The Effect of Cognitive-Behavioural Therapy on Depression in the Elderly: Systematic Review

ผลของการบำบัด โดยการปรับความคิดและพฤติกรรม ต่อภาวะซึมเศร้าในผู้สูงอายุ: การทบทวนวรรณกรรม

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บทคัดย่อ

ภาวะซึมเศร้าเป็นปัญหาทางจิตใจที่สำคัญและเป็นสาหตุนำสู่ความทุกข์ทรมานและทุพลภาพ การบำบัดแบบปรับความคิดและพฤติกรรมเป็นการบำบัดที่มีประสิทธิภาพต่อภาวะซึมเศร้าระดับเล็กน้อยและปานกลาง การทบทวนอย่างเป็นระบบครั้งนี้มีวัตถุประสงค์เพื่อสรุปหลักฐานเชิงประจักษ์เกี่ยวกับผลของการบำบัดแบบปรับความคิดและพฤติกรรมต่อภาวะซึมเศร้าในผู้สูงอายุที่มีภาวะซึมเศร้าระดับเล็กน้อยและปานกลาง ทำการสืบค้นเพื่อรวบรวมงานวิจัยที่ตีพิมพ์และไม่ได้ตีพิมพ์เผยแพร่ รายงานไว้ระหว่างปี ค.ศ. 1990 ถึง ค.ศ. 2011 ทบทวนโดยใช้แบบประเมินงานวิจัยเชิงปริมาณ แบบสกัดข้อมูล การวิเคราะห์เมต้า (Meta-Analysis) โดยใช้ซอฟแวร์ที่พัฒนาโดยสถาบันโจอันนาบริกส์ การคัดเลือกงานวิจัยและการสกัดข้อมูลกระทำโดยผู้ทบทวนสองคน

ผลการทดลองพบว่า มีการศึกษาเกี่ยวกับการทดสอบผลของการบำบัดแบบปรับความคิดและพฤติกรรมต่อภาวะซึมเศร้าในผู้สูงอายุที่มีภาวะซึมเศร้าระดับเล็กน้อยและปานกลางที่เป็นไปตามเกณฑ์การคัดเลือกจำนวน 4 เรื่อง ผลการวิเคราะห์เมต้า (Meta-Analysis) พบว่าการบำบัดแบบปรับความคิดและพฤติกรรมมีประสิทธิภาพในการลดภาวะซึมเศร้าในผู้สูงอายุที่มีภาวะซึมเศร้าระดับเล็กน้อยและปานกลาง

คำสำคัญ: การบำบัดแบบปรับความคิดและพฤติกรรม ภาวะซึมเศร้า ผู้สูงอายุ

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Abstract

Depression is one of the most prevalent mental health problems and a leading cause of human suffering and disability. Cognitive-Behavioural Therapy (CBT) is an established and effective treatment of mild to moderate depression. The aim of this review is to examine the best available evidence to determine the effectiveness of Cognitive-Behavioural Therapy on treating depression in the elderly with mild to moderate depression. The search sought to find published and unpublished studies. The time period of the search covered articles published from 1990 to 2011. Studies selected for retrieval were assessed by two independent reviewers for methodological quality using the Joanna Briggs Institute Meta-Analysis of Statistics Assessment and Review Instrument software.

Four studies were included in this review. The results from a meta-synthesis showed positive results for CBT in older adults with depression significantly. The results showed that CBT was found to be effective in the elderly.

Key words: Cognitive-Behavioural Therapy, Depression, Elderly.

Introduction and Background

Depression is one of the most prevalent mental health problems and a leading cause of human suffering and disability. According to Beck's Cognitive Theory of Depression, one's automatic negative thoughts (repetitive, unintended and uncontrollable) affect one's feelings and behaviour, leading to depression (Beck,1967). Beck (1967) defined depression as a complex pattern of deviation of cognitive feelings and behaviour that can include a loss of interest or pleasure, depressed mood, feeling of guilt or low self-esteem, sleep or appetite disturbance, low energy and poor concentration. The symptoms of depression depend on the severity of depression which is measured by the Beck Depression Inventory (BDI -IA) (Beck, & Steer,1993).

The World Health Organization (WHO, 2016) reported that depression is a common mental disorder. Globally, an estimated 350 million people of all ages suffer from depression. In the United States of America (USA), individuals 65 years of age and older have been reported to: suffer from forms of depression other than major depression; have greater risks of developing major depression, physical disabilities and medical illnesses; and, have increased utilisation of available health services (National Institute of Mental Health, 2007). Depression in the elderly (people aged 60-80 years), brought about by psychosocial stress or the physiological effects of disease, can lead to: disability; cognitive impairment; suffering; family disruption; increased symptoms of medical illness; increased utilisation of health care services; and, increased rates of suicide and non-suicide mortality rates (Koenig, & Blazer, 1996).

Depression in the elderly can be diminished in severity by a number of intervention strategies, i.e. medications; individual and group psychotherapy; and, behavioural interventions, including Cognitive-Behavioural Therapy (CBT) (Maynard,1993 ;Gareri, Fazio, & Sarro, 2002; Walker, & Clarke, 2001). Although antidepressant drugs can be used to treat depression effectively in the elderly, the medications are usually absorbed and eliminated more slowly and produce more side effects among the elderly than among younger age groups (Thompson, et. al., 2001). The strengths of CBT make it the most effective treatment for the elderly with moderate depression (Thompson, et. al., 2001). CBT is a structured, short-term, present-oriented psychotherapy, which has been found to help alleviate depressive symptoms by identifying a person's automatic negative thoughts and altering their thinking, so as to bring about enduring emotional and behavioural changes (Beck, 1995; Varcarolis, 2002). Meta-analyses of prior studies have shown that CBT is one of the most effective cognitive interventions for elderly people with mild or moderate depression (Butler, & Beck, 2000; National Institutes of Health, 1998). The elderly treated by CBT recover more quickly than younger individuals. This recovery is thought to be due in part to a higher attendance rate at the therapy sessions (Walker, & Clarke, 2001). Zerhusen, Boyle, & Wilson, (1991) studied the effectiveness of cognitive therapy in the elderly age group. Their program included five phases following the cognitive theory of Beck. During the first week of therapy, group leaders established rapport with residents and shared general information about depression. They then explained the principles of cognitive therapy, discussed strategies that would be used in the groups and explained role expectations of group leaders and members. The second phase focused on a specific problem that each depressed person had. Cognitive Rehearsal was used to help focus attention on a task. The third phase focused on changing cognition. Once the activity level of the residents increased they were ready to focus on using their minds to apply cognitive approaches for solutions to their problems. Leaders then worked with the residents to help change their negative thoughts into more realistic ones and to adopt an alternative view of a distressing situation or modify the underlying assumptions responsible for their negative thoughts. The final phase of treatment was focused on the reinforcement and practice of skills and on a smooth termination of treatment. Group leaders reminded residents that the initial goal of treatment was to teach them strategies to manage their own problems throughout a lifetime. The results showed that cognitive therapy was found to be effective in the elderly. Residents attended sessions regularly, and the change in the depression levels for group participants was highly significant statistically and clinically noticeable (Zerhusen, Boyle, & Wilson, 1991). From reviews of the effectiveness of cognitive therapy in the elderly and CBT process for treatment of depression in the elderly, CBT protocols designed for the elderly with depression should range between 16 to 20 sessions over a three-month period, followed by another three to four month period of at least four to 16 sessions. The results indicate

that CBT protocols can be an effective treatment for older adult outpatients with moderate levels of depression. (Thompson, et. al., 2001).

A recent study found that an empirical evaluation of cognitive-behaviour therapy for late life depression is still in its early stages, as evidenced by the small number of published studies (Evan, 2007). In this review, we will summarise not only the available evidence about the effect of CBT on depression in the elderly but also what is best practice for the promotion of CBT as a treatment for depression in older people. This will be distinct from earlier reviews, which have focused on both medication and psychotherapy for depression (Thompson, et. al., 2001; Butler, & Beck, 2000; Zerhusen, Boyle, & Wilson, 1991; Evan, 2007; Casacalenda, Perry, & Looper, 2002). These reviews found that medication, psychotherapy and electroconvulsive therapy, or any combination of the three, are effective treatments for depression in the elderly.

A search of the JBI Library of Systematic Reviews, Cochrane Library of Systematic Reviews, DARE database and MEDLINE has been performed and no existing systematic reviews were identified on this topic.

Objectives

The aim of this review is to examine the best available evidence to determine the effectiveness of Cognitive-Behavioural Therapy on treating depression in the elderly with mild andmoderate levels of depression. The specific review question is:

What is the effect of Cognitive-Behavioural Therapy on treating depression in elderly people?

Inclusion criteria

Types of participants

This review will consider all studies examining the treatment of older persons aged 60 years or more who had a score of 10 to 29 (mild to moderate level of depression) on the Beck Depression Inventory and were residents in a nursing home setting or in the community. Types of intervention(s)/phenomena of interest The intervention of interest to this review is Cognitive-Behavioural Therapy, which is based on cognitive theory and designed to consciously identify automatic negative thoughts and their associated problems, and to develop alternative thinking patterns and problem solving, aimed at reducing the level of depression.

Types of studies

This review will consider any randomised controlled trials (RCTs) that evaluate the effectiveness of CBT on the severity of depression in the elderly. In the absence of RCTs, quasi-experimental design will be considered for possible inclusion to enable the identification of the best available evidence for reducing depression in the elderly.

Types of outcomes

The primary outcome of interest is a change in depressive symptoms. Thus, this will be defined by the relative change in scores from pre-test to post-test as measured on a standard psychological test. The severity of depression is measured by validated scales, for example, Beck Depression Inventory (BDI) (Beck, & Steer,1993). The test contains 21 items, most of which assess depressive symptoms on a Likert scale of 0-3. People are asked to report on their mood and feelings over the past week, including the day

of the test.

Search strategy

The search strategy will be designed to access both published and unpublished studies in both English and Thai language will comprise three stages:

1. An initial search of PsycINFO, CINAHL and Medline to identify relevant keywords contained in the title, abstract and subject descriptors.

2. Terms identified in this way, and the synonyms used by respective databases, will be used in an extensive search of the literature across all included databases.

3. Reference lists and bibliographies of all identified reports and articles will be searched for additional studies.

The time period of the search will cover articles published and unpublished from 1990 to 2011 in both the English and Thai language. Assessment for inclusion of foreign language publication will be based on the English language abstracted, when available. The database searches will include:

- CINAHL
- EMBASE
- Cochrane Library
- PubMed
- Science Direct
- Current Contents Connect
- Thai Nursing Research Database
- Thai thesis database
- Digital Library of Thailand Research Fund
- Research of National Research Council of Thailand
- Database of Office of Higher Education Commission

Individual search strategies will be developed for each database, adopting the different terminology of index thesauri if available. The initial search terms to be used will be Cognitive-Behavioural Therapy, depression and elderly.

The grey literature search will consist of conducting an online search of databases and websites including:

- Dissertation International
- Conference Proceedings
- Mednar

The search will be conducted to locate relevant unpublished materials, such as conference papers, research reports, and digital dissertations. Content experts will be contacted in order to provide other alternatives for securing relevant literature.

Method of the review

All studies identified during the database searches will be assessed for relevance to the review and full reports will be retrieved for all studies that meet the inclusion criteria as assessed independently by two reviewers. Discrepancies in reviewer selections will be resolved at a meeting between reviewers prior to selected articles being retrieved. Those studies meeting the inclusion criteria will be submitted to critical appraisal.

Critical Appraisal

Papers selected for retrieval will be assessed by two independent reviewers for methodological validity prior to inclusion in the

review using the standardised critical appraisal instruments for the Joanna Briggs Institute Meta-Analysis of Statistics Assessment and Review Instrument (JBI-MAStARI). The studies will be categorised according to the level of evidence presented. Any disagreements that arise between the reviewers will be resolved through discussion with a third reviewer.

Data collection

Data will be extracted from papers included in the review using standardised data extraction tools from the JBI-MAStARI.

Data synthesis

Where possible, odds ratio (for categorical outcome data) or standardised mean differences (for continuous data) and their 95% confidence intervals will be calculated from the data generated by each included randomised controlled trial. If appropriate, data from comparable groups of studies will be pooled into statistical meta-analysis using JBI-MAStARI. Heterogeneity between studies will be tested using the standard chi-square test.

Where statistical pooling is not appropriate or possible, the findings will be summarised in narrative form.

Results

Study selection

The initial search on the basis of keywords yielded a total of 3122 papers. Of these, 2046 publications were excluded due to duplication of identified articles or were not research reports. A second stage elimination, based on closer scrutiny of the article title and abstract in relation to the inclusion criteria resulted in 17 studies deemed relevant for this review. Following reading of the full text articles and careful consideration of the inclusion criteria for this review, nine papers were excluded as they used inappropriate measurement outcomes, four papers provided in adequate data. On final assessment, 4 studies were identified as fulfilling all criteria for inclusion and for methodological quality.

Description of studies

Only four empirical studies of Cognitive-Behavioral Therapy in elderly depressives have been reported, all from two groups: Laidlaw et al., (2008), Thompson, et. al., (2001) ,and Strachowski and colleagues (2008) at Standford University, Serfaty et. al., (2009) at University college London. All studies are sufficiently similar to estimate an average effect.

All four studies were determine the clinical effectiveness of Cognitive-Behavoral Therapy and comparison in type contrasting CBT against other psychotherapies or biological therapy. Three studies favoured CBT over treatment as usual (Laidlaw et al., 2008; Thompson, et. al., 2001; Strachowski et. al., 2008; Serfaty et. al., 2009). Thompson, et. al., (2001) comparing desipramine and CBT, assigned 102 older adults with affective disorders to one of three groups: Desipramine-Alone, CBT-Alone, or a combination of the two. A positive treatment affect was found for group CBT compared to Desipramine-Alone.

Methodological features of studies reviewed

All four studies were randomized control studies. The paticipants were assigned randomly

to receive CBT. CBT applied in all studies followed the conceptual model and treatment programme specified by Beck and his colleagues, and was administered according to specific modifications for use with older adults. These involved strtegies to facilitate learning, such as repeated presentation of information using different modalities, slower rates of presentation and greater use of practice. The content of therapy was not cleary specify with regard to the extent of behavior and cognitive components. The length of treatment were 8-20 sessions. Each session lasted for 50 to 60 minutes. The four studies used individual rather than group treatment. All four of the studies which included control conditions such as treatment as usual , wait-list in their design reported positive results for CBT in older adults with depression (Laidlaw et al., 2008; Thompson, et. al., 2001; Strachowski et. al., 2008; Serfaty et. al., 2009).

Meta-synthesis

The effectiveness of Cognitive-Behavioural Therapy on treating depression in the elderly
For specific outcome measures, four studies were assessed for homogeneity and were possible combined in a mata-analysis. In all such instances the right hand side of the graph signified favoring the intervention. Results of metasynthesis showed that the overall effect size favours treatment group statistically significant (z= 2.51, p= 0.0120).

Number of studies found and retrieved

Number of studies found	Number selected for retrieval
4	4

Methodological quality

MASTARI

Number of studies included and excluded

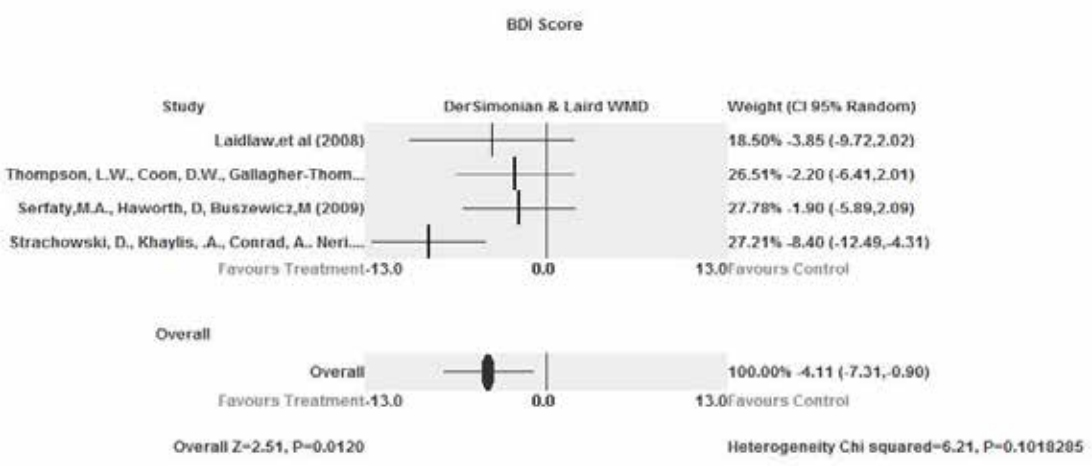
Number of studies included	Number of studies excluded
4	0

Randomised Control Trial / Pseudorandomised Trial

Citation	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
Laidlaw,et al, 2008	Y	Y	Y	N	Y	Y	N	Y	Y	Y
Serfaty,M.A., Haworth, D, Buszewicz,M, 2009	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Strachowski, D., Khaylis, .A., Conrad, A.. Neri.E, Spiegel, D. & Taylor.B, 2008	Y	N	U	U	Y	Y	Y	Y	Y	Y
Thompson, L.W., Coon, D.W., Gallagher-Thompson, D.,Sommer, B.R. & Koin,D. , 2001	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
%	100.00	75.00	75.00	50.00	100.00	100.00	75.00	100.00	100.00	100.00

Results of metasynthesis of quantitative research findings

Metasynthesis



Discussion

Regarding our question concerned the efficacy of CBT for depression in the elderly. The trials included in the review examined CBT with active therapeutic interventions or waiting list controls. Though the meta-analyses confirm that CBT is an effective intervention in older adults with depression in comparison to waiting list controls, the overall effect size is at best modest. None of the trials adequately reported how therapy or the control intervention was delivered or modified to suit the needs of the older. Overall, the elderly with depression improved, whether measured by the self-reported BDI. CBT is an effective treatment when compared with treatment as usual (TAU) and can use alone without medication. They showed improvements at the end of treatment conditions and at 6 months follow-up. CBT also can prove beneficial impact on the level of hopelessness (Laidlaw et al., 2008).

For the elderly with depression in primary care, CBT is an effective treatment when compare with treatment as usual (TAU) and talking control (TC) intervention, CBT is better than simply talking with a warm and empathic therapist. Unlike CBT in younger population, the data suggest that the treatment effects were maintained, but not enhanced, so suggest that older people may take slightly longer to adjust to change. It is possible that shorter and more frequent sessions would be more suitable (Serfaty et. al., 2009). When combine CBT with desipramine, the combine therapy were most effective in patients who were more severely depressed, particularly when desipramine was at all above recommended stable dosage levels. The psychotherapy can be an effective treatment for older adult outpatients with moderate levels of depression (Thompson, et. al., 2001).

Among the elderly with elevated cardiovascular disease risk (CVD), CBT can reducing depression and improve mood in older patients with elevated CVD risk during the day and during psychological stress testing, 57% of the patients in CBT group no longer depressed at follow-up compared to 4% of patients in control group. Patients in CBT group showed significantly more positive affect but no differences in negative affect during the day, and less negative affect during stress testing, but no differences in positive affect. This suggest that CBT may have different effects depending on the situation and setting (Strachowski et. al., 2008). The relatively small size of the studies can limit the generalist ability of the study and the ability to replicate the interventions in clinical practice (Strachowski et. al., 2008).

Although there are a number of studies supporting the effectiveness of CT on depression for the elderly, the generalizability of these results are questioned. The results may not apply to more socially, ethnically, and clinically diverse groups of depressed elderly (Strachowski et. al., 2008; Thompson, et. al., 2001).

Conclusion

In summary, CBT can be recommended for use and is expected to be effective in reducing depression in elderly. The effectiveness of CBT underscores the consistent finding in the literature that geriatric depression is treatable and that the elderly respond well to CBT. How durable the improvement is can be answered

by follow-up studies (Laidlaw et al., 2008). CBT can prove beneficial impact not only on the level of depression but also on the level of depression hopelessness (Thompson, et. al., 2001; Serfaty et. al., 2009). The studies suggest that CBT may have different effects depending on the situation and setting (Laidlaw et al., 2008). CBT process should be adapted for the elderly. The shorter and more frequent sessions of CBT would be more suitable for the elderly (Serfaty et. al., 2009).

Implications for practice

We suggest that CBT strategies with several adaptations can be benefit for older patients with depression. These evidence from this study provides a guideline for nursing practice.

Implications for research

Based on the limitations of the effect of CBT for elderly depression, replication of the study with randomly selectd participants from heterogeneous characteristics, and several settings are required to broaden generalization of this study. Future research might profitably focus on developing CBT techniques appropriated for older depressives. It would be useful to encourage studies of very old, physically frail. institutionalized and other distinct populations of older patients and, if possible, ensure adequate sample sizes.

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