).

Most of the studies mentioned above apply scales such as HAM-A, STAI-A and PSWQ to evaluate the changes in the clinical symptoms of GAD before and after treatment in order to assess the effectiveness of CBT. However, there seems to be less literature explore the effectiveness of interventions from the perspective of neurological function. As it is said that the dysregulation of cognitive function is part of the cause of GAD (Nitschke et al., 2009). Therefore, it is reasonable that investigating the association between changes neural function and CBT. It is found that GAD is related to the change of brain structure such as amygdala and prefrontal cortex (Fonzo et al., 2014). To be more specific, the amygdala, insula, and adrenal cortex in individuals with GAD response slowly with positive social information compared with healthy individuals. Moreover, the pathophysiological structure of amygdala function of GAD seems to be different from that of other anxiety disorders. Therefore, the effect of CBT can be explored by examining the changes of amygdala. After the treatment, it can also be seen that the left amygdala was activated by emotional stimulations. At the same time, the reduction of clinical symptoms shown within participants. Based on the evidence, it is found that GAD may lead to change in neural processing, while successful CBT intervention may adjust the nerve function of brain. (Fonzo et al., 2014; Nitschke et al., 2009)

3. Conclusion

In conclusion, a large body of results support the efficacy of cognitive behaviour therapy for the treatment of general anxiety disorder, although bias may likely exist due to the file drawer problem (Mitte, 2005). The introduction of theoretical models explained the influence of different perspectives on the experimental design and results. Intolerance of uncertainty model believes that the pathology of GAD is due to individuals’ intolerance to uncertainty. Laposa and Fracalanza (2019) tested the efficacy of CBT by evaluating IU. Although the test result agree that CBT is effective for GAD, it seems to be lack of validity as it does not have compared group. While metacognitive model emphasizes two type of worry that contribute to pathological concern: (a) positive beliefs of worry and (b) negative concern about worry. Specifically, positive affect maybe supress due to the avoidance of emotion. Therefore, Fisher (2006) argued that CBT might not be effective for GAD as research found that CBT may due to the decline of positive emotion so that enable individual more depressed and worried. Linden et al. (2005) and Borkovec et al. (2001) compared CBT condition with waitlist control and placebo control group found that CBT is effective for GAD. In addition, supporting researches regard that CBT have long-term effect on GAD (Borkovec et al., 2001). Covinetal. (2008) and Copeland et al. (2014) revealed that CBT can be applied to groups of different ages including minor, young adults and older adults, although the effectiveness of CBT might be limited when implemented in older adults. Finally, evidence from the changes of neurologica function revealed that CBT may adjust the cognitive function so that treating GAD. Nevertheless, this essay fails to discuss the influence of culture context. Most of the sample were from Europe and North America, and other cultural backgrounds were covered little. Therefore, future research will focus on the influence of cultural background on the effectiveness of CBT for GAD.
References


