




Review

A scoping review of low-intensity cognitive behavioral therapy studies across Asia



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ABSTRACT

Introduction: Mental health conditions are increasing globally, yet access to mental health services remains limited, particularly in Asia. Low-intensity cognitive behavioral therapy (LI-CBT) interventions offer a scalable, cost-effective approach to addressing mild-to-moderate mental health issues. However, the implementation of LI-CBT in Asia remains unclear. This scoping review examines existing research on LI-CBT in Asia, identifies research gaps, and explores the extent of cultural adaptations made to these interventions, providing an overview of the literature and highlighting future research and practice avenues.

Methods: Adopting the PRISMA-ScR guidelines, a systematic search was conducted in PubMed, PsycINFO, CINAHL, EMBASE, Web of Science, and Scopus, focusing on peer-reviewed studies published between 2005 and 2024. Primary research studies conducted in Asia that employed LI-CBT interventions according to a formal framework for classifying these programs were included. Data were charted and analyzed to identify key themes in various study characteristics, intervention types, outcomes, and cultural adaptations.

Results: A total of 42 studies from 12 Asian countries were identified, with Japan and China contributing the most research. Most studies reported positive outcomes; research gaps remain due to the heterogeneity of implementation, small sample sizes, inadequate controls, short follow-up periods, and inconsistent cultural adaptations beyond language translation.

Conclusion: LI-CBT holds promise for improving mental health accessibility in Asia. However, further research is needed to enhance cultural adaptation considerations and create standardized intervention frameworks that can be modified for use in diverse populations.

1. Introduction

Globally, mental health conditions are on the rise while the growth of mental health services has remained relatively stagnant, resulting in mental health needs outpacing available options. These accessibility gaps are particularly prominent in the Asian region, where resources dedicated to mental healthcare are significantly limited due to the relative lack of attention and funding for these issues (Aliev et al., 2021; Maramis et al., 2011). Decades of inattention to such a pressing problem, coupled with rising demand for mental health treatments, mean that an effective solution would require careful optimization of resources to ensure sustainable and sufficient support while maintaining their

effectiveness and evidence-based nature. Low-intensity psychological interventions offer such a scalable solution for efficiently delivering empirically supported mental health services, as they aim to maximize clinical outcomes while minimizing resource costs, thereby increasing the accessibility of treatment (Bennett-Levy, 2010).

One such low-intensity intervention is low-intensity cognitive behavioral therapy (LI-CBT), which is often the first level of intervention for adults with mild depression and certain anxiety disorders (Shafan et al., 2021). Several systematic reviews and meta-analyses demonstrate that LI-CBT is effective in treating anxiety, depression, and psychosis (Etzelmueller et al., 2020; Hazell et al., 2016; Powell et al., 2024; Wuthrich et al., 2024). However, despite its seeming popularity, there

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has been a lack of consensus on the definition of what constitutes LI-CBT. For example, [Bennett-Levy \(2010\)](#) vaguely defines LI-CBT as those that enable high-volume treatment access by reducing practitioner-patient contact and employing practitioners without formal therapy qualifications. On the other hand, [Papworth et al. \(2013\)](#) characterized LI-CBT by their short duration, typically six to eight weekly sessions lasting about 30 min each, and their delivery modes, such as self-help materials, large-format groups, and computerized CBT programs. This lack of consensus has led [Shafran et al. \(2021\)](#) to put forth a standard definition of LI-CBT to promote consistency across clinical and research settings. They propose that LI-CBT interventions are those that “(i) utilizes self-help materials, (ii) [has] 6 h or less of contact time with each contact being typically 30 min or less, and (iii) trained practitioners or supporters can provide any input.”

Establishing a clear definition of LI-CBT was a crucial step, especially as the cultural adaptation of interventions gains recognition as vital for ensuring their relevance and effectiveness across diverse populations. Defined as the deliberate adjustment of evidence-based treatment protocols to align with the contextual realities of the client, cultural adaptation ensures interventions resonate with the individual’s cultural patterns, values, and meanings ([Bernal et al., 2009](#)). This process is not only crucial for enhancing therapeutic efficacy but also represents a fundamental ethical obligation ([Bernal and Adames, 2017](#)). Adaptation can also occur on a superficial level, with changes made to topics such as language or the types of examples used to impart knowledge, rather than deeper considerations, such as the type of intervention components (i.e., cognitive or behavioral approaches) that may be preferred due to sociocultural norms ([Heim and Köhrt, 2019](#)).

CBT is inherently influenced by the cultural values upon which it is built ([Hays and Iwamasa, 2006](#)). It focuses on identifying and altering core beliefs and unhelpful thought patterns that contribute to mental health challenges. However, these core beliefs, underlying assumptions, and automatic thoughts are shaped by cultural contexts and can vary significantly across populations ([Şahin and Şahin, 1992](#)). Notwithstanding its importance, the cultural adaptation of CBT is typically poorly documented. For instance, a proposed framework by [Heim and Köhrt \(2019\)](#) identifying key elements for adaptation remains largely theoretical, lacking practical steps or evidence of systematic application and evaluation, as most studies do not adhere to such an approach while reporting their intervention.

Despite the lack of rigor, existing literature has underscored the importance of cultural adaptation. For example, [Ng and Wong \(2018\)](#) meta-analysis of 55 studies involving 6763 Chinese participants revealed a significant moderating effect of cultural adaptation on the short-term efficacy of CBT ($Q = 8.05, p = 0.005$). The study found that culturally adapted CBT had a stronger effect size ($g = 0.60$) than non-adapted CBT ($g = 0.44$), underscoring the importance of tailoring interventions to cultural contexts. This finding is further supported by [Hakim and colleagues \(Hakim et al., 2019\)](#), whose study revealed that while LI-CBT can be effective, its success is contingent upon incorporating cultural tailoring. This finding underscores the practical and theoretical importance of tailoring interventions to meet the distinct cultural needs of diverse populations.

With the diversity of cultures across Asia, understanding the cultural adaptation of LI-CBT and how it has been done is crucial to furthering research and its implementation in the region. Asia countries and their collectivist ethos, deeply rooted traditions, and diverse belief systems often contrast with the individualistic frameworks of many Western therapies ([Laungani, 2004](#)). For instance, values such as filial piety, interpersonal harmony, and spiritual determinism are central to many Asian cultures but are not typically emphasized or adopted in Western CBT frameworks ([Li et al., 2017](#); [Naeem et al., 2019](#)). Furthermore, no review has adopted a guiding framework such as the one proposed by [Shafran et al. \(2021\)](#), making it difficult to standardize what LI-CBT entails and how it should be approached. Hence, this scoping review examines the current literature on LI-CBT to provide an overview of the

current state of LI-CBT in Asian countries and offer insights for developing accessible and culturally relevant mental health interventions tailored to the unique needs of Asian populations.

2. Method

While preparing this scoping review, the PRISMA-ScR (Preferred Reporting Items for Systematic Reviews and Meta-Analyses Extension for Scoping Reviews) guidelines ([Tricco et al., 2018](#)) were adhered to, and the 5-stage framework described by [Arksey and O’Malley \(2005\)](#) was adopted. The stages included identifying research questions and relevant studies, selecting studies, charting data, and collating and reporting the findings.

2.1. Identifying the research questions

This review sought to explore existing evidence on low-intensity cognitive behavioral therapy (LI-CBT) in Asia, and the following research questions guided its search strategy.

1. What are the study characteristics of LI-CBT research across Asian countries?
2. What are the overlooked aspects or identified limitations of LI-CBT research in Asia?
3. What cultural adaptations have been made while implementing LI-CBT in Asian countries?

2.2. Identifying relevant studies

Several databases were utilized in the search, including PubMed, PsycINFO, CINAHL, EMBASE, Web of Science, and Scopus. A search string was developed that combined terms for LI-CBT (e.g., “low-intensity,” “brief,” “self-help”) with terms for interventions (e.g., “CBT,” “cognitive behavioral therapy”) and countries and regions in Asia (see [Table 1](#)). The terms chosen were adopted from previous meta-analyses ([Hazell et al., 2016](#); [Kaddour et al., 2019](#); [Powell et al., 2024](#)) and expanded upon by including names of Asian countries to fit the review’s needs. Boolean operators (e.g., AND, OR, etc.) were applied to optimize search outputs. The search was conducted in January 2025 and was constrained to the period between January 2005 and December 2024, as LI-CBT was only developed in the mid-2000s ([Papworth et al., 2013](#)).

A list of inclusion criteria was also developed to aid the study selection process (see [Table 2](#)). Given the scoping nature of the review, which seeks to provide an overview of the literature that matches the criteria put forth and the specificity of the inclusion criteria, no explicit exclusion criteria were formulated. Although past reviews have guided various possible interpretations of what LI-CBT entailed within specific mental health conditions ([Hazell et al., 2016](#); [Kaddour et al., 2019](#); [Powell et al., 2024](#)), this review sought to provide an overview of the literature regarding LI-CBT in Asian countries. Hence, adopting a consistent definition was essential, and this review adhered to the guidelines provided by [Shafran and colleagues \(Shafran et al., 2021\)](#) and expanded the search parameters by including studies that covered a broader scope of contexts, rather than focusing on single mental health conditions, including non-clinical settings.

2.3. Study selection

The search yielded 97,567 articles, of which 35,983 duplicate articles were removed using EndNote, resulting in 61,584 being screened in two phases. During the first vetting process, all seven review team members screened the abstracts and titles of various articles to ensure they were primary studies done in Asian countries and contained the terms self-guided/self-help/internet-based/video-based cognitive behavioral therapy/intervention, brief/low-intensity cognitive behavioral therapy/intervention, acceptance and commitment therapy/

Table 1
Search terms adopted.

("low-intensity" OR "low intensity" OR "brief" OR "guided" OR "self-help" OR "self help" OR computeri* OR "internet" OR "mobile" OR app* OR "digital" OR "self-guided" OR "self guided" OR "unguided" OR "online" OR "stepped care" OR "stepped-care" OR "psychosocial" OR "game-based" OR "game based") AND ("CBT" OR "iCBT" OR "LI-CBT" OR "LICBT" OR "BCBT" OR "cCBT" OR "therapy" OR "cognitive" OR behavio* OR "psychological intervention" OR "psychological treatment" OR "psychosocial intervention" OR "cognitive behavioural therapy" OR "cognitive behavioral therapy" OR "cognitive therapy" OR "acceptance and commitment therapy" OR "ACT" OR "dialectical behaviour therapy" OR "dialectical behavior therapy" OR "DBT" OR "metacognitive therapy" OR "mindfulness based cognitive therapy" OR "mindfulness-based cognitive therapy" OR "MBCT" OR "behavioural activation" OR "behavioral activation" OR "behavioural therapy" OR "behavioral therapy" OR "exposure therapy" OR "systematic desensitization" OR "systematic desensitization") AND (Asia* OR Korea* OR Singapore* OR "United Arab Emirates" OR UAE OR Japan* OR Isra* OR Cypr* OR Kazakhs* OR "Saudi Arabia" OR Chin* OR Turk* OR Oman* OR Malaysia* OR Bahrain* OR Thai* OR Georgia* OR Kuwait* OR Armenia* OR Brunei* OR Uzbek* OR Mongolia* OR Indonesia* OR Qatar* OR Kyrgyzstan* OR Azerbaijan* OR Vietnam* OR Philippines OR Iran* OR "Sri Lanka" OR Jordan* OR Maldiv* OR India* OR Bangladesh* OR Bhutan* OR Lebanon* OR Nepal* OR Cambodia* OR Tajikistan* OR Myanmar OR Iraq* OR "Timor-Leste" OR Pakistan* OR Syria* OR Lao* OR Yemen* OR "North Korea" OR Afghan* OR "Asian" OR "East Asia" OR "Southeast Asia" OR "South Asia" OR "Middle East" OR "Central Asia" OR "Western Asia" OR "East Asian" OR "Southeast Asian" OR "South Asian" OR "Middle Eastern" OR "Central Asian" OR "Western Asian")

Table 2
Inclusion criteria.

- Inclusion**
- Conducted within Asian countries
 - Peer reviewed
 - Written in English
 - Primary research studies
 - Clearly utilized cognitive behavioral therapy principles, including third-wave CBT approaches such as acceptance and commitment therapy and dialectical behavioral therapy principles as the main intervention
 - Details regarding the content and format of the intervention were provided
 - Less than 6 h of face-to-face contact time

intervention or dialectical behavioral therapy/intervention. At this point, unclear papers that could be relevant have not yet been eliminated. This initial screening phase filtered many reviews, book chapters, commentaries, opinion pieces, theoretical discussions, non-CBT-type

psychosocial interventions/therapies, and protocol articles.

Moving to the second portion of the screening process, 110 papers were downloaded, and the articles were compared against the inclusion and exclusion criteria by the first, second, fifth and last authors

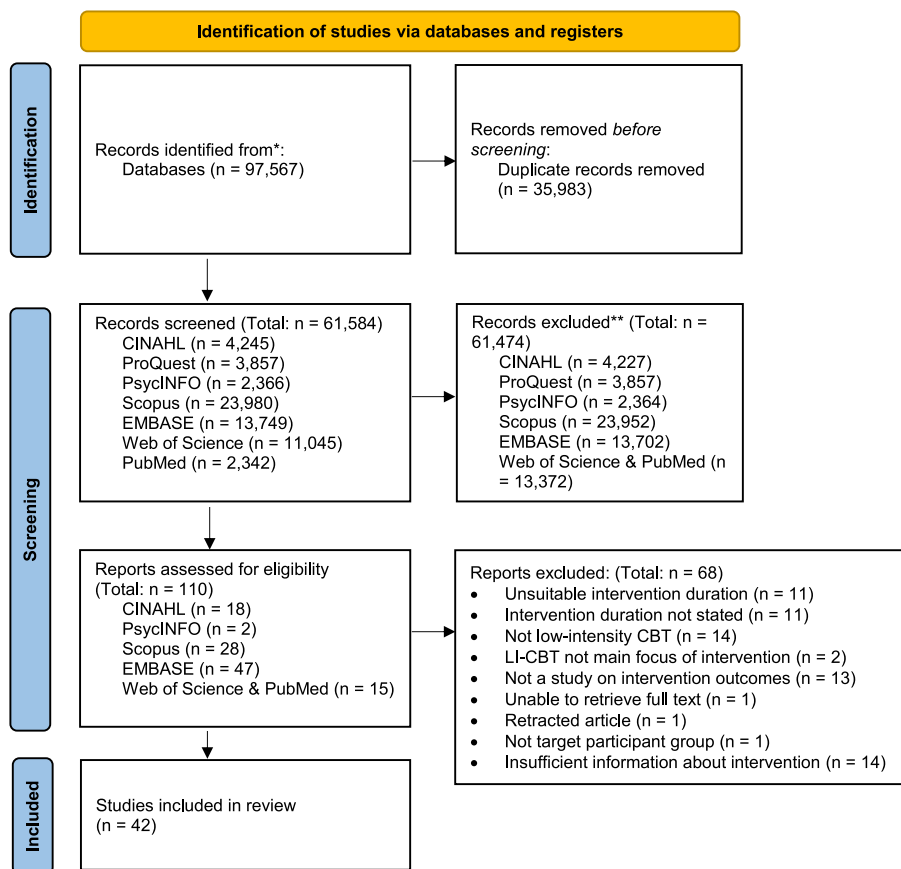


Fig. 1. Screening process.

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independently following a calibration meeting conducted on 20 articles to ensure all authors were congruent in their assessments. As a result, 68 papers were excluded for various reasons, including failure to adhere to the guidelines defining LI-CBT interventions or unclear parameters of the intervention, resulting in a final sample of 42 articles. The precise breakdown of reasons for not including an article can be found in Fig. 1, which was prepared according to the PRISMA-ScR guidelines (Tricco et al., 2018).

2.4. Data charting and collation

To achieve the review's goals, the following information was charted: author(s), year, location of study, aim(s), study design, participant characteristics, therapy/intervention characteristics, outcomes, limitations, and cultural adaptations (see Appendix A). These dimensions were selected as they were pertinent to providing a robust overview of the existing evidence on LI-CBT interventions in Asia following best practices for conducting a scoping review (Levac et al., 2010; O'Brien et al., 2016). To ensure inter-rater agreement, the first and second authors independently conducted the charting process, which was overseen by the last author, who is relatively more experienced in conducting systematic reviews. Inter-rater agreement was 100 % in terms of the main details for each dimension above, as the coders were instructed to extract all related information for each aspect. Still, there were differences in the filler words and phrasing used to summarize the information, and the last author rewrote each category to ensure congruence of framing.

2.5. Collating and reporting findings

Lastly, the study's findings were summarized (see Appendix A) according to and reported based on the framework by Arksey and O'Malley (2005). General geographical information, the context (i.e., types of mental health issues being addressed) of the various studies, and the types of therapies/interventions used were provided. Next, the studies' outcomes, limitations, and cultural adaptations were extracted from the papers and uploaded to NVivo. For each data category, similarities between papers were coded to form themes, which were summarized and presented narratively. Differences emerging within categories were also contextualized and presented alongside themes that emerged, as they could indicate gaps in the current understanding of LI-CBT implementation in Asian countries. Additionally, as a scoping review does not seek to comment on the quality of the evidence being reviewed, no formal quality assessments (e.g., risk of bias assessment, etc.) were utilized.

3. Results

The search identified 42 studies from 12 Asian countries for review. Japan had the most studies that fit the criteria used, with 10 papers; followed by China with 9; Thailand with 6; Iran, Pakistan, and Singapore with 3; Malaysia and South Korea with 2; and Hong Kong, Israel, Indonesia, and India with 1.

3.1. General study characteristics and outcomes

Mental health issues that were covered included mood-related conditions (8 studies), anxiety-related and obsessive-compulsive conditions (5 studies), post-traumatic stress conditions (5 studies), insomnia (4 studies), addiction conditions (4 studies), physical pain (1 study), mixed conditions (i.e., more than one mental health condition; 2 studies), and non-clinical or sub-clinical populations (13 studies). Most of the studies (23 out of 42 papers) reviewed utilized a randomized controlled trial design, and the remaining 19 papers consisted of quasi-experimental, non-randomized, single-group, and longitudinal study designs. Sample sizes in these studies ranged from 10 to 762 participants, with most

studies using samples smaller than 100 people (27 out of 42 studies). The average ages of participants in the studies were concentrated in the 18 to 50 range with 18 studies being in the 18 to 35 range and 20 studies being in the 35 to 50 range; there were also 3 studies with participants below 18 years of age and 1 with participants who were above 50 with an average age of 73.39. Regarding breakdown of sexes across the studies, 38 out of 42 were studies that involved both sexes, 2 studies were entirely male (one due to the nature of the workplace being steel mills and the other due to the target population being male drug users), and 2 studies were entirely made up of female participants (one as they were focused on pregnancy related challenges and the other focusing of female domestic abuse victims).

Generally, all the studies reported significant positive results on their primary outcomes, except one study (Mori et al., 2014), which only saw encouraging findings during subgroup analyses. However, it should be noted that many of the studies also looked at secondary variables, and the results were more inconsistent in these aspects, with more studies not finding significant differences in various secondary measurements (Feng et al., 2022; Ito et al., 2016; Kato et al., 2022; Kimura et al., 2015; Kishimoto et al., 2016; Lin et al., 2023; Seo et al., 2022; Seol et al., 2016; Thapinta et al., 2017; Wu et al., 2023; Ying et al., 2023) as there was significant diversity between the study outcomes, this review did not go beyond positive and negative categories for the findings of individual studies while summarizing, as this would result in too narrow groupings.

3.2. Characteristics of LI-CBT

Most LI-CBT interventions were facilitated using some form of technology (e.g., mobile phones, computers, etc.) and via the Internet (22 out of 42 studies), and can be further categorized based on whether they were guided by a therapist/facilitator/administrator/etc. (Arjadi et al., 2018; Imamura et al., 2014; Kwek et al., 2024; Madeeha Latif et al., 2021a,b; Matsumoto et al., 2022; Seol et al., 2016; Shahidi et al., 2023; Somer et al., 2005; Takano et al., 2016; Wu et al., 2023; Ying et al., 2021; Ying et al., 2023), or if they were purely information-based and unguided (Feng et al., 2022; Lin et al., 2020, 2023; Mantani et al., 2017; Mehrotra et al., 2018; Okajima et al., 2021; Patel et al., 2017; Seo et al., 2022; Theppornpitak et al., 2023; Zhang et al., 2020). In-person LI-CBT sessions were also relatively popular, with 9 out of 42 studies utilizing such a modality (Davasaz Irani et al., 2022; Ito et al., 2016; Kato et al., 2022; Mazaheri et al., 2010; Sam et al., 2022; Tay et al., 2023; Thapinta et al., 2014; Urao et al., 2022; Wu et al., 2014). Other less popular approaches were the use of guided (M Latif et al., 2021a,b; McCann et al., 2015a, 2015b; Songprakun and McCann, 2012) and unguided self-help manuals (Naeem et al., 2014; Thapinta et al., 2017), and mixing of different modalities to carry out LI-CBT (Kimura et al., 2015; Kishimoto et al., 2016; Lu et al., 2021; Mori et al., 2014; Yang et al., 2017). The number of modules participants needed to complete across the studies varied from single sessions up to 14 sessions, with an average of 7.07 sessions and a median of 8 sessions.

3.3. Content of interventions

Psychoeducation was the most salient feature of LI-CBT interventions, as all of them consisted of elements that provided information on the various conditions being addressed and, at times, on the core concepts of CBT, such as the relationships between cognition, behavior and emotions or how changing emotions or cognitions would be related to improvements in the main conditions being addressed, and also provided information on existing community resources individuals could seek out if they needed more support. Other popular intervention components were cognitive restructuring (e.g., thought reframing, identifying cognitive distortions, thought challenging, etc.) (Feng et al., 2022; Imamura et al., 2014; Ito et al., 2016; Kimura et al., 2015; Kishimoto et al., 2016; Madeeha Latif et al., 2021a,b; M. Latif et al., 2021a,b; Lin et al., 2020; Lin et al., 2023; Lu et al., 2021; Mantani et al., 2017;

Mazaheri et al., 2010; McCann et al., 2015a, 2015b; Mori et al., 2014; Naeem et al., 2014; Okajima et al., 2021; Patel et al., 2017; Sam et al., 2022; Seo et al., 2022; Seol et al., 2016; Somer et al., 2005; Songprakun and McCann, 2012; Takano et al., 2016; Tay et al., 2023; Thapinta et al., 2017; Thapinta et al., 2014; Theppornpitak et al., 2023; Urao et al., 2022; Wu et al., 2014; Ying et al., 2021; Ying et al., 2023; Zhang et al., 2020), and behavioral-oriented skills (e.g., behavioral activation, behavioral monitoring, behavioral tracking, exposure-oriented techniques, etc.) (Arjadi et al., 2018; Davasaz Irani et al., 2022; Kwek et al., 2024; Madeeha Latif et al., 2021a,b; M. Latif et al., 2021a,b; Lin et al., 2023; Mantani et al., 2017; Matsumoto et al., 2022; McCann et al., 2015b; Mehrotra et al., 2018; Naeem et al., 2014; Okajima et al., 2021; Patel et al., 2017; Seol et al., 2016; Takano et al., 2016; Tay et al., 2023; Thapinta et al., 2014; Wu et al., 2014; Wu et al., 2023; Ying et al., 2021; Ying et al., 2023; Zhang et al., 2020), and exercises/homework usually accompanied the teaching of these skills. It should also be noted that combining of cognitive restructuring and behavioral oriented skills was also relatively common as 16 out of the 42 studies contained both behavioural and cognitive elements.

Depending on the context of the intervention, various other elements were included such as problem-solving skills (Imamura et al., 2014; Madeeha Latif et al., 2021a,b; Lin et al., 2020; Lin et al., 2023; Naeem et al., 2014; Sam et al., 2022; Songprakun and McCann, 2012; Tay et al., 2023; Thapinta et al., 2017), assertiveness training (Imamura et al., 2014; Urao et al., 2022), general relaxation techniques such as breathing or progressive muscle relaxation techniques (Feng et al., 2022; Imamura et al., 2014; Ito et al., 2016; Kishimoto et al., 2016; Mazaheri et al., 2010; McCann et al., 2015b; Okajima et al., 2021; Sam et al., 2022; Somer et al., 2005; Songprakun and McCann, 2012; Theppornpitak et al., 2023; Zhang et al., 2020), relapse prevention planning (Arjadi et al., 2018; Davasaz Irani et al., 2022; Lin et al., 2020, 2023; Mantani et al., 2017; Wu et al., 2023), mindfulness exercises (Kato et al., 2022; Okajima et al., 2021), relationship management strategies (Madeeha Latif et al., 2021a,b; Madeeha Latif et al., 2021a,b; Naeem et al., 2014; Patel et al., 2017; Tay et al., 2023), and emotion regulation skills (e.g., emotions monitoring, self-compassion, etc.) (Ito et al., 2016; Kato et al., 2022; Mehrotra et al., 2018; Songprakun and McCann, 2012). Lastly, two studies utilized third-wave CBT approaches (Shahidi et al., 2023; Yang et al., 2017), such as acceptance and commitment therapy, incorporating values identification, defusion, present-focused self-awareness-oriented exercises, goal setting, and committed action segments into their programs.

3.4. Gaps in research identified

The most prominent limitations reported were the utilization of small sample sizes to derive study conclusions (Feng et al., 2022; Lu et al., 2021; Matsumoto et al., 2022; Mazaheri et al., 2010; Mehrotra et al., 2018; Patel et al., 2017; Seol et al., 2016; Somer et al., 2005; Takano et al., 2016; Wu et al., 2014; Yang et al., 2017) and samples that were not sufficiently representative of the populations they were assessing and lacked generalizability (Arjadi et al., 2018; Davasaz Irani et al., 2022; Imamura et al., 2014; Kimura et al., 2015; Madeeha Latif et al., 2021a,b; Lin et al., 2020; Lin et al., 2023; McCann et al., 2015a, 2015b; Naeem et al., 2014; Sam et al., 2022; Songprakun and McCann, 2012; Takano et al., 2016; Thapinta et al., 2017; Urao et al., 2022; Yang et al., 2017; Ying et al., 2023). Additionally, the short follow-up, one week up to a month, measurement periods and lack of longitudinal data were also highlighted (Feng et al., 2022; Kato et al., 2022; Kimura et al., 2015; Kwek et al., 2024; Lin et al., 2023; Mazaheri et al., 2010; McCann et al., 2015a, 2015b; Okajima et al., 2021; Seol et al., 2016; Shahidi et al., 2023; Somer et al., 2005; Urao et al., 2022; Ying et al., 2021), alongside the lack of randomization or use of control groups in the study designs as relevant considerations when looking to generalize and extend the various studies' findings (Feng et al., 2022; Ito et al., 2016; Kato et al., 2022; Kishimoto et al., 2016; Kwek et al., 2024; Lin et al.,

2020; Mehrotra et al., 2018; Sam et al., 2022; Seol et al., 2016; Somer et al., 2005; Urao et al., 2022; Ying et al., 2021). Lastly, less common issues included high dropout rates (Imamura et al., 2014; Okajima et al., 2021; Seol et al., 2016; Thapinta et al., 2014), studies being conducted during the COVID-19 pandemic (Ying et al., 2021; Zhang et al., 2020), a lack of implementation fidelity data (Kato et al., 2022; Okajima et al., 2021; Seo et al., 2022; Urao et al., 2022), not using native languages in the program (Mehrotra et al., 2018), and the inadequate management of qualitative data that was collected in some studies by not using established qualitative data analysis techniques to evaluate and present the data (Arjadi et al., 2018; Madeeha Latif et al., 2021a,b; M. Latif et al., 2021a,b; Patel et al., 2017).

3.5. Cultural adaptations made

Across the studies reviewed, the most prominent adaptation made to various LI-CBT interventions was the adoption of local languages through the translation or creation of program materials. Most studies overtly mentioned this or contained material that made it clear such changes were made. Another popular change was incorporating cultural elements into the programs to help individuals better understand the material. For example, the use of manga story formats (Japanese comics) (Imamura et al., 2014) to convey information, integrating culturally familiar or religion-based folklore, stories, and idioms to teach various CBT concepts (Madeeha Latif et al., 2021a,b; M. Latif et al., 2021a,b; Mehrotra et al., 2018; Naeem et al., 2014; Tay et al., 2023) by factoring in social norms such as collectivism and incorporating more elements surrounding social elements (Mehrotra et al., 2018), or using real-world case studies or scenarios from the culture to ensure relatability (Lin et al., 2020; Mazaheri et al., 2010; Ying et al., 2021, 2023).

Beyond the content of the program, adaptations were also made to various operational aspects of the interventions by changing the title of the intervention carried out to reduce the potential stigma associated with them (Sam et al., 2022), using popular social media applications as their program platforms (Feng et al., 2022), changing images or words to videos, and vice versa to facilitate accessibility to the material (Arjadi et al., 2018; Takano et al., 2016), or adjusting the intervention session timings to better fit within existing normative schedules (e.g., in schools) (Kato et al., 2022; Urao et al., 2022). Lastly, many studies did not provide specific details or examples regarding any cultural considerations or adaptations being made to the content or operational elements of the interventions beyond changes to the language of these programs (Davasaz Irani et al., 2022; Feng et al., 2022; Ito et al., 2016; Kimura et al., 2015; Kishimoto et al., 2016; Kwek et al., 2024; Lin et al., 2023; Lu et al., 2021; Mantani et al., 2017; Matsumoto et al., 2022; Mazaheri et al., 2010; McCann et al., 2015a, 2015b; Mori et al., 2014; Okajima et al., 2021; Seo et al., 2022; Seol et al., 2016; Shahidi et al., 2023; Somer et al., 2005; Songprakun and McCann, 2012; Tay et al., 2023; Thapinta et al., 2014, 2017; Theppornpitak et al., 2023; Wu et al., 2014, 2023; Zhang et al., 2020).

4. Discussion

This review provides a high-level overview of LI-CBT research within Asian regions, elucidating gaps that need to be addressed and understanding what has been done. Overall, most Asian countries have not conducted much research on LI-CBT, which is unfortunate as it has great potential to address an ever-growing service need (Tay et al., 2023). The review only spanned 12 countries, with many studies from Japan (10 articles) and China (9 articles). Nevertheless, it is encouraging to observe that LI-CBT interventions were employed for a wide variety of mental health-oriented issues and, in one paper, to target a physical health condition (i.e., noncancer chronic pain) as well. However, the results could have been restricted due to the framework used to include studies as LI-CBT type research, which emphasizes the importance of limited contact with facilitators/administrators of the intervention and

suggests it should be no more than 6 h, resulting in the exclusion of at least 36 articles ranging from those that exceeded by an hour to papers reporting 18 h, although the majority tended to be in the 10–12 h range (Shafraan et al., 2021). While this may be viewed as a limitation, it was essential to adhere to a structured approach that distinguishes between LI-CBT and other brief psychological interventions that utilize CBT principles, and this is the first review to do so, although dose-response and comparative studies could also be explored in the future to validate the guidelines provided by Shafraan et al. (2021). Prior reviews have used different contact-time limits and descriptions of LI-CBT interventions (Hazell et al., 2016; Kaddour et al., 2019; Powell et al., 2024), making it challenging to replicate such searches across various mental health conditions. This prevents a holistic and standardized view and evaluation of the research. LI-CBT researchers must be clear on these distinctions to standardize the general structure of such interventions, allowing for better comparisons across different contexts.

Additionally, various execution modalities are being used to carry out LI-CBT, including technology-assisted means, physical sessions, self-help manuals, and a combination of these approaches. Some were guided in nature, requiring external assistance, while others were entirely reliant on individuals to engage with the material independently. It is also important to note that although the majority of LI-CBT approaches reviewed utilized technology to facilitate their implementation, LI-CBT is distinct from traditional internet-based CBT in its duration, function, and intensity as well (Shafraan et al., 2021). While there does not appear to be any difference between these different execution styles, as nearly all the studies we reviewed reported positive outcomes, LI-CBT was often compared against waitlist control groups or single-group studies. However, three studies compared different execution modalities of LI-CBT and CBT (Kishimoto et al., 2016; Wu et al., 2023; Ying et al., 2023), and all of them suggest that there were no significant differences between the execution modality of LI-CBT, hence lending credence to the notion that the effectiveness of LI-CBT is modality-independent. Nevertheless, given the small sample of studies, it would be premature to make any decisions, and it would be useful for future studies to attempt to replicate such results and conduct more thorough explorations on this issue. Given that the different approaches should typically be designed to accommodate the needs of the populations in which the interventions are being used (Heim and Kohrt, 2019), knowing that the execution modality would not affect the quality and rigor of the approach would be reassuring to practitioners and researchers who may be concerned about how to execute their programs best.

Furthermore, an interesting pattern of studies utilizing inconsistent approaches to adapting and adopting CBT principles was identified. For example, in one study on major depressive disorders, behavioral activation was used as the main CBT element (Arjadi et al., 2018) while a similar study on depression utilized mainly cognitive restructuring approaches with some behavioral-oriented elements (Lu et al., 2021), and most studies used a combination of both with different weightage of cognitive and behavioral aspects (Imamura et al., 2014; Lin et al., 2023; Mehrotra et al., 2018; Naeem et al., 2014; Seo et al., 2022; Songprakun and McCann, 2012). While the importance of tailoring LI-CBT to relevant populations should be acknowledged, it remains unclear how best to achieve this. Moving forward, it would be beneficial for researchers and practitioners alike to compare different versions of LI-CBT to establish a consensus on the fundamental elements that must be present and those that could be optional based on their utility. As LI-CBT often adopts a self-help-oriented perspective (Bennett-Levy, 2010; Shafraan et al., 2021), it would also be useful to explore different individual LI-CBT element combinations to identify the active and necessary ingredients for successful implementation, which may also differ between target populations and cultures (Heim and Kohrt, 2019), reducing the overall resources required to successfully carry them out and achieve its broader goal of being an easily scalable approach.

Moving on to the limitations of existing LI-CBT research, sampling

issues seemed to be the most prominent, followed by the long-term outcomes of such interventions and other study design-oriented issues. However, the main points identified in the results were extracted from the limitations segment of the studies, and the research team conducting this review did not add any additional shortcomings while reporting our findings. Consequently, other weaknesses could not be highlighted during this process. Moreover, while most limitations were relatively common (i.e., sampling issues, design inadequacy), a pertinent issue that was less common, despite being present in many cases, albeit unreported, was the lack of implementation fidelity data. Only four studies (Kato et al., 2022; Okajima et al., 2021; Seo et al., 2022; Urao et al., 2022) raised this problem despite its presence in nearly all the studies reviewed. Due to the nascent stage of LI-CBT research and how inconsistently defined it is, particularly in Asian countries, such data is not only essential to evaluate whether the programs are being carried out rigorously, increasing the validity of the findings, but it also allows researchers to discuss possible barriers or considerations they may face while implementing these interventions. Lastly, there was a significant lack of attention being paid to groups below the age of 18 and those above 50, both of which are challenging periods of transition that could benefit from LI-CBT interventions, and more research in these areas is necessary.

Lastly, while most studies reviewed attempted some cultural-oriented adaptations by changing the language of their interventions, there was a distinct lack of other meaningful changes being made to the content or underreporting of any changes. Only a handful of studies (Madeeha Latif et al., 2021a,b; M. Latif et al., 2021a,b; Mehrotra et al., 2018; Naeem et al., 2014; Tay et al., 2023) reported considering the relevant sociocultural context in which the interventions were carried out by incorporating culturally familiar elements (e.g., using folklore or proverbs from the culture) into the key concepts of the programs, an important aspect of tailoring LI-CBT and CBT appropriately (Hays and Iwamasa, 2006; Heim and Kohrt, 2019; Naeem et al., 2019). However, it is unclear if these findings were due to the lack of consideration of sociocultural elements or if they were due to the lack of details (i.e., explicit mentions of how and what were changed from original CBT protocols) regarding the intervention characteristics, as many studies (Davasaz Irani et al., 2022; Feng et al., 2022; Ito et al., 2016; Kimura et al., 2015; Kishimoto et al., 2016; Kwek et al., 2024; Lin et al., 2023; Lu et al., 2021; Mantani et al., 2017; Matsumoto et al., 2022; Mazaheri et al., 2010; McCann et al., 2015a, 2015b; Mori et al., 2014; Okajima et al., 2021; Seo et al., 2022; Seol et al., 2016; Shahidi et al., 2023; Somer et al., 2005; Songprakun and McCann, 2012; Tay et al., 2023; Thapinta et al., 2014, 2017; Theppornpitak et al., 2023; Wu et al., 2014, 2023; Zhang et al., 2020) did not provide such information, despite these details being pertinent to furthering LI-CBT research and practice in Asia. Hence, it is suggested that future research on such interventions be explicit about any changes made along the way and the rationale for doing so, even if they were entirely adapted from other manuals, guides, or frameworks. Such information would also be pertinent to understanding whether the adaptations made occurred on a superficial level or entailed a deeper consideration of cultural elements that could inform future researchers and practitioners on when and how certain approaches may be more effective.

4.1. Strengths

This review represents the first attempt to systematically explore and document peer-reviewed primary research regarding LI-CBT in Asian nations using an established guideline (Shafraan et al., 2021) that should be adhered to in the future, as doing so provides better standardization and comparability between reviews on LI-CBT interventions. Additionally, unlike prior LI-CBT reviews (Hazell et al., 2016; Powell et al., 2024; Wuthrich et al., 2024), there were no limits on the type of mental health issues that were included, providing a better overview of the kind of research that has been done on such interventions in the Asian region.

Lastly, adopting a scoping review approach allowed for existing gaps in literature to be surfaced that would otherwise may not have been noticed, such as the lack of attention being paid to populations younger than 18 years old and older than 50 years old, or the need for better explicitation of the changes and considerations made while culturally adapting LI-CBT interventions in the Asian region.

4.2. Limitations

While adhering to established guidelines and frameworks, this scoping review has several limitations to consider when interpreting its findings. First, many studies were excluded due to their methodology not being fully reported and their intervention not being described in more detail. They may have met the inclusion criteria if they had been more explicit, but they were excluded to maintain the review’s rigor and consistency. Additionally, there is a possibility that some relevant studies may have been missed if they existed outside the selected databases, which could have been the case for conference proceedings and countries that may not typically publish in English. Furthermore, as this review provided a broad overview of LI-CBT in Asia, it also meant high heterogeneity between the studies included in study designs, intervention delivery, mental health conditions, population type, and outcome measures. As such, nuances that could be crucial for understanding the state of research on LI-CBT for specific conditions and populations in Asia may be overlooked. Moreover, this review included many studies that focused on non-clinical or sub-clinical populations, which may reduce the applicability of the review’s insights for researchers and practitioners focusing on clinical populations. Lastly, as this was a scoping review, this review did not include a formal critical analysis of the quality of the included studies (e.g., risk of bias assessment, etc.) and, therefore, may have used studies that contained methodological or other flaws which would have precluded them from being included in other review methodologies.

5. Conclusion

Taken together, LI-CBT intervention research within the Asian region is still in its early stages and will take more time to develop. This review provided a high-level overview of the study and future directions for LI-CBT researchers and practitioners in Asia to consider. Specifically, there is still a relative lack of meaningful deliberations on the type of cultural modifications and considerations that must be applied to ensure that LI-

CBT approaches function optimally. Furthermore, the lack of clarity in reporting interventions should be addressed by including supplementary files with more detailed information on what the interventions entail. Future research should also address the lack of attention to certain demographic populations, such as young people under the age of 18 and older individuals over the age of 50. Nevertheless, LI-CBT still appears to be a highly promising and scalable option for countries with scarce resources but high service needs, and there should be confidence that, as the research grows, more holistic and culturally appropriate methods will emerge.

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Declaration of competing interest

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Nil.

Appendix A

Author(s),Year, Country	Aim, Design, Participant Characteristics	LI-CBT Characteristics	Outcomes	Limitations	Cultural Adaptation
Arjadi et al. (2018); Indonesia	A randomized controlled trial to examine the efficacy of an internet-based intervention guided by trained lay counselors on reducing depressive symptoms in a sample of 313 individuals (60 males with a mean age of 24.45, 253 females with a mean age of 24.52) who met the criteria for major depressive disorder or persistent depressive disorder based on the DSM-5 structured clinical interview.	The Guided Act and Fell Indonesia (GAF-ID) intervention consists of eight weekly structured modules completed online within 30–45 min. These modules included psychoeducation about depression and behavioral activation, activities to monitor mood and behavior, expansion of pleasurable activities and overcoming difficulties during the process, content to help participants gain insights into the effects of avoidant behavior and teaching participants strategies for relapse prevention. Lay	Internet-based behavioral activation supported by lay counselors was shown to reduce depressive symptoms and induce remission from a depressive episode more than the comparison condition (unsupported psychoeducation).	Based on anecdotal evidence, some features of the program were not fully accessible from mobile phones. Research assistants were not blinded to allocation. The sample was relatively young, highly educated individuals who were more likely to be internet literate and could have been more aware of mental health issues.	Therapist video clips and client example videos were replaced with a series of illustrations due to low internet speeds in the region. The examples in assignments were also changed to fit better in the Indonesian culture. Text was made as short as possible and in some cases, replaced with cartoons although it is unclear why this change was made.

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Author(s),Year, Country	Aim, Design, Participant Characteristics	LI-CBT Characteristics	Outcomes	Limitations	Cultural Adaptation
Davasaz Irani et al. (2022); Iran	Quasi-experimental pretest-posttest design to explore the effectiveness and stability of short-term CBT and brief intervention based on behavioral change models for relapse prevention in a sample of 78 opioid drug users (all males with an average age 39.46 in the treatment group and 38.71 in the control group).	counselors also explained more about the homework assigned and gave feedback where necessary; they also reminded participants weekly to log in to the program. Four 60-min face-to-face sessions were conducted once a week for four weeks and incorporated motivational interviewing, techniques for coping with drug-related temptation, psychoeducation on the link between thoughts and behaviors and proactive alternative activity planning, drug use rejection techniques and relapse prevention. Information regarding who provided the intervention was missing.	CBT and brief intervention were effective in reducing the likelihood of relapse, but brief intervention was more effective than CBT.	Generalization of the results required caution due to the population only including male drug users from specific drug centers in Ahvaz.	NIL.
Feng et al. (2022); China	A longitudinal study design to evaluate the long-term effects of a self-guided one-week cognitive behavioral treatment for insomnia on insomnia, pre-sleep arousal, anxiety and depressive symptoms in a sample of 135 individuals of which 58 completed treatment (15 males and 43 females averaging 37.5 years old) and 77 who did not complete (23 males and 54 females averaging 36.7 years old) diagnosed with situational insomnia by comparing people who completed the intervention and those who did not.	A 7-day unguided internet cognitive behavioral treatment for insomnia delivered via a social media platform (Wechat). It consisted of seven 15-min modules on sleep hygiene education, sleep restriction, stimulation control, relaxation training, cognitive reconstruction, core thoughts about sleeping medicine and a summary of the information covered. No involvement from external sources during the program was reported.	The program reduced insomnia at the 1-week and 3-month follow-up periods and the transition rate from situational to chronic insomnia at the 3-month follow-up for people who completed the intervention relative to those who did not. However, there was no significant difference in the effects of the intervention on pre-sleep arousal, anxiety and depressive symptoms between people who completed the intervention and those who did not.	It is not a randomized controlled trial, and allocation is based on the completion of the intervention, causing possible selection bias and other confounding variables. The sample size was relatively small as only 60 % of the sample completed assessments at the 3-month follow-up. Self-reported measures may be prone to social desirability bias. Follow-up duration was too short and did not adhere to DSM-5 criteria.	Use of a culturally relevant social media platform.
Imamura et al. (2014); Japan	A randomized controlled trial to evaluate the effect of a newly developed internet-based cognitive behavioral therapy (iCBT) program for symptoms of depression in a sample of 762 individuals with 381 (325 males and 56 females averaging 38.0 years old) in the intervention group and 381 (314 males and 67 females averaging 37.2 years old) in the control group with no specific diagnosis of major depressive disorder or bipolar disorder from 2 private companies.	The guided iCBT program consisted of six weekly lessons and homework lasting approximately 30 min. It aimed to provide stress management skills through psychoeducation on self-monitoring skills, cognitive restructuring skills, assertiveness training, problem-solving skills, and relaxation skills. Participants received reminders every Monday from the research office and feedback from a trained clinical psychologist if they submitted their optional homework.	There was a significant intervention effect of the program on depression at the six-month follow-up checkpoint. It also resulted in reduced psychological distress and improvements in dysfunctional attitudes, knowledge, and self-efficacy of most components of CBT.	Participant demographics could have made them more open to the program and benefit from it due to their education levels. The rate of completing lessons and homework was low. Drop-out rates were relatively high (29.1 % and 28.6 % at three-month and six-month follow-ups, respectively) despite being in an acceptable range. The control group also received stress management tips and could have gotten information about the program from their colleagues as they were from the same office.	The program was created in Japanese and adopted a Manga (Japanese comic) story format of a psychologist and a client worker to enhance learning, increase motivation, and facilitate understanding of the material.
Ito et al. (2016); Japan	A single-group longitudinal study was designed to evaluate the effect of a brief cognitive behavioral therapy (CBT) intervention in a sample of 22 students (15 females and 7 males with a mean age of 15.36 years) who experienced severe post-traumatic stress (PTS) symptoms.	The intervention consisted of a single 90-min session involving identifying presenting problems and cognitive-behavioral avoidance of trauma reminders, psychoeducation on the relationship between trauma and PTS symptoms, rationale for decreasing negative appraisal of trauma and its sequelae through cognitive restructuring and defusion techniques using	There were significant reductions in PTS symptoms over time and these effects were maintained at 4-month follow-up (final check-in point). 17 out of 22 participants at the final assessment no longer had scores above the cutoff value for probable PTSD. However, there were no significant reductions over time on depressive symptoms.	No control groups were used in the intervention. Symptoms were measured using self-report questionnaires instead of structure clinical interviews and no child versions for the PTS symptom scale exists in Japanese. Therapist effect could have also led to an overestimation of the treatment benefit.	The program was conducted in Japanese. No specific cultural adaptations were described.

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Author(s),Year, Country	Aim, Design, Participant Characteristics	LI-CBT Characteristics	Outcomes	Limitations	Cultural Adaptation
Kato et al. (2022); Japan	A quasi-experimental longitudinal study design to evaluate a program structured around mindfulness and adopting a brief cognitive behavioral therapy (BCBT) framework for improving emotional regulation skills and decreasing anxiety and depressive symptoms in a sample of 349 adolescents from two schools (1 private; 1 public). Intervention group had 176 people (95 males and 81 females with an average age of 12.53) and the control group had 172 (89 boys and 83 girls with an average age of 12.53)	worksheets and exercises, relaxation techniques and focused on creating a sense of control over earthquake-related fears and reminders, emotions, and behavioral responses. Two clinical psychologists conducted the intervention, and teachers were also told to encourage students to reinforce the application of coping skills. The program consisted of 8 20-min physical sessions and homework in the form of worksheets. It was conducted by a school counselor in collaboration with the homeroom teacher. The program included psychoeducation on recognizing and understanding emotions, the mind-body relationship, mindfulness meditation for emotional regulation, self-compassion, and a final review session. Homework content included various behavior and emotional monitoring, and general reflection exercises.	Female participants in the intervention group demonstrated improved emotional regulation and reduced depressive and anxiety symptoms compared to those in the control group at the final measurement. However, this effect was not seen in male participants. Boys completed fewer homework assignments than girls as well.	There were significant variations in homework completion rates by gender, a lack of implementation fidelity data, no data on participants' previous psychiatric history, and a lack of long-term follow-up. There was no random assignment, and there was a difference in baseline scores between groups. The two schools were also in different locations. Depression and anxiety symptoms were also measured using a self-report questionnaire.	The program's language was in Japanese and the duration of each session was designed to fit within the typical class duration of Japanese high schools.
Kimura et al. (2015); Japan	A randomized controlled trial to evaluate the impact of a brief training program based on CBT on work performance in a sample of 196 employees (168 males and 28 females with an average age of 45.4) working in the headquarters of an electric company in Japan.	A single 120-min group physical class on CBT presented by a CBT specialist and web-based CBT homework over one month with weekly reminders to encourage participants to complete the web-based CBT program. The content of the group session consisted of psychoeducation regarding what CBT was, the relationship between cognition, mood, and behavior, and how to apply it to manage stress using real-world examples. Cognitive restructuring skills were also taught as they were intended to be practiced as homework.	Subjective work performance scores significantly increased in the intervention group compared to the control group, even after adjustment for baseline performance. The ability to recognize dysfunctional thinking patterns, change them to positive ones, and view situations from multiple perspectives also significantly improved in the intervention group relative to the control condition. However, these differences in abilities vanished when adjusted for baseline scores.	There are more men than women in the workplace. Only 61.9 % of participants completed the program according to the protocol. Evaluation for performance and cognitive flexibility was subjective, and the questionnaire was not validated. The extent to which participants participated in the homework segment of the intervention was unclear, and only one follow-up measurement was done.	The language of the program was changed to Japanese, although no further details on other modifications were provided.
Kishimoto et al. (2016); China	A multi-group propensity score method was adopted to compare self-guided internet-based cognitive behavioral therapy (iCBT) and therapist-guided iCBT to a wait-list control group to explore the effectiveness of iCBT in a sample consisting of 75 patients with a social anxiety disorder (SAD), 69 patients with comorbid SAD and major depressive disorder, and 53 individuals with increased social anxiety symptoms but not meeting the criteria for SAD. The mean age of the sample was 24.6, and comprised 53 males and 144 females	The content of the iCBT program was created based on cognitive behavioral therapy principles for SAD and included homework assignments such as progressive muscle relaxation training, which took 8 weeks to complete at a rate of 1 module a week. For the therapist-guided version, participants would receive weekly emails from their supervising therapists to motivate and reinforce their usage of the self-help program by answering questions regarding the program and SAD.	Both iCBT conditions were superior to the wait list and showed improvements in SAD symptoms (social interactions and social phobia), but there were no differences between the different modes of iCBT. There was an overall significant effect of iCBT on depressive symptoms, but none of the individual comparisons were significant.	Randomization was not maintained despite the study being planned as a randomized controlled trial study. The wait-list control group contained patients with only SAD.	The program's language was translated to Mandarin. Cultural adaptations were mentioned, but specific details about these changes were not provided.

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Author(s),Year, Country	Aim, Design, Participant Characteristics	LI-CBT Characteristics	Outcomes	Limitations	Cultural Adaptation
Kwek et al. (2024); Singapore	A pilot single-arm pretest-posttest trial exploring the efficacy and acceptability of therapist-guided internet-based CBT in a sample of 25 participants (12 males and 13 females with a mean age of 28.7) with obsessive-compulsive disorder.	A 10-week internet-based program with ten modules encompassing psychoeducation for obsessive-compulsive disorder, exposure and response prevention and establishment of individualized exposure and response prevention hierarchy, exercises on exposure and response prevention, discussions on long-term goals, values, and plans for staying well. Vignettes featuring common obsessive-compulsive disorder subtypes were provided, and therapists were available to provide additional guidance.	88 % of the participants completed all ten modules, including homework assignments. There was a significant reduction in obsessive-compulsive disorder symptoms, both through clinical assessments and participant self-reports. Improvement in function was observed as well, and remission was achieved in 40 % and 44 % of participants at post-treatment and 1-month follow-up, respectively.	Lack of randomization to a control condition. Experimenter bias could be possible due to the lack of blinding of assessors. The follow-up period of one month was relatively short as well.	Substituting words that better reflected Singaporean culture was done. No other specific cultural adaptations.
Latif et al. (2021a); Pakistan	A randomized controlled trial to explore the feasibility and acceptability of delivering an online cognitive behavioral therapy (CBT) informed guided self-help intervention for treating anxiety and depression symptoms in primary care settings in a sample of 39 individuals with 20 in the intervention arm (8 males and 12 females with a mean age of 35.25) and 19 in the control arm (10 males and 9 females with a mean age of 33.58) with anxiety and depressive symptoms but without a formal mental illness diagnosis.	The intervention lasted 12 weeks, and research assistants provided support for technical issues and questions related to the online self-help material. Participants were expected to complete 1 module weekly and the program had 10 modules in total. The content of the program consisted of cognitive restructuring training, teaching of problem solving skills, behavioral activation techniques, conflict management, interpersonal relationship management, mental health wellbeing and self-care.	Participants in the intervention group experienced a significant reduction in symptoms of depression, anxiety, and disability relative to those in the control group.	Informal feedback from study participants on study acceptability was not formally analyzed through a qualitative approach.	Culturally appropriate stories, drawings, and examples from local folklore and religious contexts were used to teach CBT concepts. The program was available in English and Urdu.
Latif et al. (2021b); Pakistan	A randomized controlled trial to explore the feasibility and impact of a guided CBT self-help manual in a sample of 50 women, with 25 in the intervention arm, with an average age of 27.4, and 25 in the control arm, with an average age of 26.3, who have experienced domestic violence and subsequent PTSD.	A nine-chapter self-help manual focusing on the stories of four victims of trauma in Urdu. It focused on psychoeducation, symptom management, graded exposure, cognitive restructuring, behavioral activation, problem-solving, improving relationships and communication skills, and conflict management. A Masters-level psychologist also facilitated nine 15–20 min overview sessions over 12 weeks on the manual's content.	Intervention was found to be generally helpful but the sessions on dealing with thoughts were noted to be most useful. Other popular sessions included the ones on fear hierarchy, sleep issues and suggestions to improve them, and cognitive restructuring. Symptoms of PTSD, depression, anxiety, and disability were also significantly reduced in the intervention groups relative to those in the control groups.	Selection bias due to the recruitment venue could impact the recruitment procedure's feasibility. Qualitative data was not formally analyzed and needs to be interpreted with caution. As both participant groups were from a shelter, which was itself an intervention, the improvement in symptoms cannot be entirely attributed to the intervention.	The manual was written in Urdu, reflecting the native preference. Local folklore and stories from the Islamic religion were used to demonstrate concepts related to CBT.
Lin et al. (2020); China	A weighted randomization approach was used to evaluate the efficacy of a self-guided internet-based cognitive behavioral therapy (iCBT) for social anxiety in a sample of 80 with 53 females and 27 males with averages of 22.6–24.0 across the four groups of the study and who were individuals experiencing social anxiety symptoms (SA) with different levels of Taijin Kyofusho symptoms (TKS; a	The self-guided iCBT intervention contained eight modules and six assignments, requiring participants to complete them independently over approximately eight weeks. The program's content included psychoeducation on anxiety, cognitive restructuring skills, relaxation training, the role of attention in anxiety issues, attention training, problem-solving, exposure practice, stress and general mental well-being information, and	Participants in the intervention group experienced a significant reduction in symptoms of SA with and without TKS relative to those in the control group.	The sample consisted primarily of young female university students in China. A standard treatment control group was absent.	The program was translated to Mandarin. Minor adaptations to the examples and exercises were made to make them more culturally relevant.

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Author(s),Year, Country	Aim, Design, Participant Characteristics	LI-CBT Characteristics	Outcomes	Limitations	Cultural Adaptation
Lin et al. (2023); China	<p>culturally bound of SA where individuals worry that their behaviors, expressions, or physical characteristics will offend or make others feel uncomfortable).</p> <p>A randomized controlled trial to evaluate the efficacy of unguided internet-based cognitive behavioral therapy (iCBT) on depressive symptoms, anxiety symptoms, non-specific psychological distress, general self-efficacy, stigma associated with depression, social function, and health-related quality of life in a sample of 84 patients (22 male and 62 female with an average age of 30.82) with major depressive disorder (MDD).</p>	<p>relapse prevention. Participants could contact the researchers if they had any questions.</p> <p>The unguided iCBT was a seven-module program that corresponded to face-to-face CBT courses and aimed to teach users how to manage their depressive symptoms using CBT skills such as cognitive restructuring, problem-solving, relapse prevention, psychoeducation on depression and CBT, and behavioral activation. The modules were intended to be completed weekly. General support from a trained non-specialist health worker was provided via telephone or WeChat (Mobile app) to remind and encourage participants to complete the modules on time.</p>	<p>Individuals in the iCBT group experienced a significant reduction in depressive symptoms and higher remission rates compared to the control group. They also had a more substantial reduction of anxiety symptoms and nonspecific psychological distress. Heightened general self-efficacy was also noticed, although perceived stigma was not significantly affected. Lastly, there were also no differences between groups regarding social function and health-related quality of life.</p>	<p>Majority of the sample were young women with high levels of education, limiting the findings' generalizability. Outcomes were measured using self-report instruments which are not as sensitive to improvement as clinician-rated measures. No long-term follow-up data was collected.</p>	<p>The program was created in Mandarin, but no other culturally specific adaptations were described.</p>
Lu et al. (2021); Singapore	<p>A cross-over randomized controlled trial to explore the efficacy and acceptability of a blended clinician-guided internet-based cognitive behavioral therapy (iCBT) program in a sample of 53 patients (24 males and 21 females with an average age of 33.1) with depression.</p>	<p>The iCBT program consisted of six online modules covering an introduction to depression, problem-solving, understanding the influence of thoughts and beliefs in depression, overcoming negative thoughts and beliefs, and planning meaningful activities which took 4 weeks to complete. Three 30-min face-to-face sessions with a clinical psychologist were also conducted to discuss content application in the modules and encourage the participants.</p>	<p>There were significant reductions in symptoms of depression, anxiety, and psychological distress in response to the iCBT program. Most participants were satisfied with the program, and 90 % stated they were willing to recommend it to others.</p>	<p>Relatively small sample size and high attrition rates regarding outcome measure completion. No formal diagnostic assessments were conducted and relied on diagnoses provided by the patients' psychiatrists and used thresholds from self-reported measures as substitutes for clinical remission.</p>	<p>The paper did not describe any cultural adaptations, but it noted that the program was adapted from a locally developed community mental health self-help program.</p>
Mantani et al. (2017); Japan	<p>A multisite, assessor-masked, parallel-group randomized controlled trial was conducted in 20 psychiatric clinics and hospitals to evaluate the effectiveness of a smartphone-based cognitive behavioral therapy (CBT) application as an adjunctive treatment for 164 individuals with 81 in the smartphone CBT and medication change group (35 males and 46 females with an average age of 40.2) and 83 in the medication change alone group (42 males and 41 females with an average age of 41.6) antidepressant-resistant major depressive disorder (MDD).</p>	<p>The Kokoro app is an unguided self-help smartphone app consisting of 8 20-min sessions that cover elements of CBT, such as self-monitoring, behavioral activation, cognitive restructuring, and information about relapse prevention. Each session explains the principles of CBT skills in the format of instant messenger exchanges among cartoon characters. They were also required to complete homework to practice what you learnt. No involvement regarding the content of the program from external sources was reported.</p>	<p>In MDD patients who had not responded to one or more antidepressants, adding smartphone CBT was more effective than just changing medications and decreased the overall side effect burden of pharmacotherapy. The remission and response rates almost doubled as well.</p>	<p>Participants in the control group could have suffered a "disappointment effect" during the intervention period. Masking participants and clinicians who were administering the drug treatment to treatment allocation was also not done.</p>	<p>The program was created in Japanese, but no specific cultural adaptations were described.</p>
Matsumoto et al. (2022); Japan	<p>A multicenter randomized controlled trial to evaluate the effectiveness of guided internet-based CBT, its cost-effectiveness, and identify characteristics of participants who responded</p>	<p>The intervention consisted of 12 modules, each taking 10–30 min to complete. Participants were encouraged to complete one module per week, and the entire intervention lasted 12 weeks.</p>	<p>Results indicated that the intervention group was superior to the control group in improving obsessive-compulsive symptoms. Remission and response to treatment rates were also</p>	<p>Only short-term changes in outcomes were evaluated. The small sample size could have limited the reliability of the cost-effectiveness analyses.</p>	<p>Intervention was created in Japanese, but specific cultural adaptations or considerations were not provided.</p>

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Author(s),Year, Country	Aim, Design, Participant Characteristics	LI-CBT Characteristics	Outcomes	Limitations	Cultural Adaptation
	in a sample of 30 people with 14 in the intervention arm (6 males and 8 females with an average age of 31.6) and 16 in the control arm (7 males and 9 females with an average age of 28.7) experiencing obsessive-compulsive disorder.	Two clinical psychologists guided the participants, although details about their involvement were not provided. Each module included explanations and cognitive behavioral training techniques such as exposure and response prevention techniques for changing cognitive-behavioral patterns in patients with OCD.	higher in the intervention than the control group. Cost-effective analyses also suggest that such an intervention is cost-effective.		
Mazaheri et al. (2010); Iran	A quasi-experimental design was used to examine the effect of a brief stress-management intervention on work-related stress in 88 males with 44 in each group (average ages of 35 and 34, respectively) employees of the Isfahan Steel Company. The participants were randomly assigned to intervention and control groups, and their outcomes were compared.	A three-session cognitive-behavioral stress management program based on cognitive therapy educated employees on the causes of stress in the workplace, trained them to analyze and identify environmental stressors and mediating variables, and taught them how to manage their stress. It also taught them relaxation techniques and consisted of a practice session to allow employees to practice the skills learnt throughout the program. Facilitators received training on managing groups using a cognitive behavioral approach.	Employees in the intervention group experienced significant reductions in their perceptions regarding their workload, levels of boredom at work, negative feelings towards their superiors, and the amount of additional responsibilities they needed to undertake.	The study had a small group of employees, thus reducing the generalizability of the results, and only two measurement time points. Performance variables were also not evaluated.	Consideration of stressful work-related situations common among employees in the Iranian industrial context (no specific details provided).
McCann, Songprakun, & Stephenson. (2015a); Thailand	A randomized controlled trial evaluating a CBT-based guided self-help program designed to reduce expressed emotions in a sample of 54 caregivers of individuals with depression with 27 in the intervention group (15 males and 12 females with an average age of 41.0) and 27 in the control group (11 males and 16 females with an average age of 41.0).	An 8-module guided self-help manual for depression based on CBT principles was provided. Over the 8-week intervention period, participants in the intervention group received weekly 5-min telephone calls from the research team to assist them with the manual. The manual's content consisted of psychoeducation on depression, the importance of social contact and physical activity, cognitive restructuring exercises, and caregiving skills training to support people with depression.	The intervention group reported a significant decrease in expressed emotions during caregiving from baseline measurements to post-treatment and follow-up but not between post-treatment and follow-up compared with the control group, which reported an increase between baseline and post-treatment and only a marginal decrease between post-treatment and follow-up.	Researcher who completed the family questionnaire was not blinded to participant allocation. Benefits of the program may be minimal if reading/writing abilities are insufficient or motivation to read is not present. Follow-up after the intervention project may not be present, thus minimizing long term gains.	Manual was prepared in Thai but no further specific cultural adaptations or considerations were mentioned.
McCann, Songrakun, & Stephenson. (2015b); Thailand	A randomized controlled trial to evaluate the effectiveness of a guided cognitive behavioral therapy (CBT) based self-help manual for enhancing the caregiving experience of family carers in a sample of 54 carers of people with depression with 27 in the intervention group (15 males and 12 females with an average age of 41.0) and 27 in the control group (11 males and 16 females with an average age of 41.0).	The guided self-help manual was an 8-week intervention based on cognitive therapy and self-help principles. Participants also received a weekly telephone call from the researcher to respond to any questions, give brief support and answer questions relating to the manual. The manual's content consisted of psychoeducation on depression, the importance of social contact and physical activity, cognitive restructuring knowledge, behavioral activation principles, sleep hygiene information, relaxation skills to cope with stress and improve time management, and self-care skills for carers.	There was a significant reduction in overall negative caring experiences in the intervention group relative to the control group; and a significant positive experience of caring for people with depression as reported by the intervention group compared to those in the control group.	The sample was recruited from an outpatient department and may not apply to other carers in the community. Self-reported measures could also have skewed the outcomes measure, and the short follow-up time frame prevented evaluation of the sustained outcomes of the intervention.	The manual was created in Thai, but no specific cultural adaptations were described.

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Mehrotra et al. (2018); India	A single-group longitudinal study design was used to pilot test an internet-based self-help intervention for depression in a sample of 78 people (40 males and 38 females with an average age of 32.28) experiencing major depression. Outcome reported included patterns of use, perceived gains from using the app and short-term outcomes on depressive symptoms, functioning and wellbeing.	The Practice and Use Self-help for Depression (PUSH-D) program is an unguided 10-session self-help intervention to be completed within a period of six to eight weeks in chunks of 20–40 min; and contained psychoeducation about depression, behavioral activation, self-compassion, enhancing self-soothing skills and overall sense of mastery, learning to mobilize informal sources of help for managing distress and generating positive emotions, and the importance of seeking professional help and ways to overcome hesitation towards these services.	47 % of the users completed 50 % of the sections and about 39 % of the users completed 90 % of the sections. Completers and even partial completers showed significant improvements in depressive symptoms, self-esteem ratings, impairment levels, and well-being measures. Enhanced emotional regulation efficacy and overall sense of mastery emerged as the most frequently experienced gains alongside better self-awareness, improved social connectedness and goal striving.	Small sample sizes at various time points and lack of a control group. Low rates of program completion. Native languages were not considered and the program was likely only appropriate for certain populations.	Consideration of collectivistic culture and potential avoidance of seeking social support due to need to maintain harmony. Diverse examples from family, social relationships, work and academic domains were used throughout the content.
Mori et al. (2014); Japan	A randomized controlled trial to understand the effect of a CBT-based educational program on alleviating distress and improving stress management abilities in a sample of 168 employees (131 males and 37 females with an average age of 38.4) of an information technology company with no exclusion criteria.	A single 150-min group physical class conducted by a CBT expert encompassing an overview of CBT, problem-solving techniques, and cognitive restructuring techniques. This was followed up by 1 month of homework via a web-based CBT program, with four emails being sent to remind them to complete the homework.	CBT training and web-based CBT did not provide significant stress alleviation across all participants but did so for participants with clinically significant psychological distress at baseline. The program improved self-confidence in participants' ability to cope with stress.	Given their role in an information technology company, participants may be biased towards using web-based tools. The allocation of participants was non-blinded, and groups may have been cross-contaminated due to working in close proximity.	Language of the program was changed to Japanese although no further details on other modifications was provided.
Naeem et al. (2014); Pakistan	A randomized controlled trial to explore the effectiveness of a culturally adapted cognitive behavioral self-help manual using a sample of 173 people experiencing depression with 94 in the intervention group (39 males and 55 females with an average age of 33.2) and 89 in the control group (42 males and 47 females with an average age of 33.7).	12-week guided self-help program using a culturally adapted cognitive behavioral-oriented intervention supervised by caregivers with weekly telephone reminders from the research team. It focused on psychoeducation, symptom management, thought modification, behavioral activation, problem-solving, improving relationships, and communication skills.	Significant reduction in depression symptoms and a substantial decrease in cases of depression and anxiety for the treatment group relative to the control group.	The patient or caregiver was required to be able to read and write, and this was conducted in secondary care settings.	Utilized locally accepted idioms and phrases, stories (local folklore and Islamic religion) and images to convey information. Language was changed to Urdu as well.
Okajima et al. (2022); Japan	A randomized controlled trial using a prospective parallel-group design to examine the effects of an email-delivered cognitive behavioral therapy for insomnia (CBT-I) program on insomnia severity, anxiety, depression, sleep hygiene practice and pre-sleep arousal in 48 young adults (16 males and 32 females with an average age of 19.56) with insomnia	The program was delivered in eight weekly sessions through email using attached PDF files and participants were encouraged to spend 30 min each session; it consisted of information about the physiology of sleep with particular emphasis on circadian rhythms and recommendations for stabilizing them through anchoring wake times, instructions on a time-in-bed restriction protocol, relaxation training, mindfulness training, stimulus control strategies, and cognitive strategies to reduce the impact of maladaptive thoughts about sleep. Participants were also encouraged to keep sleep diaries and implement strategies to improve sleep health. No involvement regarding the content of the	The email-delivered CBT-I program was found to significantly reduce insomnia severity, depressive symptoms, anxiety symptoms, poor sleep hygiene and pre-sleep arousal when compared to the self-monitoring group	Diagnostic criteria for sleep disorders did not factor in other sleep disturbances and mainly focused on insomnia. The reduced sample size due to dropout could bias the results. Information about time spent on each session was not collected, and objective measures of sleep were not used. No follow-up was done.	The program was translated into Japanese but no specific cultural adaptations were described.

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Patel et al. (2017); China	A mixed method study examining the cultural appropriateness of an existing internet-based multi-modal intervention targeting teens at risk for developing depression. A cross-sectional approach was used in which 348 students (age range was 19–23 but average not provided) participated in the study's overarching mental health survey to determine their suitability for using the program, but only 20 (6 males and 14 females with an average age of 21) responded to the feedback survey on the intervention. Additionally, three physicians also provided feedback on the intervention	program from external sources was reported. Students who qualified based on their depression symptoms and English proficiency levels were provided with access to the Competent Adulthood Transition with Cognitive Behavioral, Humanistic, and Interpersonal Training (CATCH-IT) unguided online intervention which was developed using cognitive behavioral therapy, interpersonal therapy, behavioral activation, and resilience theory. They were required to complete two modules per week over two months. No involvement from external sources regarding the program's content was reported.	The use of culturally appropriate and familiar images, language, and concepts was highlighted as being particularly important. Psychotherapy modules need to consider family structure, social support, value systems, and social patterns as well. There was also a greater emphasis on sociocultural issues.	A small sample size of people who provided feedback. Did not follow any qualitative methodology while gathering feedback data.	NIL. The study was designed to explore necessary cultural adaptations for the use of a program designed in a Western country in China.
Sam et al. (2022); Malaysia	A non-randomized longitudinal study design to evaluate the effect of a brief cognitive behavioral therapy (b-CBT) intervention on psychological distress (depression, anxiety, and stress) in a sample of 73 (14 males and 59 females with an average age of 45.7) primary care attendees with mild to moderate levels of psychological distress but without a formal psychiatric disorder.	The b-CBT physical workshop was a 4-h program conducted in a group format by a clinical psychologist; and consisted of psychoeducation regarding symptoms of depression, anxiety, and stress, cognitive restructuring techniques, goal setting, problem-solving, deep breathing techniques, and further resource sharing.	There was a significant improvement in psychological distress ratings following the b-CBT workshop and at the 1-month follow-up period.	The scope of the study was limited to primary healthcare attendees, and the sample was relatively small. There was a lack of randomization and control group as well.	The workshop's title was changed to Stress Management Workshop to reduce stigmatization towards mental health treatments; and the program was translated to Malay at times to help participants understand certain concepts better.
Seo et al. (2022); South Korea	A randomized controlled trial to evaluate whether a CBT-based mobile phone app could reduce symptoms of postpartum depression in a sample of 73 mothers with 37 (average age of 33.54) in the intervention group and 36 (average age of 33.36) in the control group.	The unguided intervention lasted 8 weeks, and participants were instructed to use the Happy Mother app developed by the research team. The app's framework consisted of psychoeducation about postpartum depression, mood and thought management through active monitoring according to CBT principles, increasing pleasant activities and encouraging help-seeking behavior. No external involvement regarding the content of the program was reported.	The experimental group performed significantly more health-promoting behaviors than the control group, although there were no significant differences in postpartum depression symptoms, knowledge of depression, maladaptive beliefs, social support, sleep quality, and stress-coping behavior between the two groups. However, the experimental group's mood scores, quality of sleep scores, and activity practice rate did increase pre- and post-intervention.	The experimental group used the app an average of about three times a week, making it difficult to determine the app's effect. iPhone users were not included, thus negatively affecting the sampling approach adopted.	App is created in Korean. Specific cultural adaptations to the app content were not mentioned.
Seol et al. (2016); South Korea	A single-group pretest-posttest trial to assess the efficacy of a Korean internet-based CBT (iCBT) program in improving obsessive-compulsive symptoms, depression, anxiety, and general functioning in a sample of 27 participants (19 males and 8 females with an average age of 29.22) with a primary diagnosis of obsessive-compulsive disorder (OCD)	The iCBT program was an 11-session program comprising psychoeducation about OCD and CBT, anxiety-relieving techniques and exposure and response prevention exercises, identification and restructuring of dysfunctional beliefs related to OCD and relapse prevention. Participants were also guided through a question-and-answer section by a study coordinator. A coordinator also telephoned participants	Significant reductions in obsessive-compulsive symptoms, depressive symptoms, and work/social functional impairment were observed, although this was not the case for anxiety symptoms.	The dropout rate was 35.7 %, which was higher than in previous studies of a similar nature. A randomized controlled design was not adopted, and the long-term effects of iCBT were not measured in this study. The small sample size also did not allow for the assessment of therapeutic efficacy according to different OCD subtypes.	The program was developed using the Korean CBT manual for OCD and created in Korean but specific adaptations were not provided.

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Shahidi et al. (2023); Iran	A randomized controlled trial to evaluate the effect of an internet-based mindfulness stress reduction and acceptance and commitment therapy approach (IMSR-ACT) on health anxiety (HA) levels and quality of life (QOL) of a sample of 64 caregivers of people infected with COVID-19 with 32 (11 males and 21 females with an average age of 42.46) in the intervention group and 32 (15 males and 17 females with an average age of 41.18) in the control	to encourage participation if they had not logged on to the program for 7 days or more. The IMSR-Act intervention consisted of 9 weekly sessions by a clinical psychologist trained in ACT and MSR via WhatsApp (Mobile app) and included homework and worksheets for participants to complete; the content of the program encompassed mindfulness and meditation training, thought and feeling recording, body scanning training, acceptance and committed action training, values and goals identifying, resource locating, and disinfecting and distancing practices.	The intervention group had significantly lower worries about health, worries about consequences, and awareness of bodily sensation or changes ratings and overall health anxiety ratings compared to the control group post-intervention. They also experienced significant improvements in general health, social function, energy and fatigue, and mental health ratings compared to the control group.	There was no comparison with a gold-standard treatment such as CBT. Lack of follow-up protocols due to limited access to participants after the end of the intervention.	No specific cultural adaptations were brought up.
Somer et al. (2005); Israel	A quasi-experimental study designed to evaluate the effectiveness of a hotline-based brief cognitive behavioral therapy (B-CBT) on feelings of distress, anxiety, and worry in a sample of 31 (4 males and 27 females) individuals experiencing SCUD (type of missile)-related distress. The average age was not given but the majority was between age 18 to 35 (more than 50 %)	The B-CBT intervention was a single call that lasted an average of 15.7 min and was conducted by paraprofessionals trained in administering CBT. It consisted of psychoeducation on the rationale for deep diaphragmatic breathing, a modified cognitive restructuring procedure, instructions on how to employ these techniques and in vivo practice.	The B-CBT intervention was associated with a decline in all measures of distress, anxiety, and worry immediately after the phone call and over the next 3 days compared with the standard supportive hotline intervention which only saw improvements immediately after the call and not after 3 days.	A small sample and non-randomized approach was adopted. Long-term effects were not measured. Minimal details on demographic and history variables were collected. Responders and people collecting the data were not blind to the groupings they were allocated to.	A cultural-specific method of attention control was mentioned, but no further details of what this entails and why it was considered culturally specific were provided.
Songrakun & McCann. (2012); Thailand	A randomized controlled trial to assess the effectiveness of a cognitive behavioral bibliotherapy (CBB) self-help program on reducing depressive symptoms in a sample of 56 individuals with a diagnosis of moderate depression (15 males and 41 females with an average age of 42.13)	The CBB guided self-help manual intervention consisted of a manual containing eight modules, one of which was to be completed weekly and with homework, and a short weekly telephone call to answer questions, give brief support and provide basic coaching on manual usage; its content included an overview of depression, encouragement to undertake physical exercise, psychoeducation on thoughts and emotions, thought restructuring techniques, problem-solving skills, emphasizing importance of social support, skills to improve sleep and maintain positive thoughts, emotions and behaviors, and relaxation techniques.	There was a significantly greater decrease in depression in the intervention group related to the control condition, which received standard care.	Recruitment through clinical staff at an outpatient department could have resulted in an atypical sample of participants with depression. Individuals with limited reading and writing abilities or who have low energy and poor concentration may not be able to benefit from such an approach.	The manual was created in Thai, but no specific cultural adaptations were mentioned.
Takano et al. (2016); Japan	A single-group study design to evaluate the acceptance and usability of a web-based relapse prevention program with tailored feedback from a therapist using evidence-based cognitive behavioral approaches in a sample of 10 who had been diagnosed with a substance use disorder (9 males and 1 female with an average age of 38.3).	The relapse prevention program consisted of four sessions to be completed weekly and utilized videos and exercises, alongside diary activities. Nurses or medical doctors trained to support substance use disorders provided personalized feedback comments on the submitted exercises and sent reminders when participants did not submit anything. The program's content consisted of psychoeducation on drug	Participants were satisfied with the relapse prevention sessions, including videos, exercises, and diary activities, although they did not really enjoy the self-monitoring aspects. Two-thirds of the participants completed all the sessions and felt the one-session weekly frequency was suitable, and most of them took approximately 60 min to finish one session.	There was a small sample size, and some participants had received similar treatment and support, including CBT, in the past. Internet literacy and computer skills were not assessed despite their impact on usability and compliance with the program. All outcome measures were also self-reported and recorded times to complete sessions	The program was created in Japanese and contained videos because certain Japanese words were difficult to read, and the program was developed with versatility in mind as most substance users in Japan used various drugs and not a single type.

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Tay et al. (2022); Malaysia	The study utilized 12-month follow-up data drawn from a single-blind, two-armed parallel randomized controlled trial to evaluate the long-term effects of two culturally adapted, brief, transdiagnostic psychotherapists by lay counselors on common mental disorder symptoms (depression, anxiety, post-traumatic stress disorder), bereavement symptoms, and impaired functioning levels in a cohort of 325 refugees from Myanmar in Malaysia (233 males and 92 females with an average age of 30.8).	use, dependence, triggers, anchors to stay away from drugs, signs of relapse and planning for a safe schedule, recovery, cognitive restructuring, and behavioral monitoring exercises. The cognitive behavioral therapy (CBT) group involved six weekly 45-min physical sessions including psychoeducation, stress management, problem-solving, behavioral activation, cognitive reappraisal, and strengthening social support conducted by lay counselors. Participants were given homework to practice and enhance their mastery of the skills.	Participants in the CBT group showed significant reductions in common mental disorder symptoms at the 12-month post-treatment timepoint. They maintained functional improvements relative to individuals in the other therapy group.	may not have been accurate. Cross-over effects due to allegiance effects could have occurred despite strategies to mitigate this possibility as the originators of the therapy CBT were being compared to oversaw the study and could have inadvertently conveyed a preference for it.	Translation and adaptation of the interventions' cultural, contextual, and linguistic appropriateness were mentioned, but specific details about what was done were not provided.
Thapinta et al. (2014); Thailand	A quasi-experimental design to test the efficacy of a brief cognitive behavioral therapy (B-CBT) intervention in reducing depressive symptoms in a sample of 60 patients with alcohol dependence with 33 in the intervention group (5 males and 28 females with an average age of 43.67) and 27 in the control group (6 males and 21 females with an average age of 46.48)	The B-CBT intervention consisted of 6 40- to 60-min physical sessions conducted twice a week by registered nurses trained in the program; its content contained psychoeducation on the cognitive model in relation to depression and of the B-CBT, identifying negative automatic thoughts, training on thought restructuring and managing of their automatic thoughts. Homework assignments that included behavior activation were also provided and a summary of the treatment was conducted in the last session.	The B-CBT intervention group experienced significantly fewer depressive symptoms after the intervention and at a one-month follow-up period than the control group.	Relatively high rate of dropout, although the final sample was still adequate.	No specific cultural adaptations were mentioned.
Thapinta et al. (2017); Thailand	A single-blind randomized controlled trial to evaluate the effectiveness of a cognitive behavioral therapy self-help booklet (CBT-SHB) in reducing depressive symptoms and alcohol use in a sample of 332 individuals with alcohol dependence with 168 in the intervention group (147 males and 21 females with an average age of 39.55) and 164 in the control group (146 males and 18 females with an average age of 38.54).	The unguided CBT-SHB intervention was intended to be completed in seven days and consisted of five components – introduction on the book and how to use it, explanations and examples of negative automatic thoughts based on a focus group of people with alcohol dependence and depressive symptoms, psychoeducational material on cognition and its relation to depression, and how CBT could decrease it, examples of situations that present negative automatic thoughts and exercises to help users practice identifying, evaluating, and responding to them, and problem-solving where negative automatic thoughts were not distortions but observable reality. Nurses explained how to use these booklets and participants	There were significant reductions in depressive symptoms in the CBT-SHB group from the baseline through the six-month follow-up period. Alcohol use did not decline in either group.	Self-report measures for alcohol could result in underreporting. The sample was also predominantly male, limiting its generalizability.	No specific cultural adaptations were mentioned.

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Theppornpittak et al. (2023); Thailand	A single-group pretest-posttest trial evaluating the effectiveness of an internet-based cognitive behavioural therapy for insomnia (CBT-I) application in a sample of 40 individuals with insomnia (9 males and 31 females with an average age of 45.75).	LI-CBT Characteristics were able to contact them by phone if they had any questions. A 4-week multimodal internet-based automated intervention using the Nitra application which included sleep restriction, stimulus control, cognitive restructuring, relaxation techniques, and sleep hygiene education. No facilitation necessary.	Sleep efficiency was significantly increased by approximately 15 % after completing 4 weeks of the internet-based CBT-I sessions. Approximately two-thirds of the participants achieved normal sleep efficiency after using the app and average total sleep time increased by approximately 19 min from baseline measurements.	A short intervention period may have limited improvements in subjective and objective parameters of insomnia used in the study. Exclusion of participants with normal sleep efficiency may limit generalizability of findings. Various subject sleep metrics could have been more objectively measured. Articles participants read were not tracked accurately.	No specific cultural adaptations mentioned.
Urao et al. (2022); Japan	A quasi-experimental study to examine the effectiveness of a cognitive behavioral therapy (CBT) based program intervention in reducing anxiety symptoms in a sample of 90 with 31 in the intervention arm (19 males and 12 females with an average age of 10) and 59 in the control arm (36 males and 23 females with an average age of 10.1).	The CBT intervention consisted of 14 physical sessions, a mix of 20- and 45-min sessions, and took 5 h to implement. It was conducted by a nurse teacher and included psychological education on anxiety, relaxation training, case formulation of anxiety, exposure, cognitive restructuring, and assertiveness skills when facing social anxiety.	The CBT group showed a statistically significant reduction in anxiety symptoms and behavior problems compared to the control group. Qualitative data evaluation forms were mostly positive as well.	A non-randomized control design was used, and class characteristics were not accounted for. The reliability of the facilitator and program fidelity were also not explored. The long-term effects of the intervention were not studied.	The program was created in Japanese and adjusted to fit the Japanese school schedule. It was designed to be conducted in an individual format as group activities increased anxiety. The illustrations and characters in the program were also familiar to Japanese children.
Yang et al. (2017); Singapore	An uncontrolled pretest-posttest study design evaluating the feasibility of a partially internet-based ACT-based treatment in a sample of 33 participants who experienced chronic noncancer pain (8 males and 25 females with an average age of 47.61).	A 5-week intervention consisting of two face-to-face and six online sessions administered by a qualified health psychologist. The sessions contained key concepts related to ACT, such as learning about the value of acceptance and the concept of defusion, present moment awareness and self-as-context, values identification, mindfulness exercises, and committed action. Assignments, video and audio recordings were also provided to supplement the program.	There were low drop-out rates from the program despite it being an internet-based intervention, high ratings of the program's acceptability and significant effects on depression and pain intensity at the 3-month follow-up. Most participants also shared that they had their treatment expectations met.	The lack of a control group prevented comparison. The sample size was small, and participants were predominantly recruited from one specialist pain treatment clinic. It was also difficult to assess whether adaptations were meaningful, as there were no comparisons between different adaptation versions.	The main modifications made were language and the use of culturally specific examples. These changes included the choice of words, sentence structures, accent and rhythm of the recorded material despite it being done in English.
Ying et al. (2021); China	A single-group longitudinal feasibility study to examine the effectiveness of internet-based cognitive behavioral therapy (iCBT) in the treatment of psychological distress in a sample of 127 older adults (40 males and 87 females with an average age of 73.39) without cognitive impairment living in nursing homes during the COVID-19 pandemic.	The healthy psychological station comprised a 5-week long clinician-guided iCBT program delivered through WeChat (mobile application) and provided psychoeducation on symptoms of anxiety and depression and the role of cognition concerning emotions and basic beliefs. Cognitive reconstruction and behavioral activation skills were also taught. The program was overseen by clinical psychologists who supported participants online, provided a summary of each lesson and encouraged them to finish the homework assigned.	Significant improvements in depressive and anxiety symptoms, general psychological distress ratings, and functional disability were reported from pre- to post-test and at the 1-month follow-up time point. The module's completion rate was 87.4 %, and 80 % of participants reported a high degree of satisfaction with the program.	No control groups were used. Conducting the study during the pandemic could have limited its generalizability. It is unclear how sustained these improvements were beyond the one-month period.	The program was created in Mandarin, and the care stories used were based on real cases of Chinese patients who had undergone CBT and recovered.
Ying et al. (2023); China	A randomized controlled trial to explore the efficacy of clinician-guided internet-based cognitive behavioral therapy (iCBT) compared	The iCBT intervention was a 5-week long clinician-guided program delivered through WeChat (Mobile app) tailored for the general Chinese	The iCBT intervention was found to be effective in reducing depressive and anxiety symptoms and rumination relative to the	Self-report measures could cause selection bias, and most participants were better educated and had higher income levels than	The case studies used were based on real cases of Chinese patients who had undergone CBT and recovered from

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Author(s),Year, Country	Aim, Design, Participant Characteristics	LI-CBT Characteristics	Outcomes	Limitations	Cultural Adaptation
	with group-based face-to-face CBT and a wait list condition on depressive symptoms, anxiety symptoms, and rumination in a sample of 329 participants (90 males and 178 females with an average age of 41.3) from the general population with subthreshold depression.	population with depressive and anxiety symptoms, but only the depression module was used in this study. It consisted of psychoeducation on depression and the role of cognition, cognitive restructuring and behavioral training, and concepts related to core and basic beliefs; activities with instructions on how to use this information was also provided. Clinicians provided technical assistance and encouragement throughout the program.	waitlist group. However, the iCBT intervention was not significantly different from the group CBT intervention on anxiety and rumination outcomes, but a small difference was observed for depressive symptoms.	the general Chinese population. No monitoring of other treatments during the intervention period was done. The use of a group CBT format instead of an individual CBT format as a comparison could affect the results found.	subthreshold depression or major depressive disorder, and the program was conducted in Chinese.
Wu et al. (2023); China	A randomized controlled trial comparing therapist-guided internet-based cognitive behavioral therapy (iCBT) with cognitive behavioral group therapy (CBGT) and medication on their efficacy and cost-effectiveness in a sample of 93 patients with obsessive-compulsive disorder (OCD) with 28 in the CBGT group (15 male and 13 females with an average age of 30.29), 32 in the iCBT group (18 males and 14 females with an average age of 29.16), and 33 in the treatment as usual group (23 males and 10 females with an average age of 27.52).	The therapist-guided iCBT program consisted of 12 60-min modules conducted twice weekly over 6 weeks via a website and were supervised by therapists who provided feedback to the patients on their progress and homework weekly (no more than 15 min each time). The content of the program contained psychoeducation on OCD and symptom monitoring, exposure and response prevention training, exposure content adjustment and use of exposure sheets for instruction, and relapse prevention.	Therapist-guided iCBT was significantly less expensive than CBGT and was the most cost-effective option of the three. However, there were no significant differences between iCBT, CBGT, and medication in terms of effectiveness in reducing OCD symptoms, although all three groups had curative effects and improvements in quality of life ratings.	The dose and duration of medication were not recorded before enrollment. The study only focused on therapist-guided iCBT and did not explore a self-guided option.	The program was conducted in Chinese although no specific cultural adaptations are mentioned.
Wu et al. (2014); Hong Kong	A randomized controlled trial comparing brief CBT with self-help booklets in a sample of 53 people with symptoms of post-traumatic stress following a motor vehicle crash with 25 in the CBT group (18 males and 7 females with an average age of 35.72) and 28 in the self-help group (18 males and 10 females with an average age of 43.07).	Four 1.5-h weekly physical sessions administered by qualified clinical psychologists educating participants about stress responses after a motor vehicle crash and the rationale for adopting exposure-based CBT activities for habituation, cognitive distortion modification, image habituation training, graded in vivo exposure program for people avoiding real-life situations, and a discussion on achievements and challenges faced throughout the therapy.	Participants in the CBT group experienced a greater decrease in anxiety and depressive symptoms compared to the self-help booklet group.	The small sample size of the intervention group and significantly higher levels of hyperarousal, anxiety and depressive symptoms at baseline of the intervention group than the control group. Lack of a no-treatment control group. Diagnostic interviews were not used, and no formal diagnosis of PTSD was required for participation in the study.	Self-help booklet is written in Chinese. Specific adaptations to the content of the program not mentioned.
Zhang et al. (2020); China	A quasi-experimental study design was used to explore the effect of a self-guided online cognitive behavioral therapy for insomnia (CBTI) on sleep quality in a sample of 194 individuals with situational insomnia during the COVID-19 pandemic (58 males and 136 females with an average age of 37.1).	The one-week unguided CBTI was conducted through WeChat (Mobile app) and provided a core course once a day, each taking 10–15 min. Its content consisted of sleep hygiene education, sleep restriction knowledge, stimulation control, relaxation training, cognitive reconstruction, psychoeducation about sleep medication, and a summary/review section at the end.	Participants who did not complete the 1-week CBTI program showed more pre-sleep hyperarousal problems and anxiety symptoms than those who went through the program in its entirety. Reductions in pre-sleep cognitive hyperarousal insomnia symptoms, depressive symptoms, and anxiety symptoms were also noted in the group who completed the program.	A history of past sleep problems was not collected during baseline measurements. Information related to COVID-19 and its effects on sleep were not collected. A healthy control group was not used as well. The screening tools may not have been sensitive enough for anxiety and depressive symptoms.	The program was created in Mandarin, but no other cultural adaptations were mentioned.

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