Effects of Narrative Exposure Therapy for Treating Depressive and Anxious Disorders: A Systematic Review and Meta-Analysis

Chen Geng¹, Miao Zhang¹, Lily Zhang¹, Hai Yin¹, and Suyun Wang²

¹Department of Intensive Care Unit, Qilu Hospital (Qingdao), Cheeloo College of Medicine, Shandong University, Qingdao, China
²Department of Nursing, Qilu Hospital (Qingdao), Cheeloo College of Medicine, Shandong University, Qingdao, China

Objective Narrative exposure therapy (NET) has been used in various contexts for the treatment of the effects of trauma, with promising results in clinical trials. However, its effects on anxiety and depression are still unclear. The present study is a systematic review and meta-analysis of the effects of NET on depression and anxiety.

Methods The Embase, Cumulative Index of Nursing and Allied Health Literature, PubMed, Web of Science core collection, Cochrane Library, Chinese National Knowledge Infrastructure, Chinese Biomedical Database, and Wangfang databases were searched from the earliest records to March 2023. Two researchers independently screened the literature, extracted data, evaluated the risk of bias, and cross-checked the data. Meta-analysis was performed using the program RevMan 5.3.

Results Eleven randomized controlled trials with a total of 754 participants were included in the study. The results showed that NET reduced both the depression (standard mean difference [SMD]=-0.51, 95% confidence interval [CI] -0.73–-0.29, p<0.00001) and anxiety (SMD=-0.65, 95% CI -1.13–-0.18, p=0.007) scores of the patients. Furthermore, NET was found to alleviate negative emotions associated with guilt (mean difference [MD]=-3.60, 95% CI -5.52–-1.68, p=0.0005) and negative change (MD=-5.80, 95% CI -9.76–-1.83, p=0.004).

Conclusion This analysis showed that NET can alleviate depression and anxiety. It may thus be used in clinical settings to alleviate patients’ negative feelings and aid their overall recovery.

Keywords Narrative exposure therapy; Depression; Anxiety; Meta-analysis.

INTRODUCTION

Depression and anxiety are two of the most common mental health issues affecting people worldwide.¹ According to the World Health Organization,² more than 300 million people of all ages suffer from depression and anxiety. Physical functioning, self-reported and objective cognitive functioning, social functioning, and overall quality of life are all negatively impacted by depression, making it a leading cause of illness and mortality.⁴⁻⁶ Despite widespread acceptance, medication for negative emotions often fails to produce the expected results due to severe adverse effects and low compliance.⁷,⁸ Psychotherapy is widely used in clinical practice as it is an effective non-invasive, low-cost therapeutic strategy with an absence of adverse effects.

Currently, cognitive and behavioral psychotherapy,⁹,¹⁰ psychodynamic psychotherapy,¹¹,¹² and interpersonal psychotherapy¹³ are the most widely accepted psychological treatments for anxiety and depression. A form of cognitive behavioral therapy known as “narrative exposure therapy” (NET) that focuses on the effects of trauma¹⁴ is founded on the postmodern philosophy that claims that problems are independent of people and are created based on clients’ experiences that do not match their ideal experience of self.¹⁵,¹⁶ Since its inception less than three decades ago, it has expanded to include a variety of applications, such as NET for refugees with post-traumatic stress disorder,¹⁷,¹⁸ NET investigating the effect of early stories about the self on attachment,¹⁹,²⁰ and NET serving as an additional service option to complement established treatments.²¹ Furthermore, NET is beneficial for individuals and families dealing with a wide range of medical conditions, such as eating disorders,²² stress associated with illness,²³ chronic pain,²⁴ and diabetes.²⁵ Because of its low operator requirements, high adaptability, and positive impact on some mental diseases,²⁶,²⁷ NET

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Correspondence: Suyun Wang, MD
Department of Nursing, Qilu Hospital (Qingdao), Cheeloo College of Medicine, Shandong University, 758 Hefei Road, Qingdao, Shandong 266033, China
Tel: +18561819802, Fax: +0532-66852781, E-mail: 18661656703@163.com
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can be provided by individuals without training in the mental health profession. Clinical studies have shown that NET, like other cognitive behavioral therapies, can alleviate depression in patients. However, several studies observed that NET had no discernible impact on negative emotions.

Despite the number of reports on NET, there are significant uncertainties that remain. This study aimed to further integrate NET into therapeutic practice by rigorously assessing its effectiveness in alleviating feelings associated with distress, such as despair, anxiety, stigma, distress due to negative change, and guilt.

METHODS

Meta-analytic procedures were conducted following the PRISMA guidelines. This study was registered on PROSPERO, with the registration number is CRD42019135469.

Data sources and search strategy
From their earliest records to March 2023, the terms “anxiety,” “anxiety disorder,” “anxiolytic,” or “depressive symptoms,” “depression,” “depressive disorder,” “narrative exposure therapy,” “narrative medicine,” or “narratively guided psychotherapy” were used to search Embase, Cumulative Index of Nursing and Allied Health Literature (CINAHL), Pubmed, the Cochrane Library, core collection of Web of Science, China Knowledge Resource Integrated, Chinese biomedical literature database, and WangFang Database. Databases were searched from their inception to March 2023, using the terms “anxiety,” “anxiety disorder,” “anxiolytic,” “depressive symptoms,” “depression,” “depressive disorder,” “narrative exposure therapy,” “narrative medicine,” and “narratively guided psychotherapy.” Medical subject headings, controlled vocabulary (Medical subject headings [EMTREE] and CINAHL Headings), and an evaluation of the primary search results were used to compile a list of relevant keywords. The specific search strategy is shown in the Supplementary Table 1 (in the online-only Data Supplement). The bibliographic references of relevant articles and reviews were manually searched to identify further studies.

Selection criteria
The PICOS (population, intervention, control, and outcomes) strategy served as the foundation for the inclusion criteria. Studies included participants with clinical diagnoses of depression in accordance with the Diagnostic and Statistical Manual of Mental Disorders criteria. Depression in children and adolescents, mild, moderate, and severe forms, and postpartum depression were all covered. Narrative medicine alone versus standard of care and narrative medicine in combination with standard of care were included in this study. The indicators of anxiety and depression reported by the included studies were used as the primary outcome measure. Other unpleasant feelings (such as shame, guilt, or distress associated with unfavorable changes) were a secondary outcome measure. The study design included randomized controlled trials (RCTs) with a meta-analytic dataset. This study excluded the following criteria: 1) inconsistency between research objects, intervention measures, and outcome indicators, 2) repetition of previously published material, 3) a muddled account of the relevant literature, and 4) insufficient information to conduct the research.

Data abstraction
The first author, publication year, place of origin, participant characteristics, characteristics of the narrating intervention, follow-up times, results, and measurements were all retrieved from each study by two researchers working independently. Only relevant information and data were retrieved from the original articles when the trials featured more than two groups or factorial designs that allowed multiple comparisons. To avoid data duplication, we double-checked all listed studies in Table 1.

Assessment of risk of bias
Two researchers independently classified each quality issue as low, high, or uncertain, using the Cochrane risk-of-bias criteria for the included RCTs. To evaluate the quality of each study, we examined its use of randomization sequences, allocation concealment, participant and staff blinding, blinding of outcome assessment, insufficient outcome data, selective reporting, and other forms of bias. Other biases were characterized as being the same for both the experimental and control groups regarding the comparability of baseline data.

Meta-analysis
A random effects model in Review Manager, version 5.3 (The Nordic Cochrane Centre, The Cochrane Collaboration, Copenhagen, Denmark) software was used for the analysis. The standard mean difference (SMD) or mean difference (MD) with 95% confidence intervals (CIs) were determined for each study that measured a continuous outcome. The I² statistic, which measures the degree of heterogeneity between proportions, was used to examine the homogeneity of effect sizes. Statistical tests were performed to ascertain the extent of heterogeneity and establish whether a fixed or random effects model was better suited for the investigation. The p-values were determined using a type I error rate of 5% and two-tailed tests for significance. A sensitivity analysis was performed by dropping one or more RCTs with an effect size of less than −1.5 if the outcome had an I² value of 50% or more. To identify variation, a subgroup analysis was conducted based on the follow-up
<table>
<thead>
<tr>
<th>Study</th>
<th>Country</th>
<th>The original disease</th>
<th>Sample (N)</th>
<th>Sex (F/M)</th>
<th>Age (yr)</th>
<th>Treatment</th>
<th>Duration of study</th>
<th>Follow-up period</th>
<th>Measurement</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zang et al. 2014</td>
<td>China</td>
<td>PTSD</td>
<td>10</td>
<td>9/1</td>
<td>53.5±1.24</td>
<td>NET 4 sessions frequency: weekly or biweekly</td>
<td>3 weeks</td>
<td>3 months</td>
<td>HADS</td>
<td>*†‡§</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>10</td>
<td>8/2</td>
<td>56.6±1.47</td>
<td>WLC received the NET-R treatment after a three week waiting period</td>
<td></td>
<td></td>
<td>MSPSS</td>
<td></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>CIQQ-S</td>
<td></td>
</tr>
<tr>
<td>Zang et al. 2013</td>
<td>China</td>
<td>PTSD</td>
<td>11</td>
<td>8/3</td>
<td>56.6±12.22</td>
<td>NET 4 therapy sessions of 60–90 min each, which lasted 2 weeks</td>
<td>2 weeks</td>
<td>2 months</td>
<td>HADS</td>
<td>*†‡§</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>11</td>
<td>9/2</td>
<td>54.8±11.59</td>
<td>WLC after a waiting period (2 weeks)</td>
<td></td>
<td></td>
<td>MSPSS</td>
<td></td>
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<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>CIQQ-S</td>
<td></td>
</tr>
<tr>
<td>Ertl et al. 2011</td>
<td>Northern</td>
<td>Uganda</td>
<td>29</td>
<td>16/13</td>
<td>18.66±3.77</td>
<td>NET 8 individual sessions lasted between 90 and 120 min and were scheduled 3 times a week</td>
<td>-</td>
<td>3, 6, 12 months</td>
<td>CAPS</td>
<td>†¶</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PTSD</td>
<td>28</td>
<td>19/9</td>
<td>18.32±4.30</td>
<td>WLC</td>
<td></td>
<td></td>
<td>MINI</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>PSQ</td>
<td></td>
</tr>
<tr>
<td>Rocha et al. 2018</td>
<td>American</td>
<td>TOP</td>
<td>26</td>
<td>26/0</td>
<td>32.3±5.97</td>
<td>Cognitive narrative intervention: the manual has four weekly sessions of 60 min each</td>
<td>4 weeks</td>
<td>2 months</td>
<td>BDI</td>
<td>†</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>67</td>
<td>67/0</td>
<td>33.3±6.66</td>
<td>Usual care</td>
<td></td>
<td></td>
<td>Zung</td>
<td></td>
</tr>
<tr>
<td>Vega et al. 2011</td>
<td>Spain</td>
<td>Oncologic disease</td>
<td>39</td>
<td>34/15</td>
<td>53.2±9.5</td>
<td>NT plus escitalopram: the therapy was carried out individually during 12–45 min weekly sessions</td>
<td>-</td>
<td>6 months</td>
<td>HADS-D</td>
<td>†</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>33</td>
<td>24/9</td>
<td>56±10.8</td>
<td>Escitalopram plus usual care: escitalopram (10–20 mg QD) plus usual care</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alghamdi et al. 2015</td>
<td>Saudi Arabia</td>
<td>PTSD</td>
<td>17</td>
<td>0/17</td>
<td>28.7±4.1</td>
<td>NET 4 therapy sessions of 60–90 min each, which lasted 3 weeks</td>
<td>3 weeks</td>
<td>3 weeks</td>
<td>HADS</td>
<td>*†</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>17</td>
<td>0/17</td>
<td>32.2±6.23</td>
<td>WLC after 3 weeks waiting period</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*†‡§: Refer to additional notes or references.
<table>
<thead>
<tr>
<th>Study</th>
<th>Country</th>
<th>Disease</th>
<th>Sample (N)</th>
<th>Sex (F/M)</th>
<th>Age (yr)</th>
<th>Treatment</th>
<th>Duration of study</th>
<th>Follow-up period</th>
<th>Measurement</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Li et al.</td>
<td>China</td>
<td>Kidney cancer</td>
<td>60</td>
<td>31/29</td>
<td>54.67±2.1</td>
<td>Narrative nursing+usual care: continuous intervention for 4 weeks, once a week, about 45–60 min each time, telephone visit once a week</td>
<td>4 weeks</td>
<td>4 weeks</td>
<td>PHQ-9</td>
<td>*†</td>
</tr>
<tr>
<td>Salloum et al. 2012</td>
<td>US</td>
<td>PTSD</td>
<td>37</td>
<td>19/18</td>
<td>9.6±1.52</td>
<td>Narrative restorative total 10 sessions, every session approximately 45 min</td>
<td>-</td>
<td>Post, 3, 12 month</td>
<td>MFQ-C</td>
<td>‡‡</td>
</tr>
<tr>
<td>Wise et al. 2018</td>
<td>US</td>
<td>Advanced cancer</td>
<td>49</td>
<td>40/9</td>
<td>57±8.5</td>
<td>Narrative interview miLivingStory, the treatment condition, three components</td>
<td>2 months</td>
<td>2.4 months</td>
<td>POMS-SF</td>
<td>*†</td>
</tr>
<tr>
<td>Lloyd-Williams et al. 2018</td>
<td>England</td>
<td>Moderate to severe depression</td>
<td>33</td>
<td>33/9</td>
<td>66.2</td>
<td>Narrative intervention in addition to usual care lasting from 25 to 60 min</td>
<td>2, 4, 6 weeks</td>
<td>2, 4, 6 weeks</td>
<td>PHQ-9</td>
<td>†</td>
</tr>
<tr>
<td>Zong et al. 2017</td>
<td>China</td>
<td>Advanced lung cancer</td>
<td>62</td>
<td>25/37</td>
<td>55.29±12.03</td>
<td>Narration medicine Routine perioperative Care</td>
<td>-</td>
<td>-</td>
<td>SAS</td>
<td>*†</td>
</tr>
</tbody>
</table>

*anxiety; †depression; §social support; ¶negative changes; ¶¶guility; ¶¶¶stigmat. PTSD, post traumatic stress disorder; NET, narrative exposure therapy; WLC, waiting list control; NET-R, narrative exposure therapy revise; HADS, hospital anxiety and depression scale; MSPSS, the Multidimensional Scale of Perceived Social Supply; CiQQ-S, The Short Form of the Changes in Outlook Questionnaire; CAPS, the Clinician Administered PTSD Scale; MINI, Mini international Neuropsychiatrica; PSQ, the Perceived Stigmatization Questionnaire; TOP, termination of pregnancy; BDI, the Beck Depression Inventory; Zung, Zung Self Rating Depression Scale; NT, narrative therapy; HADS-D, hospital anxiety and depression scale-depression; PHQ-9, Patient Health Questionnaire; GAD-7, Generalized Anxiety Disorder-7; MFQ-C, Mentoring Functions Questionnaire; POMS-SF, Short form of the Profile of Mood States; SAS, Zung’s Self-Rating Anxiety Scale; SDS, Zung’s Self-Rating Depression Scale
duration. Funnel plots were used to assess the extent of publication bias. A two-tailed significance level of p<0.05 was used for all analyses.

**Ethical approval**
Since this is a review of already published material, no specific considerations for patient welfare were necessary.

**RESULTS**

**Search results**
A total of 1,904 studies were initially identified. We found 1,524 references from the searches after removing duplicates. After evaluation of titles and abstracts, only 906 of the 1,524 articles were retained. A total of 618 papers were disqualified after further title screening, and another 224 were disqualified after further abstract examination, leaving only 56 articles that could be considered for full-text review. After excluding 45 publications for other reasons, the final meta-analysis only used data from 11 primary studies. Figure 1 depicts the PRISMA flow diagram.

**Description of trials**
A total of 754 participants (476 female and 278 male) were enrolled in the 11 RCTs. Each participant in the study reported experiencing depressive or anxious feelings. The included studies were all RCTs, with the experimental group receiving NET-related interventions; 36% compared NET to a waiting list, and 54% used NET-related measures instead of standard care. Table 1 depicts the characteristics of the studies.

**Risk of bias**
Studies performed best in the categories of random sequence generation (11/11) and the handling of missing outcome data (11/11), according to the Cochrane Collaboration's criteria for assessing the risk of bias. The blinding of research subjects and personnel (4/11) and the appraisal of outcome data (5/11) were both found to be subject to bias. Bias was most frequently introduced through subpar allocation concealment in trials (2/11). Overall, 67.5% of the items had minimal risk of bias, while 32.5% of them had unknown risk. Figure 2 shows the risk of bias graph and lists the authors' evaluations of each risk of bias item across all included studies, presented as percentages.

**Outcomes**

**Meta-analysis**
Given the substantial differences between the NET group and the control group (SMD -0.51, 95% CI -0.73−-0.29, I² = 51% p<0.0001), 11 RCTs involving 754 patients reported improvement in depressive symptoms (Figure 3).

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**Figure 1.** PRISMA flow diagram. PRISMA, Preferred Reporting Items for Systematic Reviews and Meta-Analyses; RCT, randomized controlled trial.
Depression reduction at different follow-ups

The data were divided into subgroups based on the length of follow-up. Seven RCTs including 446 patients\(^{33,35,38,40,42,43}\) reported improvement in depressive symptoms after ≤1 month of follow-up; three RCTs involving 198 patients\(^{35,36,41}\) assessed 1–3 months follow-up; four RCTs\(^{36,37,39,41}\) involving 301 patients assessed 3–6 months follow-up; and two RCTs\(^{35,41}\) involving 126 patients assessed 6–12 months follow-up (Figure 4). No significant differences were observed in the improvement in depressive symptoms between the narrative medicine and control groups at 1–6 months follow-up, whereas differences were found at less than 1 month and after 6–12 follow-up. The total heterogeneity $I^2$ was reduced to 41%.

Anxiety reduction

Seven RCTs, including 493 participants, found that those receiving NET had fewer anxiety symptoms than those receiving control treatment\(^ {33,34,37,39,40,42,43}\) as shown in Figure 5. After a sensitivity analysis, the results were found to be stable, with $I^2$ reduced to 38% when one RCT was excluded\(^ {40,42}\) as shown in Figure 6.

Meta-analysis of negative emotions

The improvement in negative emotions associated with stigma and social support after a follow-up of less than 1 month was not statistically different between the NET and control groups, as shown in Table 2.

Sensitivity analysis

A sensitivity study was conducted to determine the cause of any discrepancies in the meta-analysis of the effect of NET on anxiety. The researchers reread the original texts to identify potential sources of variation and found that more participants were included in one study compared with similar studies. When the study by Zong et al.\(^ {42}\) was removed from the analysis, the heterogeneity dropped from 82% to 38%, and the result became steady.

DISCUSSION

Summary

This meta-analysis included a total of 754 subjects from 11 RCTs. The included studies were rated as having an overall moderate quality. Studies of moderate quality were assigned to each of the listed studies. The meta-analysis indicated that NET was more effective than control treatments in the alleviation of depression and anxiety. Following the intervention, depressive symptoms were found to decrease over both the shorter and longer follow-up times, while no differences were seen between the two groups between 1 month and 6 months of follow-up. This meta-analysis shed light on upcoming services and research by offering a thorough grasp of the current state of the data on the effectiveness of NET in reducing depression and anxiety symptoms.

Follow-up times of less than 1 month and more than 6 months were associated with greater benefits of NET for the alleviation of depression compared with the control treatments. Additionally, NET was found to be more effective than the control for treating anxiety, consistent with the findings of several other studies.\(^ {14,44}\) Symptom-oriented psychotherapy has been suggested to be one of the best treatments for depression and anxiety.\(^ {45}\) To satisfy the needs of patients with depression or anxiety, NET is a standardized approach\(^ {46}\) based on several principles.\(^ {47}\) All of these investigations employed narrative techniques to elicit
Figure 3. The influence of NET on depression. Significant differences were found between the NET and control groups (SMD -0.51, 95% CI -0.73 to -0.29, P=0.0001), with 11 RCTs involving 754 patients reporting improvement in depressive symptoms. SD, standard deviation; CI, confidence interval; NET, narrative exposure therapy; SMD, standard mean difference; RCTs, randomized controlled trials.

Figure 4. The influence of NET on depression (subgroup analysis). The data were divided into subgroups based on the length of patient follow-up. Seven RCTs involving 446 patients reported improvement in depressive symptoms at ≤1 month of follow-up; three RCTs involving 198 patients assessed 1–3 months of follow-up; four RCTs involving 301 patients assessed 3–6 months of follow-up; two RCTs involving 126 patients assessed 6–12 months of follow-up. No significant differences were observed in the improvement in depressive symptoms between the narrative medicine and control groups at 1–6 months follow-up, whereas significant differences were observed at less than 1 month and 6–12 months of follow-up. The total heterogeneity I² was reduced to 41%. SD, standard deviation; CI, confidence interval; NET, narrative exposure therapy; RCTs, randomized controlled trials.
Effects of NET on Depression and Anxiety

and explore individuals’ perspectives on their illnesses and treatment options. Follow-up periods of less than 1 month were associated with good compliance, which contributes to the improvement in both anxiety and depression. Despite a positive tendency, there may be no marked improvement in symptoms with longer follow-up times as the patients may enter a type of exhaustion period. Only 2 trials involving subgroups that were followed-up for more than 6 months reported that narrative therapy improved depression. Figure 4 shows that the number of studies with subgroups with follow-up times of more than 6 months is low, suggesting that the reliability of the source is low. No subgroup analysis was performed on patient anxiety due to the small number of papers.

With a follow-up period of less than a month, NET was found to be more effective in reducing negative emotions associated with change but not in reducing feelings of stigma or increasing social support. One study found that when NET was used for the successful treatment of serious illnesses, it could also help people feel better emotionally. However, the strength of the data was deemed insufficient to assess the effect of story

Table 2. Summary of meta analyses of studies using narration medicine to improve negative emotions

<table>
<thead>
<tr>
<th>Outcome measure</th>
<th>Trails</th>
<th>Sample size (intervention/control)</th>
<th>Measure of effects</th>
<th>Follow-up period</th>
<th>Intervention effect size (95% CI)</th>
<th>p of effect</th>
<th>Heterogeneity (I²)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social support</td>
<td>3</td>
<td>111 (58/53)</td>
<td>MD</td>
<td>≤1 month</td>
<td>-1.48 (-4.73–1.76)</td>
<td>0.37</td>
<td>19</td>
<td>0.29</td>
</tr>
<tr>
<td>Negative change</td>
<td>2</td>
<td>42 (21/21)</td>
<td>MD</td>
<td>≤1 month</td>
<td>-5.80 (-9.76–-1.83)</td>
<td>0.004</td>
<td>0</td>
<td>0.91</td>
</tr>
<tr>
<td>Guilty</td>
<td>1</td>
<td>57 (29/28)</td>
<td>MD</td>
<td>3 months</td>
<td>-2.50 (-4.33–-0.67)</td>
<td>0.007</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>MD</td>
<td>6 months</td>
<td>-0.38 (-2.29–-1.53)</td>
<td>0.70</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>MD</td>
<td>12 months</td>
<td>-3.60 (-5.52–-1.68)</td>
<td>0.0005</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Stigma</td>
<td>1</td>
<td>57 (29/28)</td>
<td>MD</td>
<td>3 months</td>
<td>-0.26 (-0.71–0.19)</td>
<td>0.26</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>MD</td>
<td>6 months</td>
<td>-0.44 (-0.87–-0.01)</td>
<td>0.05</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>MD</td>
<td>12 months</td>
<td>-0.41 (-0.83–-0.01)</td>
<td>0.05</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

MD, mean deviation; CI, confidence interval; N/A, not applicable
exposure treatment on patients with negative emotions since only 3 of the 12 studies investigated social support. There was insufficient evidence to establish the efficacy of NET for patients struggling with negative emotions as only 1 of 12 studies investigated stigma. Due to individual differences, a limited patient pool could introduce substantial bias into the results. Future research should aim for a longer time frame to better detect change and evaluate the durability of reductions in negative emotions.

Strengths and limitations
This is the first systematic evaluation to examine the benefits of NET for mood disorders, including anxiety and depression, across multiple subgroups. The present investigation had several limitations. First, there was no subgroup analysis on depression severity and primary disease types in the original data. Second, the results may have varied because of differences across studies, including demographic characteristics, diagnostic findings, sample sizes, measuring instruments, and follow-up. Third, implementation and measurement biases occurred since most methods for random sequence generation and allocation concealment were unclear, and whether or not blinding subjects, testers, and outcome assessors were performed was not stated. Fourth, the current review lacks gray and paper documents since only published papers in Chinese and English were searched. Finally, publication bias could not be evaluated since very few research articles were included.

Implications
The findings indicated that NET is effective for treating the symptoms of depression, suggesting its application in clinical settings according to specific scenarios. Since only trained psychologists may administer NET, the field of psychology and the medical establishment are intrinsically linked with medical institutions and professional psychologists. No significant differences in the reduction of depressive symptoms following NET intervention were found between one and 6 months of follow-up. Thus, NET may therefore have an advantage over current treatments because of its potential effectiveness over a longer time.

Future studies should emphasize methodological rigor by increased attention to random allocation according to random sequence generation and the concealment of allocation details. To reduce bias, researchers should use the CONSORT guideline and carry out studies with reasonable sample sizes and extended follow-up periods. Thus, there is an immediate need for the following types of systematic reviews to be conducted: the effectiveness of NET over a variety of populations and symptoms, a systematic assessment of the treatment of depression and anxiety compared to the effects of different interventions, and a determination of whether or not comprehensive interventions are superior to those focusing on a single treatment modality.

Conclusions
From this analysis, we found that NET is successful in alleviating depression and anxiety. As a brief, non-invasive psychotherapy that can be administered by non-mental health professionals, NET merits promotion as a treatment for depression and anxiety to alleviate patients’ suffering and achieve total rehabilitation.

Supplementary Materials
The online-only Data Supplement is available with this article at https://doi.org/10.30773/pi.2023.0281.

Availability of Data and Material
The datasets generated or analyzed during the study are available from the corresponding author on reasonable request.

Conflicts of Interest
The authors have no potential conflicts of interest to disclose.

Author Contributions

ORCID iDs
Chen Geng https://orcid.org/0000-0002-0972-8191
Miao Zhang https://orcid.org/0009-0009-8424-0471
Lily Zhang https://orcid.org/0009-0005-5169-8175
Hai Yin https://orcid.org/0009-0000-2032-0317
Suyun Wang https://orcid.org/0009-0000-8251-2912

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