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Rapid Review Article

Health Technology Assessment of the Psychotherapy Effect on Prevention of Suicide and Self-Harm: A Rapid Review of Secondary Studies

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Abstract

Introduction: According to the World Health Organization (WHO) report, acute depression disorders are the second largest health problem in the world which can cause disability and imposes huge costs on individuals and societies. This study aims to investigate the effectiveness and cost-effectiveness of using psychotherapy in patients with depression for prevention of suicide and self harm commitment.
Methods: Cochrane library (Issue 10, 2012) and CRD (Centre for Review and Dissemination) were searched using Mesh. Studies that compared psychotherapy with different alternative methods such as antidepressant drugs and used outcomes such as self-harm or suicide rates were included.
Results: Eighteen articles were included in this review. Most of them showed that using psychotherapy as only suicide preventive method cannot be sufficiently effective, so that in the one of the included meta-analysis was shown that the effect of psychotherapy on suicide imagination and the risk of suicide were small. In terms of cost-effectiveness, it seems that MACT (Manual-assisted cognitive behavior therapy) is a cost-effective method in prevention of self-harm.
Conclusion: Generally, it seems that using combination of therapeutic methods will increase the effectiveness of suicide and self-harm prevention methods.

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Introduction

According to the World Health Organization report, acute depression disorders are the second largest health problem in the world among diseases which can cause disability. It is estimated that 17% of people suffering from acute depression disorders during their lives and huge costs imposed on individuals and societies. In contrast with other medical disorders, depression disorders have the foremost negative effects on people's quality of life [1].

It is estimated that approximately one million people due to suicide die annually. Reducing the rate of suicidal behaviors is a national priority in many countries. Endeavors for reducing the incidence of suicide are supposed as a high-risk method. This method tries to find and treat people who are at the highest risk of suicide. The other efforts are considered as population-based strategies for reduction or control environmental factors that are associated with higher levels behaviors which lead to suicide. These efforts should be included by a wide range of high-risk and population-based strategies [2].

Currently, prevention from suicide in the several countries is as one of the major initiatives in health policy. Reduction in the rate of fatal and non-fatal suicidal behaviors is one part of the World Health Organization goals. However, there is a tremendous lack of information in case of effective strategy for prevention of suicide. Improving outcomes after deliberate self-harm calls for a major focus in this area because at least1%of patients in the UK general hospitals after self-harm commit suicide over the one next year and3 to 5% over the 5-10 next years. Almost half of all people who commit suicide have a history of deliberate self-harm [3]. Deliberate self-harm is one of the cases that led to admission in hospitals and incur care expenditures. Any treatment that reduces self-harm must have a major impact on the costs imposed by the service providers as well as the lost productivity due to illness or premature death [4]. Estimating the total economic cost of suicide and the behavior which lead to suicide is difficult. In 1996, only medical expenses of youth suicide and try to commit suicide in the United States are estimated at about 950 million US dollars. Generally, total expenditure including medical cases, future incomes and quality of life has been estimated to beabout15, 639 million US dollars [5].

The present study aims to investigate the effectiveness and cost-effectiveness of psychotherapy in patients with depression to assist policymakers in using this method as a preventive strategy for commitment of suicide.

Methods

The main electronic medical databases including Cochrane Library, Centre for Review and Dissemination and Google scholar were searched for published articles to November 2012, with no language restriction. Seventy two papers were retrieved; duplicated and non-relevant papers were excluded. The full texts of the remaining articles were checked against the inclusion/exclusion criteria to select studies for the review, eighteen papers were included in final phase (table 1).

A structured form was used to collect the data from the included studies. Inclusion criteria were the patients with acute depression who committed self-harm or suicide at least one time undergoing different methods of psychotherapy compared with alternative methods such as antidepressants when outcomes were suicide, deliberate self-harm repetition rate and also QALY, the type of studies was secondary (systematic review, economic evaluation and health technology assessment). Qualitative analysis was used for synthesizing of data. In this study the search strategy was:

#1: Suicide
#2: MeSH descriptor suicide explode all trees
#3: #1 OR #2
#4: Psychotherapy
#5: Psychosocial treatment
#6: #4 OR #5
#7: #3 AND #6

Results

In this review, 18 articles were included, the majority of them (10 studies) [1, 2, 3, 5, 6, 7, 8, 9, 15, 17] were systematic review, one was health technology assessment [18], two were clinical guideline [14,16] and five were economic evaluation [4, 10, 11, 12, 13].One paper was published in 2012 [6], two in 2011 [1,7], one in 2009 [15], one in 2007 [2], two in 2006 [12, 13], three in 2005 [5, 11, 16], two in 2004 [10, 14], two in 2003 [4,18], two in 2001 [9,17], one in 1998 [3] and one in 1997 [8]. Extracted data were analyzed qualitatively in two themes: Effectiveness and cost effectiveness.

I) Effectiveness

The study of Cuijpers et al showed that the effect of psychotherapy on suicide imagination and risk of suicide was low (g = 0.12; 95% CI: -0.20-0.44) and was not statistically significant but the effect on hopelessness was significant (g = 1.10; 95% CI: 0.72-1 .48) [6]. Arensman et al indicated that quality of included studies was good, but in most of evaluations there were a few participants and it was impossible to identify significant differences in self- harm [9]. Jakobsen et al in a study showed that in comparison with treatment as usual for patients with acute depression disorders, there isn't convincing evidences to support or reject the interpersonal psychotherapy or dynamics psychotherapy [1].The study of Linehan et al revealed that 4 studies with method of psychotherapy interventions and one study with method of drug therapy had more efficiency in comparison with usual treatment or placebo controls. Psychotherapy methods seem to be the most effectiveness in high-risk patients [8].Hatton et al indicated that the odds ratio implies on lower rate of self-harm by using problem solving therapy (0.73; 95% CI 0.45 to1.18), and the emergency contact card with standard cares (0.45; 0.19 to 1.07).Summary odds ratios are 0.83 (0.61 to 1.14)to evaluate the acute care and 1.19 (0.53 to2.67)for treatment with antidepressants in comparison with placebo. Rates of self harm with flupenthixol versus placebo (0.09; 0.02 to 0.50) and dialectical behavior therapy versus the standard cares (0.24; 0.06to 0.93) decreased significantly [3].Crawford and colleagues' results showed that the general rate of suicide among participants in evaluations is similar with reported cases in observational studies (in people with self harm). The results of this meta-analysis do not provide evidence based significant effect of psychotherapy after self harm on probability of future suicide [2].Ougrin and colleagues stated that there isn't enough evidence of excellence of special psychotherapy methods than treatment as usual methods (in related with young people who are suffering from self harm), the authors of this study stated that home care may improve the level of participation in treatment [7].Psychologists' Clinical guideline in the UK suggests that using of group psychotherapy (youths with several times of self harm along with other youths) can be useful. These meetings have to hold at least 6 times [14]. Donker et al in a study showed that the volume of cumulative standard to reducing the symptoms of depression and psychological anxiety after the intervention was d = 0/20 (with 95% confidence interval: 0/01 to 0/40, Z = 2/04, NNT = 9).Although it is generally believed that interventions based on psychological education are ineffective, this meta-analysis showed that interventions based on psychological education can relieves symptoms in patients with depression and anxiety for short-term and in passive form [15].UK Clinical Excellence Organization' clinical guideline suggests that children and young people with mild to acute depression should be considered as first-line treatment and receive specific psychological treatments (individual behavioral therapies, interpersonal therapy or therapy in family in the short term (It will take at least 3 months)) [16].Townsend and colleagues concluded that patients who received problem solving therapy had a significant improvement in depression (standardized mean difference=-0.36; 95% CI -0.61 to-0.11) and hopelessness (weighted mean difference=-3.2; 95% CI -0.40 to-2.41).Also, those in problem solving were better than the control group [17].Guo et al in a health technology assessment study showed that there isn't sufficient evidence on what type of clinical intervention (psychotherapy or drug therapy) for patients with deliberate self harm has the most effectiveness.The evidence from this study suggests that some treatments of psychotherapy and medication including problem solving therapy, providing emergency contact cards, treatment with flupenthixol and behavioral therapy by dialogue appears to reduce the number of trying for self harm [18].

Table 1. The list of included papers

NO	Author/publication date	Paper title	Design
1	Cuijpers P et al./2012	The effects of psychotherapy for adult depression on suicidality and hopelessness: A systematic review and meta-analysis [6]	Systematic Review
2	Ougrin D et al./2011	Specific psychological treatment versus treatment as usual in adolescents with self-harm: systematic review and meta-analysis [7]	Systematic Review
3	Crawford MJ et al./2007	Psychosocial interventions following self-harm Systematic review of their efficacy in preventing suicide [2]	Systematic Review
4	Hawton K et al./1998	Deliberate self harm: systematic review of efficacy of psychosocial and pharmacological treatments in preventing repetition [3]	Systematic Review
5	Burns J et al./ 2005	Clinical management of deliberate self-harm in young people: the need for evidence-based approaches to reduce repetition [5]	Systematic Review
6	Linehan MM et al./1997	Behavioral Treatments of Suicidal Behaviors Definitional Obfuscation and Treatment Outcomes [8]	Systematic Review
7	Jakobsen JC et al./2011	The Effect of Interpersonal Psychotherapy and other Psychodynamic Therapies versus 'Treatment as Usual' in Patients with Major Depressive Disorder [1]	Systematic Review
8	Arensman E et al./2001	Psychosocial and pharmacological treatment of patients following deliberate self-harm: the methodological issues involved in evaluating effectiveness [9]	Systematic Review
9	Tyrer P et al./2004	Differential effects of manual assisted cognitive behavior therapy in the treatment of recurrent deliberate self-harm and personality disturbance: the POPMACT study [10]	Economic Evaluation
10	Byford S et al./2003	Cost-effectiveness of brief cognitive behavior therapy versus treatment as usual in recurrent deliberate self-harm: a decision-making approach [4]	Economic Evaluation
11	Vos T et al./2005	Cost-effectiveness of cognitive–behavioral therapy and drug interventions for major depression [11]	Economic Evaluation
12	Palmer S et al./2006	The cost-effectiveness of cognitive behavior therapy for borderline personality disorder: results from the BOSCOT trial [12]	Economic Evaluation
13	Sobocki P et al./2006	Model to assess the cost-effectiveness of new treatments for depression [13]	Economic Evaluation
14	NICE / 2004	The short-term physical and psychological management and secondary prevention of self-harm in primary and secondary care [14]	Clinical Guideline
15	Donker T et al./2009	Psycho education for depression, anxiety and psychological distress: a meta-analysis [15]	Systematic Review
16	NICE / 2005	Depression in children and young people Identification and management in primary, community and secondary care [16]	Clinical Guideline
17	Townsend E et al./2001	The efficacy of problem-solving treatments after deliberate self-harm: meta-analysis of randomized controlled trials with respect to depression, hopelessness and improvement in problems [17]	Systematic Review
18	GuoB et al./2003	Suicide Prevention Strategies: Evidence from Systematic Reviews [18]	Health Technology Assessment

II) Cost-effectiveness

Although Tyrer et al in a study showed no significant difference between self harm in people of MACT group (39%) and TAU group (treatment as usual) (46%) (P = 0.20), this therapy method was more cost-effective (10% cheaper than TAU) and MACT group had lower frequency of self harm (50%).It was concluded that MACT have to be able to prevent self harm as a cost-effective method, but it seems that this conclusion is limited to patients without BPD (borderline personality disorder) [10].Byford and colleagues in a study concluded that differences in total per patient costs is statistically significant for of the MACT at 6 months(-£897, 95% CI -1747 to -48, P=0.04). It was suggested that with more than 90% of probability, MACT is more cost-effectiveness than treatment as usual for reducing recurrence of self harm during 1 year [4].Burns et al in their study stated that there is limited evidence on the treatments for reducing of self-harm recurrence in adolescents. Expensive interventions such as acute care do not provide any advantage than usual care [5]. Vos and colleagues showed that all of the tested interventions for the treatment of acute depression had increasing optimal cost-effectiveness ratio in Australian health service system. Bibliotherapy, Group CBT, individual CBT by psychologist and antidepressant therapy with tricyclic drugs were cost-effective in terms of Disability Adjusted life year (DALY).Preventive treatments with serotonin reabsorption inhibitors (SSRIs) were the most expensive treatment (in the range of AUS $ 17,000 to AUS $ 20,000 for per DALY) but until below the AUS $ 50,000 it works well as an available threshold [11]. Palmer et al concluded that averagely, the total per patient cost in cognitive behavior therapies group was lower than patients with the treatment as usual (-689 pounds), however the CBT group had lower QALY (0/11= QALY).According to results of this study, does not appear using of cognitive therapy for borderline personality disorder to provide significant cost-effective advantage [12]. Sobocki et al found that new hypothetical treatment (using new observational natural approaches on costs and quality of life of patients suffering from depression) in comparison with standard care could reduce the costs dramatically and provide more QALY. With an effect of 50 percent on reaching to complete remission, the cost savings were 20,000 Swedish kronor in

5-years and also .073 QALYs were reached [13].

Discussion

According to the included studies, it seems that using psycho therapy as the only way of suicide prevention method couldn't be effective enough. So that Cuijpers et al. in their study showed that the effects of psychotherapy on suicide imagination and suicide risk was low (g = 0.12; 95% CI: -0.20-0.44) and was not statistically significant [6]. Also, in another study it was noted that psychotherapy is the most effective in high-risk patients[8].It seems that a combination of methods including problem solving therapy, providing emergency contact cards, treatment with flupenthixol and behavioral therapy with dialogue can reduce suicide and deliberate self-harm effectively, so that Hatton et al. indicated that the odds ratio implies on lower rate of self-harm by using problem solving therapy (0.73; 95% CI 0.45 to1.18), and the emergency contact card with standard cares (0.45; 0.19 to 1.07). Summary odds ratios are 0.83 (0.61 to 1.14) to evaluate the acute care and 1.19 (0.53 to2.67) for treatment with antidepressants in comparison with placebo. Rates of self-harm with flupenthixol versus placebo (0.09; 0.02 to 0.50) and dialectical behavior therapy versus the standard cares (0.24; 0.06 to 0.93) decreased significantly [3]. Also, some studies suggest that home care may improve the level of participation in treatment [7]; some also claim that the use of large group therapy with other youth who committed repetitive self-harm may be useful [14]. In terms of cost effectiveness, it seems that the MACT (Manual-Assisted Cognitive Behavior Therapy) be able to prevent self-harm as a cost-effective method butit seems that this is limited to individuals without BPD (borderline personality disorder) [4, 10, 12].

Conclusion

Generally, it seems that psychotherapy couldn't be used as an only effective suicide and self harm prevention method in depressive people, so in order to increase the effectiveness, it is better to use combination methods, such as simultaneous use of psychotherapy and medical therapy including problem-solving therapy, providing emergency contact cards, flupenthixol therapy and behavioral therapy with dialogues. However, if there was the possibility of using psychotherapeutic techniques as only way of suicide prevention it is better using MACT, the included studies emphasizes that this method can be cost-effective in the prevention of self-harm.

Conflict of Interest Statement

There is no conflict of interest in this study.

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