

“Two approaches, one purpose” - Evaluating treatment effectiveness of Psychodynamic Psychotherapy and Cognitive Behavioral Therapy to Major Depressive Disorder on adult population; a systematic literature review.

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Abstract

Major Depressive Disorder (MDD) is a significantly debilitating and prevalent mental condition, that appears to be influenced by various biological and environmental factors and possess substantial risks for physio-psychological functioning. Considering these adverse implications, various psychotherapeutic interventions have surfaced, in which Cognitive Behavioral Therapy (CBT) and Psychodynamic Therapy (PDT) stand out as the most prominent, non-pharmacological treatment approaches in adults with MDD. To assess these assumptions, the current study implemented a Systematic Literature Review (SLR) to investigate treatment effectiveness of CBT and PDT to MDD, on adult population. Results concur with previous literature, indicating that both approaches from their own accords exhibit relatively similar beneficial outcomes as psychotherapeutic treatments to MDD, with the sole notable difference being the longevity of the effects. These assumptions may indirectly implicate that CBT tends to provide fast, yet not as enduring effects, whereas PDT although could necessitate a longer timeframe to exhibit results, might produce effects of relatively greater duration. Several implications concerning remission and response rates, treatment effectiveness, relapse, and probable biases in interventional literature are thoroughly discussed.

Keywords

Cognitive Behavioral Therapy, Psychodynamic Therapy, Major Depression, adults, treatment effectiveness, efficacy.

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Introduction

Major Depressive Disorder (MDD) is a significantly debilitating mental condition, that attains an average of 13% in lifetime prevalence (Bains & Abdijadid, 2023; Scott et al., 2018), with approximately 310 million people of the global adult population affected each year (World Health Organization, 2017). Core symptomatologic features include decreased or depressed mood, loss of interest towards previously enjoyable activities, psychomotor impairments, fatigue, sleep and appetite disturbances, feelings of worthlessness, guilt, and recurrent thoughts of death or suicidal ideation (Cui et al., 2024; Nagy et al., 2020; Otte et al., 2016). The etiological basis of MDD appears to be influenced by various biological factors, including genetic heritability, accounting for a notable 35% (Flint & Kendler, 2014), neurotransmission aberrations in monoamine pathways (Pastis et al., 2024), hormonal dysregulation in the HPA axis (Ahmad et al., 2021), atypical brain structure (Peng et al., 2015), or biological gender, in which women exhibit a twofold increase in susceptibility rates compared to men (Seedat et al., 2009). In addition, environmental determinants such as adverse life experiences, childhood trauma, abuse, poverty, and inadequate social support or ineffective familial role models are also viewed as significant antecedents (Li et al., 2022; Zhao et al., 2021). Due to its complex and chronic nature, MDD produces tremendous socio-economic burden and is considered as one of the most significant predictors towards deterioration in life quality among adults (Cho et al., 2019), with estimates suggesting that 16% of depressive patients will commit (or attempt) suicide at some point in their lives (Handley et al., 2018).

Considering these adverse implications, various psychotherapeutic interventions have surfaced, in which Cognitive Behavioral Therapy (CBT) and Psychodynamic Therapy (PDT) stand out as the most prominent, non-pharmacological treatment approaches to MDD (Cohen et al., 2020; Zajenkowska et al., 2019; Soares et al., 2018). Initially, CBT is a structured, problem-focused and time-limited form of psychotherapy that targets the maintaining behavior behind depressive symptomatology and attempts to change the underlying cognitive patterns which in many cases, may be the fuel and the byproduct of dysfunctional behaviors (Gautam et al., 2020; Geschwind et al., 2019; Driessen et al., 2016). It is considered as the “gold standard” of evidence-based interventions, that delivers beneficial results, in a fast manner (David et al., 2018; Chand et al., 2018). On the other hand, PDT is a gradual but consistent therapeutic approach which delves into core, unconscious dynamics, that trace their roots into past experiences, especially childhood, and seemingly influence or guide one’s thoughts, feelings, and behaviors in the present (Leichsenring et al., 2021; Wang et al., 2020; Leichsenring et al., 2015). This approach signifies the importance of gaining awareness of subconscious mechanisms and have received particular research popularity in the last decades with studies exhibiting robust and long-lasting improvements not solely on symptom reduction, but also towards personality coherence and self-organization in patients with MDD (Khademi et al., 2019; Leichsenring & Rabung, 2008).

In light if these data, the current literature review will attempt to evaluate the effectiveness of these two psychotherapeutic approaches on MDD, by assessing them from various neurobiological and socio-environmental standpoints. This rational basis is of particular importance, as it does not only juxtapose the interventions between each other, but also provides comprehensive insight into the continuum they operate. Accordingly, can recognize probable incongruences, drawbacks and semi-similarities between each approach, in a more neutral and unbiased manner.

Method

A Systematic Literature Review (SLR) have been implemented, to investigate treatment effectiveness of CBT and PDT to MDD, on adult population. Initially, a total number of 91 studies were researched and screened through the University of Derby’s online library, PubMed, Google Scholar, ResearchGate, and ScienceDirect, using keywords such as Cognitive Behavioral Therapy, Psychodynamic Therapy, Major Depression, Adults, Treatment Efficacy, Effectiveness. Subsequently, 17 studies have emerged as relatively suitable for the purpose of the current research and after examination using the Critical Appraisal Skills Program, that evaluates the quality and validity of different types of research (CASP, 2018), have been narrowed down to 6 prominent papers (for CASP assessment see Appendix A’) and are illustrated in Figure 1. Inclusion criteria encompass studies on adults, implementing treatment effectiveness of CBT and/or PDT, and assessing major depression, with symptom’s severity and duration as suggested by DSM-5-TR and ICD-11 (APA, 2022; WHO, 2021). The research procedure has been conducted in accordance with the BPS Code of Research Ethics (BPS, 2021).

Results

CBT’s background on MDD

Originating from Beck’s cognitive model (Beck 2002; Beck & Haigh, 2014) the theoretical and research basis of CBT on MDD essentially postulates that information-processing, that is, how individuals interpretate and understand life events, orchestrates a central role in the development and continuation of depression. In these lines, inaccurate or dysfunctional core beliefs and maladaptive information filtering can prompt themes of inadequacy, interpersonal rejection, worthlessness and life’s futility (Lungu et al., 2020; Zhang et al., 2018). Those beliefs or “schemata” constitute the cognitive vulnerability of depression, are typically triggered by adverse life events, and produce negative automatic thoughts about oneself, the world, or future (Kopf-Beck et al., 2020; Johnsen & Friborg, 2015).

Unsurprisingly these cognitive distortions, traverse into dysfunctional behavioral patterns, characterized by avoidance in coping with the demands of the environment, passivity, and withdrawal; all of which are key features of depression (Götzsche

Figure 1: Key characteristics of selected studies.

Authors	Year	Design	Intervention	N	Main Findings	CASP score
Cuijpers and colleagues	2023	Meta-Analysis	CBT	52.702	CBT overall Effective	9/10
Amick and colleagues	2015	Systematic Review (SLR)	CBT	1.511	Non-significant difference to antidepressants	7/10
Aust and colleagues	2022	Randomized Clinical Trial	CBT	192	CBT effective with or without tDCS	8/10
Leichsenring and colleagues	2023	Umbrella Re-view	PDT	3,163	PDT more effective than active controls	9/10
Driessen and colleagues	2017	Randomized Clinical Trial	PDT	341	PDT-CBT no comparable differences	8,5/10
Fonagy and colleagues	2015	Meta Analysis	PDT	Varied	PDT overall effective	8/10

& Demasi, 2023). Accordingly, CBT gives greater emphasis on the present and how it affects the patient and attempts to prioritize the modification of behaviors and alleviation of symptoms. It attains this, by identifying negative, overgeneralized and catastrophizing thought patterns of depression and replacing them with realistic ones, while introducing patients to functional coping strategies such as, setting realistic goals, engaging in previously pleasurable activities, and generally aiding them to grasp the importance of “picking” themselves up, as a means of countering MDD (Gautam et al., 2020; Yang et al., 2020). These data pinpoint the comprehensible nature of CBT on MDD, which expectedly led to a cascade of studies exploring its potency as a psychotherapeutic intervention.

Evaluation of three (3) CBT-oriented studies on MDD

The first study, conducted by Cuijpers and colleagues (2023), investigated CBT against diverse conditions, including alternative forms of psychotherapy, control groups, pharmacotherapies and combined treatment, as eligible interventions on MDD. As cited by the authors, it is the “largest meta-analysis ever of a specific type of psychotherapy for a mental disorder”, drawing data from 409 trials involving 52,702 patients. Findings suggest that CBT is slightly more effective than other psychotherapeutic approaches (including PDT), but with a miniscule effect ($g=0.06$, 95% CI:0-0.12), exhibits no significant differences compared to pharmacotherapy; yet combined treatment of CBT and pharmacotherapy display promising evidence with significant effect sizes ($g=0.51$). Moreover, response rates of CBT were significantly higher (42%) compared to control conditions (19%), and with concern to long-term efficacy, CBT remained beneficial after 12 months; but these effects diminished rather rapidly after this timespan. This extensive research indicated that from distinct standpoints, CBT is an overall preeminent treatment to MDD, with relatively few drawbacks. Still, upon closer scrutiny, certain assumptions can

be made. For example, the majority of trials incorporated, had heterogeneity implications; meaning that, variations in study designs, populations, diverse methodologies, and inconsistent effect sizes, may have oversimplified the outcomes and correspondingly, impacted the reliability and external validity of the study. Likewise, despite initial effectiveness, study suggest challenges in recidivism, as it presents increased relapse rates and discontinuation of treatment after just 12 months of CBT on MDD; information both interesting and concerning, given the relapsing and chronic nature of depression.

The second study, conducted by Amick and colleagues (2015), implemented a Systematic Literature Review (SLR) of 11 randomized controlled trials, involving 1,511 adult patients with MDD, to compare the effectiveness of CBT with second generation antidepressants. Based on findings, there was no significant difference between CBT and antidepressant treatment, suggesting that although both interventions were effective in treating MDD neither of them was found to be significantly better than the other. By delving deeper into the data, this analogy is evident both in response rates (44.2% vs. 45.5%) and remission rates (40.7% vs. 47.9%) between antidepressants and CBT; with data slightly favoring the latter. However, most of the trials, produced data solely for the acute phase of treatment and reporting on adverse events such as discontinuation of treatment, relapse rates or information about different treatment phases, were limited, vague and imprecise. Generally, the study’s findings support the notion that CBT is a leading psychotherapeutic intervention that can be at least as effective -if not more- as antidepressants (Gautam et al., 2020). Yet, considering major depression’s persistent patterns, one should take these implications one step further and acknowledge that favorable findings on acute-phase treatment may not fully portrait the long-term management needs of patients with depression.

The third research, conducted by Aust and colleagues (2022), utilized a randomized clinical trial (RCT) among 148 patients (mean age=41.1 years), and aimed to determine the effectiveness of CBT with transcranial direct current stimulation (tDCS) in MDD treatment. The rationale of this study is based

on the idea that 20-30% of MDD patients do not benefit from psychotherapeutic approaches, and by combining CBT with tDCS, in which low electrical current is applied to the scalp to modulate neuronal activity, attempts to assess its effectiveness. However, results suggest otherwise. CBT alone exhibits significant effectiveness in reducing depressive symptoms, with no adverse effects reported, whereas the addition of tDCS, did not yield superior outcomes than CBT alone. This actively reaffirms the safety, tolerability and therapeutic significance of CBT on MDD as a standalone method and underlies the complexity of transferring the effects of tDCS, into a CBT setting. Nevertheless, these data could also indirectly imply that the percentage (20-30%) of MDD patients not benefitting from conventional psychotherapeutic treatments may be the result of individuals differences, highlighting the importance of tailored, personalized approaches to each patient. This could provide a rational insight into why certain amount of the population may respond positively to a psychotherapeutic approach, while gaining no benefit from another.

PDT's background on MDD

Deriving from early psychoanalytic conceptualizations, PDT views MDD as the combined consequence of adverse childhood experiences, repressed emotions, and unresolved internal conflicts, that manifest in a depressive conduct later in life (Martinsen et al., 2019; Gabbard 2014). Arguably, early childhood relationships and encounters provide the foundation for psycho-social functioning and personality development, upon which all subsequent experiences are build. Accordingly, neglect, trauma, and dysfunctional family dynamics can spur an interplay of inner emotional conflicts, opposing desires, needs, or paradoxical self-perceptions. This can subsequently evoke feelings of vanity, inadequacy, shame and “unforgiving” self-criticism; effectively triggering the onset of depression or exacerbating preexisting depressive symptoms (Busch 2021). Yet, these internal conflicts are more complex than they appear, as they typically occur outside of conscious awareness. In response, individuals may incorporate unconscious defense mechanisms to “distort” harsh realities, deny threatening experiences, or repress painful emotions, to temporary protect themselves from distress; only at the expense of prolonging their depressive symptoms (de Roten et al., 2021).

PDT emphasizes the importance of gaining insight behind the apparent role of these symptoms and more importantly, how they were created, maintained, and the underlying function(s) they serve (Ribeiro et al., 2018; Luyten & Blatt, 2012). Within this approach, individual's past experiences, thoughts and emotions are explored, with the aim of uncovering unconscious patterns and dynamics behind behaviors and present them in a way in which the patient could acknowledge them, when the time is right. By encouraging free and uninterrupted communication, patients may start viewing probable origins of these unconscious motifs, various ways they are entangled into their everyday lives, and the impact they have on their condition (Koletsis & Tragou, 2018). Correspondingly, individuals gain the insight to identify dysfunctional tendencies,

cultivate healthier and long-standing coping mechanisms to alleviate their symptoms and ultimately, positively influence the trajectory of MDD (Shedler 2018).

Evaluation of three (3) PDT-oriented studies on MDD

The first study in this section, conducted by Leichsenring and colleagues (2023), utilized an umbrella review synthesizing data across 27 RCTs ($N=3,163$), and assessed –among others– PDT as an empirically supported treatment to MDD. Results suggest that PDT demonstrated superiority over all control conditions in alleviating depressive symptoms ($g=-0.58$), was equally effective as other active therapies such as CBT, and the combination of PDT with antidepressants was significantly more efficacious than antidepressants alone. Moreover, methodology measures indicated that the quality of the studies implemented, possessed low risk of bias, which is an indication of high-quality data. These findings provide evidence regarding the effectiveness of PDT on MDD, equivalent to alternative treatment approaches. In a similar fashion, PDT was also highlighted as a viable intervention in confounding aspects of depression, including improvements in quality of life, interpersonal functioning, as well as in treatment-resistant patients; mostly due to the emphasis on relationship dynamics and depth of understanding, gained throughout this approach. These implications, alongside with the compelling effect sizes that surpassed the clinically significant threshold estimates proposed by aforementioned CBT-oriented studies (Cuijpers et al., 2023), suggest that in overall, PDT is an effective treatment approach that stands on equal footing with other treatment modalities as it comprehensively addresses MDD, from multiple standpoints with often unanticipated efficacy.

The second study, a large-scale RCT conducted by Driesen and colleagues (2017), produced a direct comparison between PDT and CBT on 341 inpatients with MDD, with each treatment administered over 16 sessions. Results indicate no significant differences between the two approaches, both in post-treatment and during the 12-month follow-up period. By extension, this means that both PDT and CBT exhibited clinically meaningful psychopathological improvements in 45-60% of patients, and 28.4% in alleviation of emotional pain or psychological distress associated with depression. These findings suggest treatment noninferiority, signifying that PDT can be at least as effectiveness as CBT across various major depression's settings. Furthermore, the study went to great lengths to increase its external validity, as it provided treatment and assessed its effectiveness in regular psychiatric clinics with low socio-economic status inpatients. However, missing data, and possible overlapping between approaches, such as similarities or shared treatment components between PDT and CBT are among the limitations. Observations like these, ascertain the efficiency of PDT in yielding long-lasting effects after just 16 sessions. This is an important piece of information for an approach often criticized for its perceived slow process in yielding results and may indirectly imply that patients undergoing therapy for longer periods which is typical in PDT, may experi-

ence long-lasting benefits that mitigate depression's relapse rates; yet further research should validate these assertions.

The last study, conducted by Fonagy and colleagues (2015), utilized a meta-analytic methodology across comparative studies and RCTs, to assess PDT's efficacy compared to alternative therapeutic modalities, as well as to explore its potency both in its short-term and long-term applications. Findings indicate that short-term PDT (i.e. 8-16 sessions) produced mixed findings with small-to-moderate effect sizes, compared to placebo or waitlist ($g=-0.14$ to -0.57); however, when combined with medication, short-term PDT was associated with relatively higher recovery (41% vs. 59%), and overall better outcomes in terms of remission and response rates. Comparative outcomes also yielded anticipated results that seemingly concur with previous literature, as PDT presented no significant differential effects contrasted to CBT, signifying equal treatment efficacy. Lastly, long-term PDT (i.e. >50 sessions) although was initially inferior to short-term PDT, exhibited superiority in the long run, as observed in subsequent follow-ups. The implications of these data indicate that besides its overall comparable effectiveness in treating MDD, PDT is also viewed as a mediating factor when combined with pharmacotherapy, as it is suggested that reduces treatment refusal and premature termination of medication. Lastly, the inferior and inconsistent outcomes of short-term PDT might be also attributed to the core longevity nature of this approach; meaning that PDT, is specifically designed and conceptualized as a treatment in which duration is a key characteristic to its effectiveness, enabling individuals to illuminate, process and acknowledge unaware aspects of oneself, and act accordingly.

Discussion

The current systematic literature review attempted to investigate the effectiveness of Cognitive Behavioral Therapy and Psychodynamic therapy to Major Depression Disorder, on adult population. In overall, results concur with previous literature, indicating that both approaches from their own accords exhibit relatively similar beneficial outcomes as psychotherapeutic treatments on adults with MDD, with the sole notable difference being the longevity of the effects. In plain terms, this assumption essentially implicates that CBT tends to provide fast, yet not as enduring effects, whereas PDT although necessitates longer timeframes to exhibit results, might produce effects of greater duration. However, equally important to understanding what the data in treatment efficacy indicate, is also the examination of how current literature portrays this efficacy. This comprehensive evaluation that answers the "what" and "how" is the fundamental purpose of literature reviews.

To illustrate upon this assumption, all three of the CBT articles reviewed (Cuijpers et al., 2023; Amick et al., 2015; Aust et al., 2022) suggest the clear-cut effectiveness of this approach which in some cases appears to be superior to any other treatment; making CBT as the "norm" or the most effective route in treating MDD. However, previous studies conducted by the same author (Cuijpers et al., 2010) suggest that pub-

lished benefits of CBT are exaggerated by 75%, and studies that fail to show positive or desired outcomes tend to not get published, thus providing a skewed and biased picture of the actual benefits a patient with depression is likely to receive.

On the other hand, the three PDT studies (Leichsenring et al., 2023; Driessen et al., 2017; Fonagy et al., 2015) presented similar treatment effectiveness, yet locating these articles, especially ones investigating long-term treatment of depression (i.e. >1 year) proved to be challenging, compared to the overabundance of CBT studies on MDD. This potential gap in literature could be a sign of the overlooked effectiveness of psychodynamic approaches by contemporary research that may rest upon several biases or "myths" towards PDT's effectiveness that are kept alive, such as the caricatured depictions of early psychoanalytic assumptions (Shedler 2018). These data suggest that when assessing treatment effectiveness, one should also consider the effects of interventional favoritism; that is, overemphasizing the strengths of an intervention while downplaying alternative methods.

The strengths of the current paper primarily include the identification of potential literature gaps and the evaluation of trends in depression treatment from a relatively neutral standpoint, thereby providing valuable insights. However, one key limitation arises from the scope and selection of studies incorporated, primary due to the lack of available longitudinal papers assessing the enduring and heterogenous nature of depression interventions. Accordingly, future research is suggested to re-evaluate the implications of the current study considering a broader range of longitudinal studies to better understand the treatment outcomes, semi-similarities, and drawbacks of CBT and/or PDT, on MDD.

To conclude, the current study investigated the treatment effectiveness of CBT and PDT to MDD, on adult population. Results concur with previous literature, indicating that both approaches from their own accords exhibit relatively similar beneficial outcomes as psychotherapeutic treatments to MDD, with the sole variation being the endurance of the effects. Several implications concerning remission, treatment efficacy, relapse, and probable biases in interventional literature are thoroughly discussed.

Appendix A' – Critical Assessment Skills Program

Six (6) selected research articles assessed by Critical Assessment Skills Program (2018) by specific criteria utilized when implementing Systematic Literature Review. CASP Systematic Review Checklist available at: <https://casp-uk.net/casp-tools-checklists/>

10 CASP Criteria	CBT-1 Cuijpers and colleagues (2023)	CBT-2 Amick and colleagues (2015)	CBT-3 Aust and colleagues (2022)	PDT-1 Leichsenring and colleagues (2023)	PDT-2 Driessen and colleagues (2017)	PDT-3 Fonagy and colleagues (2015)
Cuijpers and colleagues (2023)	CBT-2	Yes (1)	Yes (1)	Driessen and colleagues (2017)	PDT-3 Fonagy and colleagues (2015)	Yes (1)
Amick and colleagues (2015)	CBT-3	Yes (1)	Yes (1)	Yes (1)	Yes (1)	Yes (1)
Aust and colleagues (2022)	PDT-1 Leichsenring and colleagues (2023)	PDT-2	Yes (1)	Yes (1)	No (0)	Yes (1)
Driessen and colleagues (2017)	PDT-3 Fonagy and colleagues (2015)	No (0)	Yes (1)	Yes (1)	Yes (1)	Yes (1)
5. If the results of the review have been com-bined, was it reasonable to do so?	Yes (1)	Yes (1)	Yes (1)	Yes (1)	Yes (1)	Yes (1)
6. Were the overall results of the review satis-factory?	Yes (1)	Yes (1)	Yes (1)	Yes (1)	Yes (1)	Yes (1)
7. Were the re-sults precise?	Yes (1)	No (0)	Yes (1)	Yes (1)	Yes (1)	No (0)
8. Can the re-sults be applied to the local population?	Somewhat (0,5)	No (0)	No (0)	Yes (1)	Somewhat (0,5)	Yes (1)
9. Were all im-portant out-comes consid-ered?	Somewhat (0,5)	Yes (1)	Yes (1)	No (0)	Yes (1)	No (0)
10. Are the ben-efits worth the harms and costs?	Yes (1)	Yes (1)	No (0)	Yes (1)	Yes (1)	Yes (1)

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