A scoping review of therapist behaviors in guided digital mental health interventions

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ABSTRACT

Guided digital mental health interventions are more effective than unguided interventions. While research often emphasizes the frequency and intensity of guidance, less attention has been paid to the behaviors enacted by the therapists supporting clients using these interventions. A scoping review of the literature was conducted to systematically examine the evidence on therapist behaviors (i.e., the actions and feedback provided by supporters to patients). Applying broad eligibility criteria, a systematic search was conducted in PubMed, PsycInfo, the Cochrane Library, and Embase from their inception to January 1st 2024. Sixteen studies met inclusion criteria and were included in the review. Following data extraction, a descriptive analysis and synthesis of the results was performed. Most studies ($n = 12$; 75 %) focused on therapist behaviors in the context of internet-delivered Cognitive Behavioral Therapy for anxiety and depression. While earlier studies primarily focused on identifying therapist behaviors, later studies shifted towards examining the associations between therapist behaviors and different outcomes, as well as deriving research and clinical applications for improving guided internet-delivered treatments. Identified gaps and recommendations for clinical practice, research, training, and treatment development are discussed.

1. Introduction

1.1. Background

Digital interventions include a range of evidence-based content, tools, and strategies accessible through technology platforms such as computers, smartphones, and virtual reality, all aimed at enhancing users' physical and mental well-being. Within this domain, internet-delivered psychological treatments have emerged as a prominent focus of research in mental health (Andersson et al., 2019; Hedman-Lagerlöf et al., 2023), although research on other digital interventions, such as smartphone-delivered interventions, has also experienced growth in recent years (Miralles et al., 2020). Over the past two decades there has been a proliferation of clinical trials examining the efficacy and effectiveness of internet-delivered treatments. Numerous meta-analyses have demonstrated that these treatments are effective in addressing a broad number of mental health conditions (Andrews et al., 2018; Carlbring et al., 2018; Linardon et al., 2020; Moshe et al., 2021; Sohi et al., 2023). Internet-delivered treatments are provided with varying levels of support, ranging from a stand-alone self-guided modality, to asynchronous contact between a supporter (e.g., trained technicians, graduate level psychologists) and blended modalities involving the active participation of a licensed therapist through regular face-to-face meetings. While guided internet-delivered treatments usually use email messaging system to provide feedback, alternative formats such as phone calls or video conferences have also been employed (e.g., González-Robles et al., 2020; Matsumoto et al., 2018). Overall, the literature suggests that guided internet-delivered treatments yield more favorable outcomes than unguided approaches (Baumeister et al., 2014; Cuijpers et al., 2019; Karyotaki et al., 2021; Papola et al., 2023), including higher adherence (Karyotaki et al., 2021; Richards and Richardson, 2012), and there seem to be no differences in dropout rates between guided internet-delivered and face-to-face treatments for common mental disorders such as anxiety and depression (Carlbring et al., 2018; Esfandiari

et al., 2021).

While the importance of guidance seems to be out of question, most of the research on internet-delivered treatments have focused on aspects such as how intensely and frequently the guidance is delivered (e.g., number of emails, number and duration of phone calls) (González-Robles et al., 2020; Mira et al., 2017). Moreover, meta-analyses on this area usually focus on the difference in outcomes between guided vs. unguided internet-delivered treatments (e.g., Richards and Richardson, 2012; Karyotaki et al., 2021). Thus, while considerable attention has been given to aspects such as guidance quantity and frequency, less focus has been placed to its content. Generally, the content of guidance in internet-delivered treatments is broadly described, often indicating the actions that clinicians take when providing guidance (e.g., answering questions, providing encouragement) (e.g., González-Robles et al., 2020). However, the specific content of guidance—what providers actually say or do when offering support in digital interventions—has received little research attention. From a clinical utility perspective, a better scientific understanding of the content of support (e.g., the behaviors therapists engage in during therapist-patient communication) and how this content is delivered could be particularly important for informing evidence-based practices. These practices could then be included in training manuals for future supporters (Newby et al., 2021; Terpstra et al., 2018). Furthermore, the varied backgrounds of supporters (e.g., psychologists, social workers, or nurses) (Hadjistavropoulos et al., 2018), coupled with the unique features of internet-delivered treatments (e.g., asynchronous patient-therapist exchanges), highlight the necessity for a deeper understanding to inform the effective delivery of support.

The literature widely recognizes therapist-related factors as pivotal contributors to the outcomes of psychological treatments (Luborsky, 1995; Norcross and Lambert, 2019; Wampold and Imel, 2015). In this context, a crucial aspect of therapist-patient communication in internet-delivered treatments involves the actions and behaviors of the supporter, commonly referred to as therapist behaviors. Moreover, the clinician's capacity to tailor and customize treatment to each patient's unique characteristics—such as personality traits, clinical severity, and specific needs—is crucial from an evidence-based practice standpoint (Spring, 2007). Therefore, it can be inferred that the behaviors exhibited by clinicians offering support or feedback may significantly contribute to the personalization of internet-delivered treatments. A pioneering study addressing the guidance content of an internet-delivered treatment was conducted by Sánchez-Ortiz et al. (2011a, 2011b). In this research, the authors examined the emails sent by therapists to participants within a randomized controlled trial (RCT) evaluating the effectiveness of CBT for bulimic disorders. Their primary finding revealed that a majority of the analyzed emails contained supportive content, with a minimal percentage discussing technical aspects of the web platform or specific CBT techniques included in the program. Following Sánchez-Ortiz et al. (2011a, 2011b), subsequent studies on guided internet-delivered treatments have delved deeper into this area. For instance, Paxling et al. (2013) identified various therapist behaviors through thematic analysis, including deadline flexibility, task reinforcement, alliance bolstering, task prompting, psychoeducation, self-disclosure, self-efficacy shaping, and empathetic communication. Similarly, Holländare et al. (2016) identified nine categories of therapist behaviors and seven subcategories, ranging from emphasizing patient responsibility to guiding and encouraging. These studies also explored the association between specific therapist behaviors and treatment outcomes and adherence. For example, Paxling et al. (2013) observed a negative correlation between deadline flexibility and clinical improvement, while Holländare et al. (2016) found that clarifying the framework was negatively associated with clinical improvement, whereas self-disclosure showed a positive correlation. Although these studies primarily focused on the relationship between therapist behaviors and clinical outcomes (anxiety and depression), further studies have also analyzed the relationship between therapist behaviors and process-

oriented outcomes such as therapeutic alliance (O'Brien, 2018), adherence (Mol et al., 2018), and therapist characteristics (Hadjistavropoulos et al., 2018). Therapist behaviors may also be relevant to increase participant usage in internet-delivered treatments. For example, in another study, Hadjistavropoulos et al. (2019) reported an association between some therapist behaviors (i.e., short emails that lacked detail) and a trend in participants to start fewer platform lessons. In sum, the literature to date suggests that therapist behaviors may play a role in internet-delivered treatments, but evidence in this area is dispersed, making it difficult to draw conclusions to inform best practices for effective support.

1.2. Current study

To date, no systematic review addressing the topic of therapist behaviors in guided digital interventions has been identified in the literature. Therefore, in an unexplored area such as therapist behaviors, conducting a scoping review would be the most appropriate first step (Munn et al., 2018). This scoping review aims to delineate how empirical research has addressed the study of therapist behaviors in guided digital interventions. Specifically, we aim to answer the following research questions:

1. What is the extent of the study of therapist behaviors in guided digital interventions, including targeted problems, populations, types of interventions, support formats, and other relevant variables?
2. What are the key characteristics associated with support or guidance in such digital interventions? For example, what communication modes are utilized for delivering therapist behaviors, who provides them, are the providers supervised and trained, and is there a defined protocol for delivering therapist behaviors?
3. What methodologies have researchers employed to analyze therapist behaviors in digital interventions?
4. What specific therapist behaviors are documented in the literature on digital interventions?
5. In these studies, has the relationship between therapist behaviors and relevant outcome variables been investigated? What specific relationships have these studies explored? For example, have they examined the association between therapist behaviors and clinical outcomes, or the association between therapist behaviors and treatment adherence?

2. Method

2.1. Study design

A scoping review of the peer-reviewed literature was conducted and reported following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) extension for scoping reviews (PRISMA-ScR) (Peters et al., 2020; Tricco et al., 2018). The protocol for this scoping review was registered at the Open Science Framework (https://doi.org/10.17605/OSF.IO/57V8J).

2.2. Search strategy and eligibility criteria

We searched four electronic databases from their inception up to January 1, 2024: PubMed, PsycInfo, The Cochrane Library, and Embase. The full search string for PubMed is presented in Supplementary file 1. The eligibility criteria were broad, aiming to comprehensively capture the two main concepts of this scoping review: a) guided digital interventions and b) the content of feedback provided by therapists to patients in patient-therapist communication (i.e., therapist behaviors). For this study, we use the term *digital interventions* as an umbrella term encompassing various methods of delivering mental health care, including computer or internet-delivered treatments and smartphone-based interventions. However, it is important to acknowledge the

ongoing debate within the field regarding the terminology used to describe these interventions. For example, some researchers may consider videoconference-based treatments as digital interventions, while others might not, with no consensus on this aspect. This ambiguity was addressed by a group of leading researchers in the field of internet-delivered treatments (Smoktunowicz et al., 2020) in their consensus statement on the terminology issues surrounding psychological interventions using the internet or digital components, emphasizing the necessity for clarity and uniformity in terminology. Following Smoktunowicz et al. (2020), therapy delivered via videoconferencing is, for the most part, considered traditional therapy, with the exception that it is delivered through a different medium. Accordingly, videoconference-based treatments were not included.

Based on the aforementioned concepts, we selected studies according to the following eligibility criteria: a) the study addresses therapist behaviors in the context of a guided digital intervention; and b) the study reports a measure of therapist behaviors (either quantitative or qualitative). Initially, case studies were excluded but in response to reviewers' feedback, we have amended the original protocol to include them. Participants of any age were included, with or without symptoms of mental health conditions. Additionally, manual searches were conducted through the reference lists of the included citations to identify additional studies of relevance. In relation to gray literature, we did not conduct a systematic search; however, we also assessed and incorporated any potential unpublished studies using various strategies (e.g., Google Scholar search, citation hand-searching, or contacting researchers). All records underwent screening by two independent researchers (AG-R and CM), and any studies that potentially met the inclusion criteria according to one of the researchers were retrieved as full-text. The decision to include or exclude a study was also jointly made by the two independent researchers, with any disagreements resolved through discussion.

2.3. Data extraction and synthesis

Prior to data extraction, the lead author created a table in an Excel document outlining the variables to be extracted from the different studies. Subsequently, all co-authors reviewed the table, providing feedback that informed the refinement of the final version before initiating data extraction from the studies. Several iterations/rounds were conducted while piloting the extraction template with some of the included studies and adapting the extraction until a final version was obtained.

Four data sets were extracted from the different studies. The first set pertains to *key characteristics of the included studies* and includes the following variables: a) study (authors and year of publication), b) country, c) study design, d) therapy (e.g., CBT), e) targeted problem (e.g., diagnosis), f) patient sample size, g) mean age of the sample, h) proportion of women in the sample, i) inclusion criterion (e.g., diagnosis based on DSM or ICD vs. cut-off score), j) recruitment (e.g., community, clinical), and k) number of intervention modules. The second set covers *guidance-related aspects* and includes the following variables: a) medium of communication (e.g., email, phone), b) synchrony (whether the communication was synchronous vs. asynchronous), c) frequency (e.g., number of emails participants received throughout the intervention), d) provider of guidance/feedback, e) supervision (whether supporters were supervised during the intervention), f) clinical experience (whether clinical experience of supporters was reported), g) training (whether training of supporters was reported), and h) description of guidance protocol. The third set concerns *therapist behaviors and related characteristics*. The variables in this set include: a) study goals, b) main topic (e.g., therapist behaviors, undesirable therapist behaviors), c) number of therapist behaviors identified in the sample, d) number of messages analyzed (e.g., emails), e) method to identify therapist behaviors (deductive vs. inductive), and f) categories and subcategories of therapist behaviors identified in each study. The final set included the

associations between therapist behaviors and outcomes. Following the completion of data extraction, a descriptive analysis and synthesis of the results was performed following an iterative process in order to maximize clarity and data organization and minimize redundancies.

The results are organized in four sections. First, we present the process for searching and selecting studies for our scoping review. Second, key study characteristics are summarized. The third section focuses on guidance-related aspects. The final section is focused on various aspects regarding therapist behaviors, including the identification of therapist behaviors in each study, and other relevant aspects (e.g., the study of the associations between therapist behaviors and outcomes, clinical and research applications of therapist behaviors).

3. Results

3.1. Selection of sources of evidence

A total of 4548 studies were identified through database searches (PubMed = 968; PsycINFO = 847; Cochrane Library = 1393; Embase = 1340), and 2 additional records were identified through other sources (i.e., a peer-reviewed study using citation searching and a doctoral thesis through contact with researchers). After removing duplicates, 2878 records were screened based on title and abstract. Of them, 147 full-articles were assessed for eligibility, leaving 16 studies for final inclusion in the scoping review. The study selection process, including specific information (e.g., reasons for exclusion) is displayed in the PRISMA flowchart (Fig. 1).

3.2. Key characteristics of included studies

A summary of key study characteristics is displayed in Table 1. In total, 16 studies were identified that fulfilled the eligibility criteria. The majority of studies were conducted in European countries (n = 11; 69 %), and five in Canada (31 %). All studies were published between 2011 and 2022. We only identified internet-delivered treatments and therefore no smartphone treatments were included in the final sample. All treatments were under the CBT umbrella, with one of them being Mindfulness-based Cognitive Therapy, and ranged between 5 and 16 treatment lessons or modules. One of the studies (Mol et al., 2018) used a blended format. However, we decided to also include it because therapist behaviors were analyzed in the context of an internet-delivered treatment (although the treatment also included face-to-face therapy). Most studies targeted adults -except for one focusing on adolescents (Berg et al., 2022)- recruited in community settings (n = 15; 94 %) and only one study recruited patients from a clinical setting (Mol et al., 2018). Regarding the criterion for the inclusion of participants in the studies, six of them included participants based on the diagnosis of a psychological disorder (38 %), seven used cut-off scores on valid screening measures (44 %), and the remaining three used other procedures (19 %) (one of them based on depressive elevated symptoms established in various ways depending on the site and the other two by recruiting vulnerable/at risk populations, i.e., individuals with cancer, dementia caregivers). Most of the studies were focused on the treatment of depression and/or anxiety (n = 12; 75 %). The remaining studies targeted bulimia nervosa (n = 1; 6 %), insomnia (n = 1; 6 %); chronic cancer-related fatigue (n = 1; 6 %), and dementia caregivers (n = 1; 6 %). It is important to note that most of the studies included in this review are secondary publications from clinical studies, which means that some of the data were not reported (e.g., study design, mean age, proportion of women, inclusion criteria). Therefore, we also used information from the primary publications of the studies to complete the table (see superscript numbers in Table 1).

3.3. Guidance-related characteristics

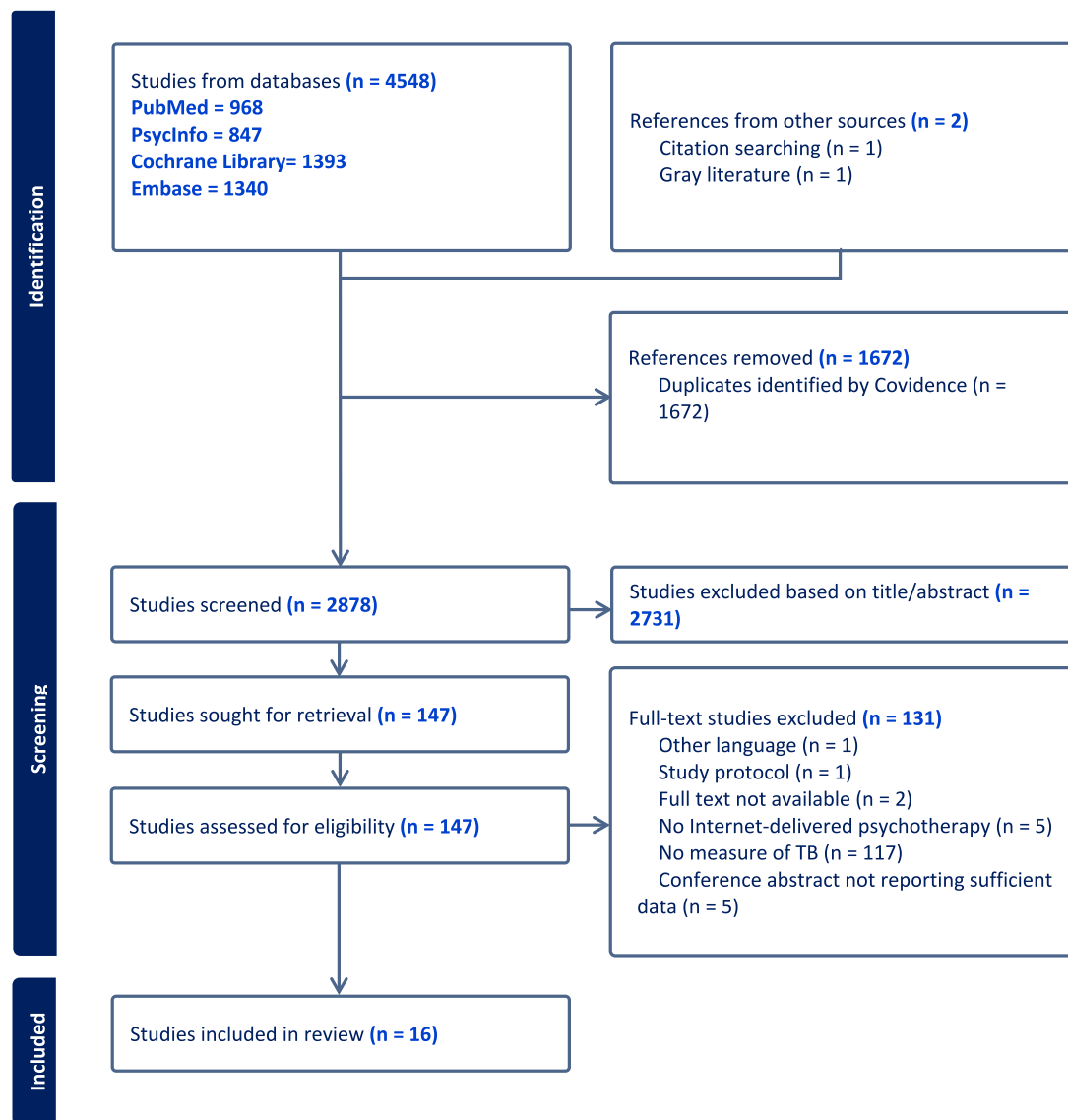In this section, we summarize relevant aspects related to guidance. In

Fig. 1. PRISMA flow diagram of search and study selection process.

all the studies, supporters communicated with participants through email/messaging system. However, some studies also included phone calls (de Bruin and Meijer, 2017; O'Brien, 2018; Schneider et al., 2016), chat (Berg et al., 2022), and Skype (Ciuca et al., 2017) to communicate with their patients, although therapist behaviors were only searched in the email content in these studies, with the exception of O'Brien (2018), which also analyzed telephone therapist-patient communication. Because therapist guidance was mainly provided through email in all studies, communication with participants was essentially asynchronous. In most studies, feedback emails were sent weekly, except for two studies, which followed a different approach. For example, in Holländare et al. (2016) the provision of feedback was personalized and did not follow a prescheduled agenda. The mean number of emails/online messages sent to participants ranged from 4.9 to 24.7, and most of the studies included some kind of supervision, reported clinical experience and some type of specific training on how to deliver the treatment and/or the guidance. The guidance was mainly provided by healthcare professionals (in most of the studies clinical psychologists) and master students. Finally, all the included studies but one provided information on the procedure and/or the instructions given to guidance providers to administer the feedback. However, the studies differed in the amount of detail about how the feedback or the guidance was provided. For

example, some studies include more detailed descriptions on the time (e. g., time spent per email), frequency (e.g., weekly), and feedback content (e.g., Hadjistavropoulos et al., 2018, 2019), while others only provide more generic indications (Maas et al., 2020; Paxling et al., 2013; Sánchez-Ortiz et al., 2011a, 2011b). A summary of guidance-related characteristics for each of the included studies can be seen in Supplementary file 2.

3.4. Therapist behaviors

3.4.1. Summary of common aspects

This section provides a summary of common aspects of the included studies. Eleven out of sixteen studies focused on therapist behaviors in general and two studies examined undesirable therapist behaviors (Hadjistavropoulos et al., 2019, 2020). The remaining three studies focused on patient-therapist communication qualitatively. Among the studies that reported the total number of therapist behaviors identified in emails/online messages (n = 5; 42 %), the range was between 1595 and 21,258. Eight out of sixteen (50 %) studies reported the total number of emails/online messages analyzed, ranging between 49 and 1013 messages. Regarding the methodology for identifying therapist behaviors, earlier studies primarily employed inductive procedures (e.

Table 1
Key characteristics of the included studies.

Study	Study design	Country	Ther	Targeted problem	n	M age	Prop women	Inclusion criterion	Recruitment	N modules
Berg et al. (2022)	RCT[a]	Sweden	iCBT	depression	5	17,29 (original sample)[a]	0,85 (original sample)[a]	diag	com	8
Ciuca et al. (2017)	Case study	Romania	iCBT	Panic disorder	2	–	1	diag	com	16
de Bruin and Meijer (2017)	RCT[b]	Netherlands	iCBT	insomnia	57	15,43	0,83	diag	com	6
Hadjistavropoulos et al. (2018)	Uncontrolled pre-post[c]	Canada	iCBT	depression and anxiety	91	39	0,65	cut-off	com	5
Hadjistavropoulos et al. (2019)	Uncontrolled pre-post[c]	Canada	iCBT	depression and anxiety	91	39	0,65	cut-off	com	5
Hadjistavropoulos et al. (2020)	Case study	Canada	iCBT	depression and anxiety	198	–	–	cut-off	com	5
Holländare et al. (2016)	RCT[d]	Sweden	iCBT	depression	42	44,8	0,86	cut-off	com	9 basic (+7 optional)
Maas et al., 2020	RCT[e]	Netherlands	eMBCT	chronic cancer-related fatigue	31	53,5	0,65	other	com	9
Mol et al., 2018	Implementation study[f]	Netherlands	blended CBT	depression	45	35,9	0,73	other	clin	10 online sessions in combination with 5 face-to-face sessions
O'Brien (2018)	RCT	United Kingdom	iCBT	depression and anxiety	53	32	0,66	cut-off	com	7
Paxling et al., 2013	RCT[g]	Sweden	iCBT	generalized anxiety disorder	44	39,9	0,82	cut-off[g]	com[g]	8
Pugh et al. (2014)	Case study	Canada	iCBT	depression	1	–	0	diag	com	12
Sánchez-Ortiz et al. (2011b)	RCT[h]	United Kingdom	iCBT	Bulimia nervosa/ EDNOS	71	23,9 (original sample)[h]	0,99 (original sample)[h]	diag[h]	com[h]	8
Schneider et al. (2016)	Uncontrolled pre-post[i]	Canada	iCBT	depression	41	44,8	0,66	cut-off	com	12
Schulz et al. (2017)	Case study	Switzerland	iCBT	social anxiety disorder	2	–	0	diag	com	8
Theurer and Wilz (2023)	RCT[j]	Germany	iCBT	dementia caregivers	27	64,26	0,78	other	com	10

CBT: Cognitive Behavioral Therapy; Clin: clinical; com: community; diag: diagnosis; EDNOS: Eating disorder not otherwise specified; eMBCT: Internet-delivered Mindfulness-based Cognitive Therapy; iCBT: Internet-delivered Cognitive Behavioral Therapy; M age: mean age; Prop women: proportion of women; RCT: randomized controlled trial; Ther: Therapy.

Primary publications consulted:

[a] Mechler et al. (2022).
[b] de Bruin et al. (2015).
[c] Hadjistavropoulos et al. (2016).
[d] Holländare et al. (2011).
[e] Bruggeman-Everts et al. (2017).
[f] Mol et al. (2016).
[g] Paxling et al. (2011).
[h] Sánchez-Ortiz et al. (2011a).
[i] Hadjistavropoulos et al. (2014).
[j] Meichsner et al. (2019).

g., Holländare et al., 2016; Paxling et al., 2013; Sánchez-Ortiz et al., 2011a, 2011b). In contrast, other studies predominantly used deductive procedures (e.g., Berg et al., 2022; de Bruin and Meijer, 2017; Hadjistavropoulos et al., 2018; Maas et al., 2020), while some utilized a combination of both (Schneider et al., 2016; Theurer and Wilz, 2023). Inductive approaches typically involved an initial analysis of email content (e.g., utilizing qualitative content analysis) to identify categories of therapist behaviors. Subsequently, a comprehensive analysis of the entire content was conducted to identify therapist behaviors falling within the pre-identified categories. Deductive approaches mostly relied on either theory-based or empirically-based predefined sets of categories, which were subsequently used to identify therapist behaviors corresponding to each of these predetermined categories. From the findings across the various studies included, four commonalities emerged: the identification of a relevant set of therapist behaviors, the study of the association between therapist behaviors and different outcomes, the development of applications for the optimal deployment of therapist behaviors in clinical practice, and the in-depth analysis of patient-therapist online communication. The latter involves case studies where online exchanges between patients and therapists are qualitatively analyzed, allowing for the examination of both therapist and patient behaviors. These aspects are reported in the following sections.

3.4.2. Breakdown of therapist behaviors in the included studies

Table 2 shows the therapist behaviors identified in each study, their study goals, the method employed for identifying them (inductive and/or deductive), and other aspects of interest (number of feedback messages analyzed and number of therapist behaviors identified in the messages). The number of main therapist behaviors identified in the included studies ranged from 3 to 14 (Mean = 8.4, SD = 3.2). However, some studies also included subcategories. For example, Holländare et al. (2016) grouped the behaviors of validating and interpreting,

Table 2
Summary of the study goals, the therapist behaviors identified in each study and other relevant aspects.

Study	Study goals	topic	N therapist behaviors identified	N messages analyzed	Method to identify therapist behaviors	Main categories of therapist behaviors
Berg et al. (2022)	To investigate therapists' written communication with adolescent clients in ICBT for depression, to better understand therapist behavior with respect to encouragement, affirmation, and personal address signaled and verbalized when practicing ICBT.	Therapist behaviors	–	49	Deductive	1. Encouragement 2. Affirmation 3. Personal address
Ciuca et al. (2017)	To document the unfolding of the individual psychological treatment process of two patients during iCBT for panic with therapist guidance via Skype.	Patient-therapist communication	–	–	–	–
de Bruin and Meijer (2017)	To identify which factors can be distinguished in written therapeutic feedback in Internet CBTI, and examine whether these factors and participation in a chat session contribute to sleep outcomes.	Therapist behaviors	–	–	Deductive	1. Forging a working alliance 2. Forging therapy integrity 3. Forging a positive attitude 4. Sleep expertise 5. Other subcategories
Hadjistavropoulos et al. (2018)	To develop and evaluate an ICBT Therapist Rating Scale (ICBT-TRS) to assess whether therapist emails showed fidelity to specific therapist behaviors.	Therapist behaviors	–	–	Deductive	1. Builds rapport 2. Seeks feedback 3. Provides feedback 4. Provides psychoeducation 5. Facilitates understanding 6. Praises effort 7. Encourages practice 8. Clarifies administrative procedures 9. Communicates effectively

Hadjistavropoulos et al. (2019)	To develop and administer an ICBT-Undesirable Therapist Behavior Scale (ICBT-UTBS) to assess the nature, frequency, and correlates of undesirable therapist behaviors in routine practice.	Undesirable therapist behaviors	–	–	Inductive	1. Inadequate detail
						2. Unaddressed content
						3. Unsupportive tone
						4. Missed correspondence
						5. Inappropriate self-disclosure
						6. Unmanaged risk
						  1. Did not message
						  2. Did not call as indicated
						  3. No contact note
						  4. Did not indicate next check-in date
						  5. Critical tone/lack of praise
						  6. Unresponsive to symptom increase, scoring measures, or suicide risk
						  7. Lack of psychoeducation
						  8. Does not address patient concern
						  9. Does not answer patient question
						  10. Poor writing
						  11. Poor timing
						  12. Poor instructions
						  13. Did not link to course content
						  14. Unnecessary self-disclosure

Hadjistavropoulos et al. (2020)[a]	To assess the impact of audit and feedback on therapist behaviors in guided iCBT.	Undesirable therapist behaviors	–	–	Deductive	1. Emphasize patient responsibility 2. Affirming 3. Clarifying the framework 4. Self-disclosure 5. Informing about modules 6. Confronting 7. Urging 8. Encouraging 9. Guiding
Holländare et al. (2016)	To investigate written communication from therapists to patients in ICBT for depressive symptoms, and to test which behaviors, if any, were associated with module completion and symptom improvement.	Therapist behaviors	3350	644	Inductive	1. Task prompting 2. Paraphrasing 3. Task reinforcement 4. Psychoeducation 5. Informing 6. Emphatic utterances
Maas et al., 2020	To identify therapist behaviors during eMBCT for CCRF and to explore which therapist behaviors are associated with a reduction in fatigue.	Therapist behaviors	–	537	Deductive	

Table 2 (*continued*)

Study	Study goals	topic	N therapist behaviors identified	N messages analyzed	Method to identify therapist behaviors	Main categories of therapist behaviors
						7. Alliance bolstering 8. Probing self-reflection 9. Providing group context
Mol et al., 2018	To identify therapist behaviors in written online communication with patients in blended CBT for adult depression in routine secondary mental health care, to identify the extent to which the therapists adhere to feedback instructions, and to explore whether therapist behaviors and adherence to feedback instructions are associated with patient outcome.	Therapist behaviors	1825	219	Deductive	1. Emphasizing responsibility 2. Affirming 3. Clarifying the framework 4. Self-disclosure 5. Informing 6. Confronting 7. Urging 8. Encouraging 9. Guiding 10. Questions
O'Brien (2018)	To analyze the frequency of therapist behaviors and their association with treatment outcomes	Therapist behaviors			Deductive	1. Conveying understanding 2. Validating 3. Attending 4. Providing information 5. Promoting Empowerment/Instilling hope 6. Facilitate Exploration and insight 7. Collaboration 8. Therapeutic Guidance 9. Positive Reinforcement 10. Cultural Sensitivity
Paxling et al., 2013	To identify TB as conceptualized via quantitative text analyses and to investigate whether therapist behaviors in iCBT for GAD are interrelated to one another and/or related with adherence to the program and/or outcome.	Therapist behaviors	1595	490	Inductive	1. Deadline flexibility 2. Task reinforcement 3. Alliance bolstering 4. Task prompting 5. Psychoeducation 6. Self-disclosure 7. Self-efficacy shaping 8. Empathetic utterance
Pugh et al. (2014)	To provide a comprehensive illustration of therapist-assisted iCBT via email, including an overview of the Online Therapy Unit, pre-treatment assessment procedures, iCBT modules, examples of therapist-client email interactions, and treatment outcome measures.	Patient-therapist communication	–	–	–	–
Sánchez-Ortiz et al. (2011b)	To investigate the use of emails to support users of an internet-based CBT self-care treatment package.	Therapist behaviors	–	712	Inductive	1. Cognitive behavioral comment 2. Supportive comments 3. Technical or study-related comments
Schneider et al. (2016)	To identify therapist behaviors in e-mails sent to patients in ICBT for depressive symptoms and analyze the relationships between therapist behaviors, symptom improvement, and therapeutic alliance.	Therapist behaviors	9085	1013	Inductive & deductive	1. Deadline flexibility 2. Task reinforcement 3. Alliance bolstering 4. Task prompting 5. Psychoeducation 6. Self-disclosure 7. Self-efficacy shaping 8. Empathetic utterance 9. Administrative statements 10. Questionnaire feedback 11. Questions
Schulz et al. (2017)	To compare successful and unsuccessful cases in iCBT by presenting two systematic case studies of clients with social anxiety disorder. It examines therapist communication, client progress, and key factors like therapist support and motivation.	Patient-therapist communication	–	–	–	–
Theurer and Wilz (2023)	To investigate the extent to which online therapists implemented the techniques recommended by Stucki and Grawe (2007).	Therapist behaviors	21,258	216	Inductive & deductive	1. Active listening 2. Support 3. Alliance bolstering 4. Self-disclosure 5. Transparency and psychoeducation 6. Autonomy

Table 2 (*continued*)

Study	Study goals	topic	N therapist behaviors identified	N messages analyzed	Method to identify therapist behaviors	Main categories of therapist behaviors
						7. Openness for ideas and suggestions 8. Recognition of strengths 9. Resource activation 10. Feedback on therapeutic success 11. Pleasant communicative space 12. Positive feelings

[a] The list of undesirable therapist behaviors reported in this study is derived from the list reported in Hadjistavropoulos et al. (2019), as stated by the authors.

normalizing, and summarizing as affirming.

Overall, two main categories of therapist behaviors were observed across the studies: a) *general therapist behaviors*, linked to common psychotherapy factors, i.e., behaviors that are deemed independent of the type of therapy administered (e.g., internet-delivered and face-to-face therapy) or the content of the intervention, and b) *specific therapist behaviors* (e.g., specific to the content of the intervention or to one mode of intervention delivery). The former includes behaviors such as affirming, encouraging, providing information or psychoeducation, praising or reinforcing, and guiding. Regarding specific therapist behaviors, three types can be distinguished: a) therapist behaviors linked to the communication mode, such as the use of emoticons in written communication, explicit descriptions of nonverbal reactions (e.g., "I have to laugh because...") (de Bruin and Meijer, 2017), and the use of clear language (e.g., avoiding repetitions and grammatical errors in written communication) (Hadjistavropoulos et al., 2018); b) therapist behaviors linked to the specific problem or disorder addressed. An example is the therapist behavior "sleep expertise" in the treatment of insomnia (de Bruin and Meijer, 2017); and c) therapist behaviors related to the internet-delivered format of the treatment, such as the therapist behavior of clarifying administrative procedures, which can involve providing instructions on online questionnaire completion (Hadjistavropoulos et al., 2018; Schneider et al., 2016). Finally, only two studies focused on identifying undesirable therapist behaviors (i.e., behaviors that are counterproductive or should be avoided by supporters) (Hadjistavropoulos et al., 2019, 2020). Detailed definitions of therapist behaviors by each of the included studies is provided in Supplementary file 2.

3.4.3. Associations between therapist behaviors and outcomes

Most of the identified studies have examined the relationship between therapist behaviors and outcomes, including clinical outcomes (e. g., anxiety, depression, remission), therapeutic alliance, adherence (e.g., number of completed modules), therapist background (e.g., psychology vs. nursing), patient sociodemographics (e.g., sex), engagement variables (e.g., platform logins), and patient satisfaction. Table 3 shows a summary of the significant associations between therapist behaviors and different categories of outcomes for each study (for a detailed account of the relationships between therapist behaviors and outcomes see Supplementary file 2).

3.4.4. Applications for research and clinical practice

Three of the included studies have developed research and clinical applications based on research about therapist behaviors. Hadjistavropoulos et al. (2018) aimed to develop and evaluate an assessment tool, the iCBT Therapist Rating Scale (iCBT-TRS), to assess whether therapist emails demonstrated fidelity to specific therapist behaviors in an open trial evaluating iCBT for depression and anxiety. The scale, based on iCBT literature and previous studies (e.g., Schneider et al., 2016), employed a three-point Likert scale (0: absence of feature; 1: inadequate performance/significant improvement needed; 2: competent).

Behaviors assessed included building rapport, seeking feedback, providing psychoeducation, among others. In another study, Hadjistavropoulos et al. (2019) developed and administered the iCBT-Undesirable Therapist Behavior Scale to assess undesirable therapist behaviors in therapists delivering iCBT for depression and anxiety. This study specifically focused on identifying undesirable therapist behaviors, such as inadequate detail and inappropriate self-disclosure, through an inductive procedure. Finally, Hadjistavropoulos et al. (2020) reported on a case study that used audit and feedback (Colquhoun et al., 2017) in iCBT therapists. Specifically, the emails sent by eight therapists to patients of guided iCBT were audited, and a monitoring and feedback system was implemented over a one-year period to improve the quality of therapist behaviors. To do so, the authors employed the scale to assess undesirable therapist behaviors developed in previous research (Hadjistavropoulos et al., 2019).

3.4.5. Patient-therapist online communication exchanges

We included three case studies that reported on the online exchanges between patients and therapists in the context of iCBT. Two of them used asynchronous support (email) (Pugh et al., 2014; Schulz et al., 2017), while the remaining study used synchronous support. Unlike the other studies, which focus exclusively on therapist behaviors identified in messages or emails, these case studies present both sides of the interaction, showcasing the exchanges between patient and therapist during the course of treatment. Pugh et al. (2014) conducted a case study illustrating the therapeutic exchanges in online therapist-patient communication in guided iCBT for depression. Schulz et al. (2017) reported the treatment progress of two clients with differing outcomes, focusing on the therapist-patient communication content: one with a positive outcome, referred to as "Daydreamer," and the other with a less favorable outcome, referred to as "Night Owl," in clinician-guided iCBT for social anxiety disorder. Similarly, Ciuca et al. (2017) reported the patient-therapist exchanges of two patients (one with positive outcomes and another with negative outcomes) in the context of iCBT for panic disorder with synchronous support (via brief Skype sessions). These studies differ from the previous ones as they present information about therapist behaviors qualitatively, preventing the creation of a clear list of therapist behaviors.

4. Discussion

4.1. Main findings

The main objective of this study was to conduct a scoping review to systematically explore what has been investigated in the field of therapist behaviors focused on guided digital interventions. Despite broad eligibility criteria, only sixteen studies met inclusion criteria. Most studies focused on iCBT for anxiety and depression (n = 12; 75 %). Others addressed conditions such as bulimia nervosa, chronic cancer-related fatigue, dementia caregivers, and insomnia using some form of iCBT, with one study examining Mindfulness-based Cognitive Therapy.

Table 3

Summary of significant associations between therapist behaviors and outcomes.

Study	Outcome	Significant associations
de Bruin and Meijer (2017)	Clinical outcomes	Sleep expertise predicted improvements in insomnia symptoms.
Hadjistavropoulos et al. (2018)	Therapeutic alliance	Therapeutic alliance scores positively associated with praise.
	Therapist background	Being a therapist in a specialized iCBT clinic positively associated with building rapport, providing psychoeducation, encouragement, and administrative procedures.
	Patient sociodemographics	Being male 'positively associated with providing psychoeducation.
	Engagement	Multiple associations between engagement variables and therapist behaviors including providing feedback, providing psychoeducation, facilitating understanding, praise, encouragement, building rapport, and administrative procedures.
Hadjistavropoulos et al. (2019)	Therapist background	Being a therapist in a specialized clinic (vs. a community clinic) negatively associated with inadequate detail. Being a therapist with a psychology background (vs. social work or nursing) negatively associated with inadequate detail and unaddressed content.
Holländare et al. (2016)	Clinical outcomes	Improvement in depressive symptoms associated with affirming, encouraging, and self-disclosure. Positive association between remission and self-disclosure.
	Adherence	Total number of modules completed positively associated with affirming, encouraging, guiding, self-disclosure, clarifying the framework, and emphasizing patient responsibility.
Mol et al. (2018)	Adherence	Online module completion positively associated with confronting.
O'Brien (2018)	Clinical outcomes	Therapeutic guidance and cultural sensitivity at Time 1 (i.e., first review provided to clients by their supporters) associated with greater improvements in depression symptoms.
	Therapeutic alliance	Conveying understanding, validating, and positive reinforcement associated with higher clinician ratings of therapeutic alliance.
Paxling et al. (2013)	Clinical outcomes	Changes in generalized anxiety symptoms positively associated with task reinforcement and negatively associated with deadline flexibility.
	Adherence	Module completion positively associated with task reinforcement, task prompting, self-efficacy shaping, and empathetic utterance.
Schneider et al. (2016)	Clinical outcomes	Improvements in anxiety symptoms associated with alliance bolstering, deadline flexibility, task-prompting, and administrative statements. Improvements in depressive symptoms associated with psychoeducation, self-efficacy shaping, task prompting,

Table 3 (*continued*)

Study	Outcome	Significant associations
		administrative statements, and questions.
	Therapeutic alliance	Higher scores on therapeutic alliance associated with task reinforcement and questionnaire feedback.

Only one study targeted adolescents (Berg et al., 2022). The included studies spanned from 2011 to 2022. The scarcity of such studies is striking, especially considering the literature about systematic reviews and meta-analyses on internet-delivered interventions. For instance, only in the field of CBT for depression, a meta-analysis by Cuijpers et al. (2023) included 84 treatment arms that evaluated some form of guided iCBT. In another study, Furukawa et al. (2024) conducted a network meta-analysis on CBT for insomnia were 39 arms involved online therapeutic guidance. Another meta-analysis focused on internet-delivered treatments for anxiety disorders included 42 arms from RCTs that were guided (Pauley et al., 2023). Also importantly, a significant portion of the included studies has been conducted by the same group of researchers (e.g., Hadjistavropoulos et al., 2018, 2019, 2020). In other words, the quantity of studies focusing on therapist behaviors contrasts with the extensive research conducted on internet-delivered treatments, indicating that this area of research has been largely neglected. Possible explanations for this discrepancy include the dominant role assigned to therapeutic techniques from a medical perspective, at the expense of common factors (Wampold and Imel, 2015), the excessive emphasis placed on studying the efficacy of psychotherapies rather than what makes psychotherapy work (e.g., predictors, mechanisms of change) (Cuijpers, 2016), or the resource-intensive nature of these studies, what could discourage researchers from efforts in this domain (i.e., in most studies, the analysis involves examining the content of hundreds of messages or emails) (e.g., Schneider et al., 2016; Theurer and Wilz, 2023). In this regard, the majority of studies utilized asynchronous communication, with only one study also examining therapist behaviors in telephone communication (O'Brien, 2018). Specifically, therapists were required to mark on a checklist the therapist behaviors employed following each telephone communication with a patient. The use of a checklist, where the therapist evaluates the therapist behaviors employed, has potential advantages, such as saving time and resources. However, it may also be subject to biases. For example, therapists may lack the knowledge to identify therapist behaviors with precision or may be less likely to admit to the use of undesirable therapist behaviors.

Regarding the methods used to identify therapist behaviors, a progression is observed from more inductive methods, where therapist behaviors are initially identified and categories are generated based on an inductive analysis, to more deductive methods, where a predetermined set of categories and subcategories of therapist behaviors is applied to the analysis of feedback content. This progression is a logical consequence of the accumulation of knowledge and research advances in this area, and also should guide future researchers in exploring therapist behaviors. In order to achieve consensus in a set of relevant therapist behaviors, decisions should be based on previous research. An approach we advocate involves integrating both deductive and inductive methodologies, as previously implemented (Schneider et al., 2016). The deductive approach entails beginning with therapist behaviors delineated in the existing literature, typically encompassing behaviors broadly applicable across various therapies, such as validation and encouragement. Conversely, the inductive approach is reserved for discerning therapist behaviors that may be specific to the problem or treatment under investigation (e.g., the therapist behavior "sleep expertise" in treating insomnia). Furthermore, as the results showed, the scope of the included studies is limited in terms of mental health conditions, which highlights the necessity for further research to ascertain

recommended and unrecommended therapist behaviors for other un-explored problems and disorders.

Although internet-delivered treatments have demonstrated efficacy, dropout rates or patients who do not improve with this type of therapy remain significant. A focus on therapist behaviors could aid in enhancing internet-delivered treatments and increasing their uptake, efficacy and effectiveness. However, based on our synthesis of the results, the evidence concerning the association between therapist behaviors and outcomes is characterized by variability and lacks conclusive findings. For instance, de Bruin and Meijer (2017) reported an association between the therapist behavior "sleep expertise," which involves explaining sleep efficiency, calculating patient bedtime, or assessing the feasibility of proposed exercises for patients, and only one of the various insomnia outcomes included in the study; the remaining associations were not statistically significant. In two studies evaluating iCBT for depression and/or anxiety that used a nearly identical list of therapist behaviors, anxiety outcomes were linked to different therapist behaviors, showing a lack of consistent patterns across studies. Specifically, Paxling et al. (2013) identified significant associations between improvements in anxiety symptoms and therapist behaviors such as deadline flexibility and task reinforcement, whereas Schneider et al. (2016) reported associations between anxiety symptom improvement and therapist behaviors including alliance bolstering, task prompting, and administrative statements. The only common association observed was the relationship between anxiety symptoms and deadline flexibility, which, however, showed conflicting results regarding the direction of this association (i.e., deadline flexibility was negatively associated with improvements in anxiety in the former and positively associated with the later). In terms of engagement outcomes, only two of the included studies investigated their association with therapist behaviors (Hadjistavropoulos et al., 2018, 2019). Unlike clinical symptoms, engagement variables (e.g., number of logins, number of lessons started) displayed multiple associations with various therapist behaviors in these studies. Additionally, Hadjistavropoulos et al. (2019) reported negative associations between undesirable therapist behaviors and patient engagement variables. These results highlight the significance of therapist competence and skill in nurturing patient engagement, implying that the proper implementation of therapist behaviors may be more directly correlated with engagement outcomes and less directly linked to clinical outcomes. Previous studies have stressed the role of patient engagement in enhancing treatment outcomes and overall adherence (Donkin et al., 2013; Enrique et al., 2019), so although the evidence is limited, these results suggest that the relationship between therapist behaviors and patient engagement should be further explored. Furthermore, while satisfaction with treatment in internet-delivered treatments is typically evaluated broadly (e.g., overall satisfaction with treatment) (González-Robles et al., 2020; Hadjistavropoulos et al., 2018), specific satisfaction with the quality of guidance is often overlooked. Exploring patient satisfaction with the support provided by the therapist could offer valuable insights into the advancement of therapist behaviors.

The use of designs permitting experimental manipulation of therapist behaviors types or quantity to examine their effects on outcomes, as proposed by some authors (Mol et al., 2018), could offer valuable insights into the specific contributions of such behaviors. However, conducting such research might pose significant challenges, particularly due to ethical considerations. Moreover, given the multitude of variables of diverse nature that could influence outcomes (e.g., patient-related factors like the type and severity of disorders, patient personality, treatment engagement, or treatment-related variables such as duration, usability, attractiveness, content, etc.), establishing causal relationships between therapist behaviors and psychological treatment outcomes is, at the very least, challenging. While definitive causation may remain elusive, this understanding can still inform about what may prove more or less beneficial for patients undergoing an internet-delivered treatment. This knowledge can lead to practical applications, such as the development of the scales by Hadjistavropoulos et al. (2018, 2019) for

assessing both desirable and undesirable therapist behaviors. Furthermore, it may serve as a blueprint for developing targeted training programs aimed at optimizing the implementation of therapist behaviors in internet-delivered treatments. Adequate training in therapist behaviors is vital, especially considering the diverse backgrounds of supporters in these interventions. These may include individuals with limited clinical experience, such as psychology doctoral or master's students (Berg et al., 2022), or professionals from other fields like social work or nursing (Hadjistavropoulos et al., 2018), who may lack comprehensive knowledge of implementing therapist behaviors in internet-delivered treatments. Additionally, while some may have extensive clinical experience in face-to-face therapy, the applicability of this experience to a digital environment remains uncertain.

Although this review is mainly focused on clinical trials, three case studies were also identified and included. Unlike studies with larger samples, case studies can provide more nuanced insights on how understanding and implementing therapist behaviors. However, although this topic is well-suited for qualitative analysis, the number of case studies on this subject is still very low. Three case studies (Ciuca et al., 2017; Pugh et al., 2014; Schulz et al., 2017) were included that illustrate the therapeutic exchanges in online therapist-patient communication in guided iCBT. These types of studies can guide other therapists in providing internet-delivered treatments and shed light on the psychotherapeutic process that occurs in patient-therapist communication, aiming to improve adherence and clinical outcomes. In addition, these studies also consider the other side of the interaction, i.e., patient behaviors. Although there is some published research focusing on patient behaviors, it is much scarcer compared to the literature on therapist behaviors (e.g., Soucy et al., 2019). Therefore, further research on patient behaviors is strongly encouraged. In another case study, Hadjistavropoulos et al. (2020) conducted a case study where they audited emails from eight iCBT therapists and implemented a feedback system over a year to improve therapist behaviors (Colquhoun et al., 2017) using the scale to assess undesirable therapist behaviors developed in previous research (Hadjistavropoulos et al., 2019). This study brings to light two important insights: firstly, the pressing need for more research on how to effectively integrate these behaviors into internet-delivered treatments; and secondly, as highlighted by the authors, the importance of establishing clear standards or guidelines regarding which therapist behaviors are recommended and which are not, which are currently lacking. Furthermore, and closely tied to this observation, it underscores the vital necessity for thorough training of therapists tasked with administering guided internet-delivered treatments, ensuring they possess the necessary competence to implement these behaviors effectively.

4.2. Limitations

This study has limitations that should be mentioned. Firstly, despite conducting a comprehensive literature review, a systematic search of gray literature was not undertaken, potentially missing relevant unpublished studies. Secondly, this review is purely descriptive in nature, and no analysis was performed (e.g., an examination of the evidence concerning the associations between therapist behaviors and outcomes). Nonetheless, it is important to note that a scoping review is inherently descriptive (Peters et al., 2020), and that the available evidence regarding the association between therapist behaviors is highly heterogeneous (each study examines the relationship between different therapist behaviors and different outcomes) and insufficient for an analysis with sufficient statistical power. Lastly, only studies in English were included, potentially leading to the omission of studies published in other languages.

4.3. Conclusions

The literature on therapist behaviors in internet-delivered

treatments is sparse. Most identified studies are based on CBT and focus on anxiety and depression in adults. Communication between therapists and patients in this type of therapy differs significantly from face-to-face therapy (e.g., it is largely asynchronous and of short duration), which warrants more research on this specific area. However, currently, there are no clear guidelines on how to identify therapist behaviors, which behaviors are recommended or not recommended, and the best way to implement such behaviors in internet-delivered treatments. A limited number of studies have attempted to develop applications for the optimal implementation of therapist behaviors, but further research in this area is needed that informs the development of best practices and guidelines for providing effective support in these treatments. Regarding the association between therapist behaviors and outcomes, evidence suggests relationships between certain behaviors and clinical variables, therapist-related variables, and variables related to patient engagement that warrant future investigation. However, the evidence is mixed and the number of studies insufficient to conduct systematic reviews or meta-analyses informing best practices regarding therapist behaviors in internet-delivered treatments. In summary, the lack of studies in this area should be addressed as internet-delivered treatments are increasingly being adopted by healthcare systems and routine practice, which involves the development of specific workforces adequately trained.

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Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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