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COMPREHENSIVE REVIEW

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# Effectiveness of mindfulness-based interventions on psychotherapy processes: A systematic review

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## Abstract

In the field of psychotherapy, scientific research has highlighted the importance of empathy and therapeutic alliance in regard to the effectiveness and better results of psychological treatments. In recent years, mindfulness-based interventions (MBIs) have shown to be effective at increasing empathy and therapeutic alliance and how this could affect the patients' symptomatology. In this study, we conducted a systematic review of the effectiveness of MBIs applied to psychotherapists to improve their empathy, the therapeutic alliance and the patients' symptomatology. Sixteen studies evaluating the impact of an MBI on some of these variables were identified, of which six included measures evaluated by the patients whose psychotherapists received the MBI. The risk of bias of the included studies was analysed following the methodological standards. We found very different designs and methodologies in the studies included in this review, with few of them including a control group. The results show a limited increase in empathy, measured by the psychotherapist, after an MBI. However, the results in therapeutic alliance are not conclusive, as well as the improvements in the perception of patients about their symptomatology. It is concluded that MBIs can have a beneficial effect on the psychotherapeutic practice, through the development of psychotherapists' empathy. Future research would require new studies with a higher methodological quality, and in which the effects of MBIs on empathy, therapeutic alliance and patients' symptomatology and the relationships between them are analyzed.

KEYWORDS
mindfulness, empathy, therapeutic alliance, symptomatology, systematic review

## 1 | INTRODUCTION

Research on the effects of psychotherapy has identified a series of skills and processes that are activated throughout the therapeutic relationship and which show a high impact on psychotherapy outcomes, which translates into an improvement of symptomatology (Gelso et al., 2018). Key aspects such as empathy and therapeutic alliance have been identified as essential in any psychotherapeutic intervention and are crucial in evidence-based psychotherapy relationships (Norcross & Lambert, 2018).

Regarding empathy, in recent years different studies considers it an influential variable in the effectiveness of psychotherapy (Elliott et al., 2011). We understand empathy as the cognitive process by which one person recognizes the affective and cognitive state of another (de Vignemont & Singer, 2006) and the emotional process by which an affective attunement to it is produced (Singer & Lamm, 2009), without becoming sympathetic or apprehensive towards the other's emotional state (Decety & Michalska, 2010; Moya-Albiol, 2018). This ability is one of the foundations by which the praxis of psychotherapy is moderated (Elliott et al., 2011). In the meta-analysis carried out by Norcross and Lambert (2018), empathy was found to be a key element, able to shape the effectiveness of psychotherapy. Various studies have found an association between psychotherapist's empathy scores and psychotherapy outcomes, especially when this variable is assessed by patients (Elliott et al., 2011; Orlinsky et al., 2003). This relationship demonstrates the central role that empathy has in the quality of the relationship between a psychotherapist and their patient (Elliott et al., 2018).

Another of the basic components exposed by Norcross and Lambert (2018) with the ability to predict success is therapeutic alliance, understood as a quality of collaboration and mutual association between a psychotherapist and their patient (Flückiger et al., 2018; Horvath & Luborsky, 1993). Bordin (1979) identified three components of therapeutic alliance: agreement on psychotherapy goals, acceptance of relevant and effective tasks for psychotherapy goals and the establishment of a bond of mutual trust between psychotherapist and patient (Horvath et al., 2011). Numerous studies indicate that therapeutic alliance is one of the variables that has been most strongly related to successful psychotherapy (Lambert & Barley, 2001) and, together with empathy, are better predictors of positive results than specific techniques or approaches applied during the sessions (Lambert & Simon, 2008; Walsh, 2008; Wampold & Imel, 2015). Research has been carried out to evaluate the impact of therapeutic alliance, on a session-by-session basis, on subsequent psychotherapy outcomes. These studies have observed that the patients' perception of therapeutic alliance is related to later changes in their symptoms (Falkenström et al., 2016; Feeley et al., 1999; Strunk et al., 2010; Xu & Tracey, 2015; Zilcha-Mano et al., 2016). Along these lines, Flückiger et al. (2018) observed a strong relationship between the therapeutic alliance results and the effectiveness of individual psychotherapy. In a recent meta-analysis, therapeutic alliance and psychotherapist's empathy were found to be related, indicating that one's perception of the psychotherapist's empathy can influence one's perception of the therapeutic alliance (Nienhuis et al., 2018). An increase in empathy can lead to a better alliance between psychotherapist and patient (Hilsenroth et al., 2012), and this relationship may be reciprocal (Nienhuis et al., 2018).

Different interventions have been created to train skills that develop a positive therapeutic relationship. In recent years, mindfulness-based interventions (MBIs) have been the focus of attention. These interventions have contributed to developing psychotherapist's empathy (Bellosta-Batalla et al., 2019; Brady et al., 2011; Dekeyser et al., 2008) and the alliance between psychotherapist and patient (Razzaque et al., 2013), improving psychotherapy results (Rothaupt & Morgan, 2007).

**Key practitioner message**

- Question: Are mindfulness-based interventions (MBI) useful for improving psychotherapist' empathy, therapeutic alliance and patients' symptomatology?
- Findings: We found a limited increase in empathy in psychotherapists after an MBI. We do not found a beneficial influence of MBIs in the establishment of a good therapeutic alliance, as well as in the evolution of the patients' symptomatology.
- Meaning: Introducing MBI in the university education of psychotherapists could be useful to improve their empathy, an essential skill in the effective approach to patients' situations and symptomatology.
- Next steps: Additional studies are needed to replicate these findings and to evaluate with standardized procedures if an MBI could also increase the therapeutic alliance and thus improve the symptoms of patients.

Some authors indicate that the practice of mindfulness is understood through two fundamental components: the regulation of attention in the present moment; and experiencing different life events with an attitude of curiosity, openness, acceptance and kindness (Bishop et al., 2004; Siegel, 2007). MBIs contribute to developing greater regulation of attention and emotions, body awareness and changes in self-perception (Cebolla et al., 2018; Hölzel et al., 2011). These mechanisms are the foundation of an improved self-regulation process, in which a healthy relationship with the present moment and the search for effective behaviours adapted to the experience are facilitated (Carver & Scheier, 2011; Vohs & Baumeister, 2004).

In the practice of psychotherapy, these skills can translate into greater awareness of one's own and the patient's state and a less biased observation of the development of the psychotherapist–patient relationship at any given moment (Bruce et al., 2010). Davis and Hayes (2011) conclude that long-term mindfulness practice can positively influence the ability of psychotherapists to develop their self-awareness, which, in turn, would help to distinguish their own experience from the experience of their patients.

The development of the psychological mechanisms that underlie the practice of mindfulness (Cebolla et al., 2018; Hölzel et al., 2011) could have an impact on an increase in the achievement and maintenance of attention (Jha et al., 2007), as well as in the regulation of the present experience and the increase of self-awareness, facilitating listening and the adoption of an open attitude towards other people's experiences (Siegel, 2007). All this can lead to improvements in the empathic response (Leonard et al., 2018), given that accurate observations of oneself are necessary for the adequate understanding of others (Decety & Jackson, 2004). Some studies suggest that the foundation for an effective psychotherapeutic relationship is the

attunement between patient and psychotherapist (Brito, 2013), which can be achieved through the training of attitudes cultivated in the practice of mindfulness (Kabat-Zinn, 2003). In this regard, MBIs applied to psychotherapists have been found to benefit patient health and symptomatology (Grepmair, Mitterlehner, Loew, Bachler, et al., 2007), contributing to the improvement of psychotherapy results.

In the current literature, we find some systematic reviews that have focused on analysing the existing evidence so far on whether the practice of mindfulness can provide specific skills for the practice of psychotherapy. In one of them, the benefits of MBIs on the empathy and emotional competences of health professionals, including doctors, nurses and psychotherapists, among others, were evaluated (Lamothe et al., 2016). Another systematic review analysed, without conclusive results, the effects of an MBI on the psychosocial behaviour of health professionals, including medical and mental health professionals, and whether or not these improvements had any impact on their patients' results (Escuriex & Labbé, 2011). Yet, another review observed that the implementation of a series of interventions, including MBIs, could increase empathy in medical professionals (Kelm et al., 2014). Finally, in a recent meta-analysis of experimental and correlational studies, no evidence was found on the benefits of an MBI on the empathy of psychotherapists (Cooper et al., 2020). However, there are no systematic reviews or meta-analyses that study the effect of an MBI on the therapeutic alliance or on the effects that an MBI received by psychotherapists may have on the symptoms of patients. Despite the above, we cannot assume that only the results in empathy show that MBIs are effective for psychotherapeutic work. For this reason, we find it necessary to include in this review the studies that have evaluated these variables of such weight in the therapeutic process (Bruce et al., 2010; Norcross & Lambert, 2018).

This leads us to the objective of this systematic review, which was to synthesize the available evidence regarding the beneficial effects of MBIs applied to psychotherapists, focusing on studies that have evaluated changes in psychotherapists' empathy, therapeutic alliance and patients' symptomatology.

## 2 | METHOD

### 2.1 | Search strategy

Searches were performed in April 2021 and repeated in August 2021 on PsycINFO, PubMed and Web of Science for articles published up until August 2021. The search was divided into the following families: (1) MBIs, (2) empathy, therapeutic alliance and/or psychotherapy/counselling results and (3) psychotherapists (Table 1). In addition, previous systematic reviews were checked for articles that met the inclusion criteria (Cooper et al., 2020; Lamothe et al., 2016).

This systematic review was carried out according to the preferred reporting elements for systematic reviews and meta-analyses (PRISMA) (Moher et al., 2009). The protocol was registered in Open Science Framework (OSF; registration DOI: 10.17605/OSF.IO/V3YCK) on 29 June 2021 available at https://osf.io/v3yck.

**TABLE 1** Bibliographic search

| |
|---|
| Family 1: Mindfulness-based interventions |
| *mindfulness* |
| Family 2: Empathy, therapeutic alliance and/or psychotherapy/counselling results |
| Empathy |
| *empath*, 'perspective taking'* |
| Therapeutic alliance |
| *'alliance', 'psychotherapeutic relationship*', 'psychotherapeutic bond*', 'therapeutic relationship*', 'therapeutic bond*'* |
| Psychotherapy/counselling results |
| *'counseling process', 'counseling outcome*', 'counseling result*', 'counseling efficacy', 'counseling effectiveness', 'counselling process', 'counselling outcome*', 'counselling result*', 'counselling efficacy', 'counselling effectiveness', 'therapy process', 'therapy outcome*', 'therapy result*', 'therapy efficacy', 'therapy effectiveness', 'treatment process', 'treatment outcome*', 'treatment result*', 'treatment efficacy', 'treatment effectiveness', 'patient* outcome*', 'patient* result*', 'patient* symptom*', 'client* outcome*', 'client* result*', 'client* symptom*'* |
| Family 3: Psychotherapists |
| *counselor*, counsellor*, psychotherapist*, therapist*, psychologist*, 'psychology student*', 'psychotherapy student*', clinician*, counsel*, 'mental health'* |

### 2.2 | Selection criteria

This systematic review focused on MBIs applied to both psychotherapists who are treating patients, as well as psychotherapists in training with or without patients, with the aim of improving their empathy and therapeutic alliance, as well as the psychotherapy results. Results of mindfulness measures were included to check if MBIs were having a significant effect on the attainment of these skills.

We included empirical, quantitative, controlled and uncontrolled studies, in which an MBI was applied to psychotherapists and in which its effects on some of the following variables were evaluated: empathy, therapeutic alliance and/or patient's symptoms. These interventions included both standardized and widely researched MBIs (e.g., Mindfulness-Based Stress Reduction [MBSR], Mindfulness-Based Cognitive Therapy [MBCT]) and nonstandardized interventions based on learning and practicing mindfulness exercises, with mindfulness as the main focus of the intervention (all of them grouped under the acronym MBI).

We excluded meta-analysis and systematic reviews, non-experimental studies, qualitative and correlational studies. In addition, studies that corresponded to pilot versions of more recent studies in which the results are further explained and expanded upon were excluded.

### 2.3 | Selection of studies

Based on each abstract obtained from the electronic databases, two investigators (EGC and MBB) selected and analysed the studies that met the inclusion criteria. In case of disagreement, the original study

was read together with a third investigator (AC), and a final decision was made to include it or not.

A total of 704 studies were found and once duplicate articles had been eliminated from the different databases, 588 remained to be reviewed. A first screening applying the inclusion criteria resulted in a selection of 23 studies which would be read entirely.

Once the expert screening had been carried out and after applying the exclusion criteria, seven qualitative studies, one pilot version of a more recent and updated study (Grepmair, Mitterlehner Loew & Nickel, 2007) and a dissertation showing the results of an included article (Ivanovic, 2016) were excluded, leaving 14 studies to be analysed. We then included 2 studies that were found in systematic reviews which did not appear in the initial search (Mills, 2010; Spragg, 2012). Finally, 16 articles were analysed in this systematic review. The search and selection processes are presented in a flow chart (Figure 1).

## 2.4 | Data extraction

Two investigators (EGC and MBB) independently extracted the following data from each of the included articles: authors, year, design, population, sample, type of intervention, measured results, instruments used and main findings. One researcher entered the data into a table. The second researcher then compared the table with his data, and the information was checked for accuracy. If there were any discrepancies with the extracted data, the first author returned to the original article to clarify the correct information and correct the data in the table accordingly.

## 2.5 | Analysis of the quality of the studies

Risk of bias of randomized controlled trials (RCTs) was systematically assessed using an adaptation of the *Cochrane Collaboration* tool (Higgins & Green, 2011). We rated the following aspects: selection, realization, detection, outcome data and reporting.

Risk of bias of the pre–post trials was assessed with the ROBINS-I tool for nonrandomized studies (Sterne et al., 2016). The following domains were evaluated: confusion bias in baseline, selection bias, intervention bias, attrition bias and result notification bias. Two investigators (EGC and MBB) independently performed the risk of bias rating. In case of discrepancies, a third researcher (AC) was involved, and the corresponding article was analysed to resolve the discrepancy. *Cohen's Kappa Coefficient* (Cohen, 1960) was calculated with the Excel tool (Microsoft Excel, 2017) as a measure of agreement and reliability among investigators.

# 3 | RESULTS

## 3.1 | Study characteristics

Regarding the studies included in this systematic review, 9/16 (56.3%) studies reported results in pre–post measures of MBIs or MBCT, including 3 (33.3%) peer-reviewed journal articles (Hopkins & Proeve, 2013; Ivanovic et al., 2015; Rimes & Wingrove, 2010) and 6 (66.7%) dissertations (e.g., Ballinger, 2013; Hauge, 2018; Mills, 2010). Among the pre–post trials, only 3 (33.3%) collected follow-up measures (Hauge, 2018; Hopkins & Proeve, 2013; Schomaker, 2013). On the other hand, 7/16 (43.8%) studies were RCT that implemented MBIs, mindfulness and compassion-based interventions (MCBI), MBCT and MBSR, of which 5 (71.4%) were peer-reviewed journal articles (e.g., Bellosta-Batalla et al., 2020; Bohecker & Doughty Horn, 2016; Chan et al., 2021) and 2 (28.6%) dissertations (Simons, 2014; Spragg, 2012). Among the RCT, 4 studies (57.1%) collected follow-up measures (e.g., Bellosta-Batalla et al., 2020; Chan et al., 2021).

A few studies, 4/16 (25%), recorded the results after the psychotherapy session at pre- and post-MBI times (Ivanovic et al., 2015; Schomaker, 2013; Simons, 2014; Swift et al., 2017). Except for 1 (6.3%) study that included mental health professionals (Schomaker, 2013), all had a psychotherapist in training in their sample.

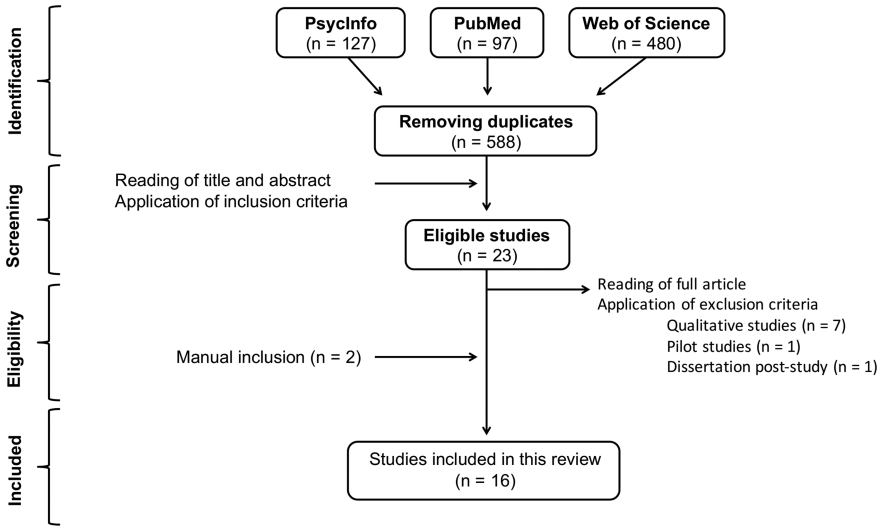


**FIGURE 1** Study selection flow chart

**TABLE 2** Studies included in this systematic review that apply an MBI

| Authors | Publication | Population | Sample | Design (groups) | Intervention | Variables | | Results | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Psychotherapists | Patients | Psychotherapists | Patients |
| Ballinger (2013) | Dissertation | Psychologists in training | 10 | Pre–post trial (Experimental: 10) | MBI; 8-S | *Empathy* IRI | - | *Empathy* IRI: ↓Personal distress | - |
| | | No Patients | - | - | | | | | |
| Bellosta-Batalla et al. (2020) | Peer-review | Psychologists in training | 90 | RCT (Experimental: 37 Active Control: 27 Waiting list: 26) | MCBI; 8-S | *Empathy* IRI RMET sOXT | - | *Empathy* IRI: ↑Perspective takings OXT: ↑ sOXT *No improvement* RMET | - |
| | | No Patients | - | - | | | | | |
| Bohecker and Doughty Horn (2016) | Peer-review | Psychologists in training | 20 | RCT (Experimental: 10 Control: 10) | MBI; 8-S | *Empathy* IRI | - | *Empathy* ↑IRI | - |
| | | No Patients | - | - | | | | | |
| Chan et al. (2021) | Peer-review | Psychologists in training | 50 | RCT (Experimental: 25 Control: 25) | MBCT: 8-S | *Empathy* IRI | - | *Empathy* IRI: ↑Perspective taking | - |
| | | No Patients | | | | | | | |
| Grepmair, Mitterlehner, Loew, Bachler, et al. (2007) | Peer-review | Psychologists in training | 18 | RCT (Experimental: 9 Control: 9) | MBI: 9-S | - | *Symptomatology* VEV SCL-90-R (GSI) | - | *Symptomatology* ↑VEV SCL-90-R: ↓All except depression. ↓GSI |
| | | Yes Patients | 124 | (Experimental: 63 Control: 61) | | | | | |
| Hauge (2018) | Dissertation | Psychologists in training | 27 | Switching replications design (Exp. group 1: 13 Exp. group 2: 14) | MBI; 3-S | *Empathy* TEQ | - | *Empathy* ↑TEQ | - |
| | | No Patients | - | - | | | | | |
| Hopkins and Proeve (2013) | Peer-review | Psychologists in training | 11 | Pre–post trial (Experimental: 11) | MBCT; 8-S | *Empathy* IRI | - | *No improvement* | - |
| | | No Patients | - | - | | | | | |
| Ivanovic et al. (2015) | Peer-review | Psychologists in training | 31 | Pre–post trial (Experimental: 31) | MBI; 5-S | - | *Therapeutic alliance* TPI-P | - | *No improvement* |
| | | Yes Patients | 126 | (Experimental: 126) | | | | | |

(Continues)

**TABLE 2** (Continued)

| Authors | Publication | Population | Sample | Design (groups) | Intervention | Variables | | Results | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Psychotherapists | Patients | Psychotherapists | Patients |
| Mills (2010) | Dissertation | Psychologists in training | 25 | Controlled trial (Experimental: 13 Control: 12) | MBCT; 8-S | *Empathy* IRI | - | *Empathy* ↑IRI: ↑Empathic concern | - |
| | | No Patients | - | - | | | | | |
| Newton (2018) | Dissertation | Psychologists in training | 3 | Multiple baseline design (Experimental:3) | MBI; 4-S + Individual practice | *Therapeutic alliance* BLRI | *Therapeutic alliance* BLRI *Symptomatology* OQ-45.2 | *Therapeutic alliance* BLRI: ↑Empathy *No improvement OQ-45.2* | *No improvement* |
| | | Yes Patients | 3 | (Experimental:3) | | | | | |
| Rimes and Wingrove (2010) | Peer-review | Psychologists in training | 20 | Pre–post trial (Experimental: 20) | MBCT; 8-S | *Empathy* IRI | - | *No improvement* | - |
| | | No Patients | - | - | | | | | |
| Rissman (2013) | Dissertation | Psychologists in training | 27 | Pre–post trial (Experimental: 27) | MBI; Academic grade | *Empathy* IRI | - | *Empathy* IRI: ↑Perspective taking | - |
| | | No Patients | - | - | | | | | |
| Schomaker (2013) | Dissertation | Mental Health Professionals | 17 | Single case design (Time 1: 9 Time 2: 8) | MBI; 6-S | *Empathy* IRI *Therapeutic alliance* SRS | *Therapeutic alliance* SRS | *Empathy* IRI: ↑Perspective taking *Therapeutic alliance* ↑SRS | *No improvement* |
| | | Yes Patients | 50 | (Combined: 50) | | | | | |
| Simons (2014) | Dissertation | Psychologists in training | 23 | RCT (Experimental: 12 Active control: 11) | MBI; 7-S | - | *Therapeutic alliance* TPS-P SRS | - | *No improvement* |
| | | Yes Patients | 43 | (Experimental: 21 Control: 22) | | | | | |
| Spragg (2012) | Dissertation | Psychologists in training | 16 | RCT (Experimental: 8 Control: 8) | MBSR; 8-S | *Empathy* IRI | - | *No improvement* | - |
| | | No Patients | - | - | | | | | |
| Swift et al. (2017) | Peer-review | Psychologists in training | 40 | RCT (Experimental: 20 Control wait list: 20) | MBI; 5-S | - | *Therapeutic alliance* TPI-P | - | *No improvement* |
| | | Yes Patients | 131 | - | | | | | |

Abbreviations: BLRI, Barrett–Lennard Relationship Inventory; HS, Hindering Self-awareness Scale; IRI, Interpersonal Reactivity Index; MBI, Mindfulness-Based Intervention; MBCT, Mindfulness-Based Cognitive Therapy; MCBI, Mindfulness and Compassion-Based Intervention; OQ-45.2, Outcomes Questionnaire-45; RCT, randomized controlled trial; RMET, Reading the Mind in the Eyes Test; SCL-90, The symptom checklist; SRS, Session Rating Scale; TEQ, Toronto Empathy Questionnaire-Adapted; TPI-P, Therapist Presence Inventory-Patient Version; TPS-P, Therapeutic Presence Scale-Patient Scale ad-hoc; VEV, Questionnaire of changes in experience and behavior.

It is important to note that 1/16 (6.3%) of these studies only assessed 3 psychotherapists (Newton, 2018). Among the studies that applied MBIs, there is a great diversity of methodologies and designs. Regarding the duration of the MBIs, 1/16 (6.3%) study carried out an MBI of only 3 sessions (Hauge, 2018), while another applied an intervention of 9 sessions (Grepmair, Mitterlehner, Loew, Bachler, et al., 2007). Another one of these studies (6.3%) carried out the intervention during an entire academic year, from September to May, resulting in approximately 30 sessions (Rissman, 2013). In general, the only notable differences observed between the studies that implemented short-term MBIs and those that carried them out in 8 or 9 sessions in the variables evaluated were found in the results regarding patient's symptomatology, which will be discussed later.

Among the studies included in this systematic review, 11/16 (68.8%) measured empathy, and 5/16 (31.3%) of the studies measured therapeutic alliance. Only 2/16 (12.5%) evaluated the patients' symptoms, with patients being blind to the type of intervention performed by their psychotherapists. Lastly, 1/16 (6.3%) studies jointly measured empathy and therapeutic alliance, and only 1/16 (6.3%) collected data in regard to therapeutic alliance and symptomatology (Table 2).

One of the studies included in this systematic review addressed the training of MBI instructors (Chan et al., 2021). Furthermore, it is important to note that some of the psychotherapists who participated in the different studies had previous experience in mindfulness (e.g., Ballinger, 2013; Spragg, 2012), while others did not know or had never practiced mindfulness (e.g., Grepmair, Mitterlehner, Loew, Bachler, et al., 2007).

## 3.2 | Sample characteristics and demographics

The 16 studies included a total of 760 individuals aged between 18 and 74 (M = 28.1, SD = 3.9). Among these studies, 15/16 (93.8%) were carried out with a sample of undergraduate, master's or doctoral students in psychology, and 1/16 (6.3%) was carried out with active psychotherapists. The sample sizes of the reviewed studies ranged from 3 to 157 participants (M = 52.5, SD = 48) and was predominantly female, with a mean of 80.6% (SD = 19.5) of female participants. In addition, in the 2/16 (12.5%) studies in which an evaluation of the symptoms of the patients was carried out, a total of 133 patients were included (M = 66.5, SD = 57.5), with a mean age of 29.9 (DT = 9.15).

## 3.3 | Data quality

Regarding the quality of the data (Figure 2), the risk of bias of the RCT studies on selection bias, realization, detection and management of outcome data is revealed.

First, the selection bias was divided between: the randomized sequence generation, in which 100% of the studies showed a low risk of bias because all were randomized, and the allocation concealment, which explains the method of randomization that was followed, in which all studies (100%) had a low risk.

Realization bias was also assessed. At this point, the risk of bias was high for 6/7 studies (85.7%), given that it was impossible for the participants to be unaware of the intervention, except in one case in which only patients were evaluated, and they were blind to their psychotherapists' intervention. Regarding detection bias, the absence of blinding of the evaluators is not considered to pose a risk of bias. For this reason, all studies (100%) have a low risk of detection bias.

Similarly, the handling of outcome data from the studies was assessed. In 6/7 (85.7%) studies, there were no dropouts, or the causes and times of these dropouts were reported, so there was low risk of bias. Finally, we found that 7/7 (100%) of the studies showed some concerns about reporting bias, given that they do not report having recorded the study protocol. Based on the Cochrane Collaboration Tool, this is not considered to this imply a risk of bias. Agreement between reviewers for quality assessment was high (kappa = .90).

The risk of bias of the pre–post studies on confusion bias on baseline, selection bias, intervention bias, attrition and result notification bias was evaluated (Table 3).

First, the confusion bias was low for 8/9 (88.9%) studies, given that they did not have a control group, and intervention was similar for all participants, except in one case. In 1/9 (11.1%) studies, there was an intentional inclusion, so the risk of bias was moderate. Regarding selection bias, it was low for 3/9 (33.3%) studies in which the participants' selection was decided based on availability. This bias was

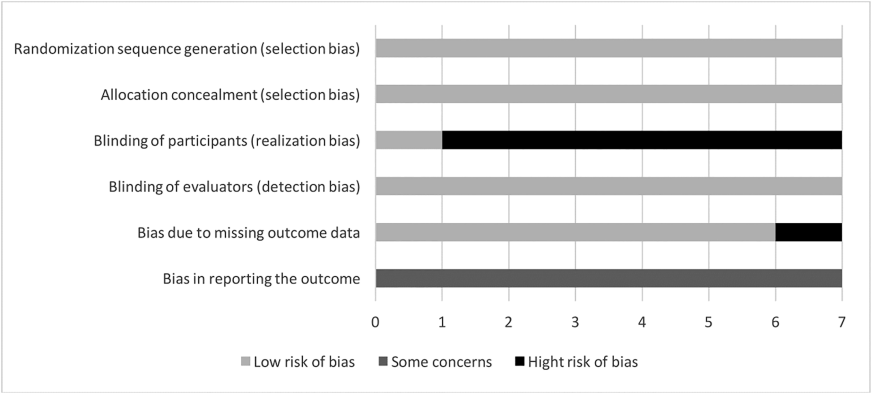


**FIGURE 2** Graph of the risk of bias of the RCT studies

**TABLE 3** Risk of bias of pre–post studies

| Studies | Confusion bias in baseline | Selection bias | Intervention bias | Attrition | Result notification bias |
|---|---|---|---|---|---|
| Ballinger (2013) | *Low*<br>No confusion bias. No control group. | *Moderate*<br>Psychotherapists choose to participate. | *Low*<br>No more mindfulness interventions. | *Low*<br>Missing participant data. Reported. | *Low*<br>All results reported. |
| Hauge (2018) | *Low*<br>No confusion bias. No control group. | *Low*<br>No selection bias. | *Moderate*<br>Other mindfulness training. Experience levels controlled. | *High*<br>Missing participant data. No reported. | *Low*<br>All results reported. |
| Hopkins and Proeve (2013) | *Low*<br>No confusion bias. No control group. | *Moderate*<br>Psychotherapists choose to participate. | *Low*<br>No more mindfulness interventions. | *Low*<br>No missing participant data. | *Low*<br>All results reported. |
| Ivanovic et al. (2015) | *Low*<br>No confusion bias. No control group. | *Low*<br>Psychotherapists were selected based on availability. | *Low*<br>No more mindfulness interventions. | *Low*<br>No missing data reported. | *Low*<br>All results reported. |
| Mills (2010) | *Low*<br>No confusion bias. | *High*<br>Psychotherapists choose to participate. No criteria reported. | *Low*<br>No more mindfulness interventions. | *Low*<br>No missing participant data. | *Low*<br>All results reported. |
| Newton (2018) | *Low*<br>No confusion bias. No control group. | *Moderate*<br>Intentional sampling. | *Low*<br>No more mindfulness interventions. | *Low*<br>No missing participant data. | *Low*<br>All results reported. |
| Rimes and Wingrove (2010) | *Low*<br>No confusion bias. No control group. | *Moderate*<br>No criteria reported. | *Low*<br>No more mindfulness interventions. | *Low*<br>No missing participant data. | *Low*<br>All results reported. |
| Rissman (2013) | *Low*<br>No confusion bias. No control group. | *Moderate*<br>No criteria reported. | *Low*<br>No more mindfulness interventions. | *Low*<br>No missing data reported. | *Low*<br>All results reported. |
| Schomaker (2013) | *Moderate*<br>Intentional inclusion. | *Low*<br>Psychotherapists were selected based on availability. | *Low*<br>No more mindfulness interventions. | *Low*<br>No missing participant data. | *Low*<br>All results reported. |

moderate for 5/9 (55.6%) studies, given that the participants chose to participate or not, so there could be a bias in their motivation. In addition, 1/9 (11.1%) did not report the selection criteria, so the risk of bias high for this study.

The intervention bias was moderate in 1/9 (11.1%) studies as MBI participants also carried out a training that included aspects of mindfulness. However, this factor was controlled. All other studies, 8/9 (88.9%), had low bias as there was no other intervention parallel to the MBI.

The attrition bias was low for 8/9 (88.9%) studies because no participant data were missing, or the missing data were reported. In another study, 1/9 (11.1%), this bias was high given that participant data were missing and the reasons were no reported. Finally, notification bias of the results was assessed. All of the studies (100%) reported all outcomes, so the risk of bias was low. Agreement between reviewers for quality assessment was high (kappa = .86).

## 3.4 | Effects on psychotherapists

### 3.4.1 | Mindfulness

Of the 16 studies, 12 (75%) measured self-reported levels of mindfulness in psychotherapists as a measure of the effectiveness of MBIs (e.g., Ballinger, 2013). In them, different evaluation instruments were

used. In 2/12 of the studies (16.7%) (Mills, 2010; Rissman, 2013) the *Mindfulness Attention Awareness Scale* (MAAS; Brown & Ryan, 2003) was used, 9/12 (75%) of the studies (e.g., Bohecker & Doughty Horn, 2016) used the *Five Facets Mindfulness Questionnaire* (FFMQ; Baer et al., 2006), 2/12 (16.7%) (Simons, 2014; Swift et al., 2017) used the *Toronto Mindfulness Scale* (TMS; Lau et al., 2006) and 1/12 (8.3%) (Spragg, 2012) used the *Kentucky Inventory of Mindfulness Skills* (KIMS; Baer et al., 2004).

In all these studies, a generalized increase in this variable was observed, indicating that the applied MBIs influence mindfulness skills in the expected way.

### 3.4.2 | Empathy

Among the studies reviewed, 11/16 (68.8%) measured the effects of an MBI on self-reported empathy by psychotherapists. Among the assessment instruments, 10/11 studies (90.9%) used the *Interpersonal Reactivity Index* (IRI; Davis, 1980), a self-report of interpersonal reactivity that assesses a broader concept than empathy, and which is composed of two cognitive and two emotional scales. In this systematic review, only the perspective taking (understood as cognitive empathy) and empathic concern (understood as emotional empathy) subscales have been included, given that fantasy can be understood more as a measure of absorption of traits than of empathy (Murphy et al., 2018), and personal distress could hinder the establishment of empathy due to the contagion of negative emotions in the psychotherapist (Singer & Klimecki, 2014). On the other hand, 1/11 study (9.1%) used the *Toronto Empathy Questionnaire* (TEQ; Spreng et al., 2009), in which two factors of cognitive empathy are evaluated: curiosity and decentration (Hauge, 2018). In one of these studies (9.1%) (Bellosta-Batalla et al., 2020), self-reported measures were complemented with an assessment of emotional recognition ability, using the *Reading the Mind in the Eyes Test* (RMET; Baron-Cohen et al., 2001), and a biological measure of baseline oxytocin levels in saliva (Carter et al., 2007). Finally, 1/16 studies (6.3%) in this review (Newton, 2018) obtained measures of this variable using the *Barrett–Lennard Relationship Inventory* (BLRI; Barrett-Lennard, 2015), an evaluation instrument designed to measure therapeutic alliance, which assesses the perception that patients have about the psychotherapist through four dimensions: empathy, congruence, consideration and unconditional respect. In this study, the therapeutic alliance was measured, but ultimately, only the results obtained on the empathy scale were taken into account. Therefore, 12/16 (75%) studies obtained empathy results.

The results indicate an increase in 8/12 (66.7%) of the studies in empathy at the end of the MBI. Regarding self-reported measures, 4/12 studies (33.3%) found improvements in the cognitive subscales at the end of the intervention and one (8.3%) in the follow-up evaluation. A total of 4/12 studies (33.3%) observed improvements in the emotional subscales. One of these studies reported an increase in the empathic concern scales (Mills, 2010). One study (8.3%) also obtained an increase in the BLRI empathy subscale (Newton, 2018). In addition, in the study that included a performance measure and a biological measure for the evaluation of empathy (8.3%), an increase in basal salivary oxytocin levels was observed (Bellosta-Batalla et al., 2020).

## 3.5 | Effects on therapeutic alliance

Five studies, 5/16 (31.3%), collected data on therapeutic alliance. All of them (100%) collected data on therapeutic alliance measured by the patients, and 2/5 (40%) also measured it through the evaluation of the psychotherapists. For the evaluation of therapeutic alliance, 2/5 (40%) used the *Therapist Presence Inventory-Patients* (TPI-P; Geller, 2001). Two of the studies (40%) used the *Session Rating Scale* (SRS; Miller et al., 2000) to measure the therapeutic alliance perceived by patients and psychotherapists, through 4 elements: bond, agreement on psychotherapy goals, patient's perception of the psychotherapist's approach and patient's perception of the session. Finally, a single study (20%) measured this variable with the *Therapist Presence Scale-Patients* (TPS-P), which was created by the researcher (Simons, 2014).

The results of these studies indicate improvements in 1/5 (20%) studies in the evaluation made by psychotherapists. An increase was observed in the score that the psychotherapists made of the session, measured by the SRS, with respect to the agreement on the psychotherapeutic goals achieved with their patients (Schomaker, 2013).

## 3.6 | Effects on patient's symptomatology

Of the sixteen studies analysed in this systematic review, 2 (12.5%) of them collected self-reported symptomatology data of patients after applying an MBI to their psychotherapists (Grepmair, Mitterlehner, Loew, Bachler, et al., 2007; Newton, 2018).

One of the studies (1/2, 50.0%) (Grepmair, Mitterlehner, Loew, Bachler, et al., 2007) measured symptomatology with the *Questionnaire of Changes in Experience and Behavior* (VEV; Zielke & Kopf-Mehnert, 1978), which performs a quantitative assessment between relaxation/tension, stoicism/insecurity and optimism/pessimism, and the *Symptom CheckList-90-Revised* (SCL-90-R; Franke, 2002) that measures impairments perceived in the last 7 days, both physical and psychological, through 9 scales—somatization, obsession/compulsion, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideas and psychoticism—and which also includes a *Global Severity Index* (GSI), which measures basic psychological stress. The other study (1/2, 50.0%) (Newton, 2018) used the *Outcomes Questionnaire* (OQ-45.2; Lambert et al., 1996), a self-report of the perceived symptomatology that gives an overall score of the result.

As indicated in the previous section, differences were observed in the results between the study that applied 9 sessions (Grepmair, Mitterlehner, Loew, Bachler, et al., 2007) and the study that implemented 4 sessions (Newton, 2018). The results only showed improvements in 1/2 (50%) of the studies (Grepmair, Mitterlehner, Loew, Bachler, et al., 2007). In it, lower scores were observed on the scales of somatization, obsession/compulsion, interpersonal sensitivity, anxiety, hostility, phobic anxiety, paranoid ideas and psychoticism of the SCL-90-R, in addition to an improvement in the GSI.

Improvements were also found in perceived treatment outcomes as measured by VEV.

## 4 | DISCUSSION

In this systematic review, we analysed the effects of MBIs in psychotherapists, studying their benefits regarding empathy, therapeutic alliance and patient's symptoms.

A large part of the studies included mindfulness measures to verify the effectiveness of the interventions. The MBIs used in the different studies have been shown to be effective in increasing the mindfulness variables, regardless of the number of sessions and the frequency (e.g., Bohecker & Doughty Horn, 2016; Hauge, 2018).

First, when it comes to the effectiveness of interventions, 8 studies found that MBIs are effective at improving levels of empathy. Among these studies, only 3 of the ones that found these improvements were RCT (Bellosta-Batalla et al., 2020; Bohecker & Doughty Horn, 2016; Chan et al., 2021), so we must take these results with caution. We observed improvements in cognitive empathy scores. The one that obtained the best results was perspective taking scale, measured by the IRI, which refers to spontaneous attempts to adopt the point of view of others. This ability can be related to the acceptance, openness and ability to be present developed through MBIs (Davis & Hayes, 2011). Increases in emotional empathy were also observed. More specifically, the scale of empathic concern, measured by the IRI, which is related to the capacity acquired in an MBI to be more aware, receptive and more in tune with patients during psychotherapy sessions (Aiken, 2006; Baer et al., 2004; Brown & Ryan, 2003; McCollum & Gehart, 2010; Sweet & Johnson, 1990).

These interpersonal skills are developed in MBIs (Brito, 2013) through the training of mindfulness attitudes (Kabat-Zinn, 2003) and the acquisition of greater attentional and emotional regulation (Hölzel et al., 2011).

The results observed in this systematic review do not follow the same direction as suggested by the meta-analysis conducted by Cooper et al. (2020) regarding the effects of MBIs on psychotherapist's empathy. The researchers only found a significant relationship between mindfulness and empathy, although they did not obtain sufficient evidence of the possible benefits of applying an MBI for the development of psychotherapist's empathy. These differences are probably due to the fact that only studies that applied standardized interventions of 8 or more sessions, based on MBSR or MBCT, were included in the meta-analysis, which implied that many studies with short and nonstandardized MBIs were not considered, resulting in very few experimental studies.

Despite these results, it is important to note that all but one of the studies recorded self-reported measures. In this study, biological measures were collected. Authors found a significant increase in salivary oxytocin, a hormone related to empathy and social bonds (Bellosta-Batalla et al., 2020). In this regard, it is possible that the self-reported empathy results by psychotherapists include a series of biases, due to an overestimation of their empathic abilities.

Regarding the evaluation of the therapeutic alliance, of the 5 studies that measured it, only 2 were RCT (Simons, 2014; Swift et al., 2017). This variable has been measured in less than half of the included studies, and only one of them has found any improvement in the results, which is an uncontrolled study. It should be noted that this study showed results in the evaluations made by the psychotherapists themselves (Schomaker, 2013) and not in those made by their patients. Understanding the therapeutic alliance as a set of holistic aspects of collaboration between the psychotherapist and the patient (Flückiger et al., 2018), the measurement of this variable should give the same information when it is evaluated by psychotherapists as when it is evaluated by their patients. However, several longitudinal studies have examined the relationship between therapeutic alliance and psychotherapy outcomes and have found that patient-measured changes in the therapeutic alliance are to a greater extent associated with changes in later symptoms (Falkenström et al., 2016; Feeley et al., 1999; Strunk et al., 2010; Xu & Tracey, 2015; Zilcha-Mano et al., 2016). Other studies have observed a relationship between the results perceived by the patient and those of the psychotherapist (Flückiger et al., 2018). However, our results indicate that in most cases, patients perceive that the established alliance remains as it was before the MBI. This may indicate that there is an increase in the psychotherapist's confidence or awareness in developing these skills, rather than an effective improvement in the therapeutic alliance perceived by patients.

With regard to patient's symptomatology, only two studies recorded the benefits perceived in patients at the end of an MBI (Grepmair, Mitterlehner, Loew, Bachler, et al., 2007; Newton, 2018). One of these studies was a RCT and found significant improvements in the symptomatology of the patients (Grepmair, Mitterlehner, Loew, Bachler, et al., 2007). It is important to note that in the other study, they did not have a control group, and the sample included only 3 psychotherapists (Newton, 2018), which prevents us from comparing the results found in each study. Given that there are only two experimental studies that have addressed this question, more extensive research is needed on the possible effects of MBIs on psychotherapy outcomes.

As we have previously noted, the results regarding empathy and therapeutic alliance do not seem to be affected by the duration and design of the various MBIs applied in the different studies. Furthermore, although differences are observed in the patients' symptoms, we only have two studies that record this variable, and one of them (Newton, 2018) has a very limited sample, so we cannot compare the real effects of the MBI on the results of psychotherapy. Given that we do not have evidence on the effect that the duration and design of the MBI can have on the results, this factor should be studied more extensively in the future.

### 4.1 | Clinical practice implications

These results have a series of implications for clinical practice. First, although there seems to be a positive trend in the empathy results, the evidence found so far shows serious limitations in terms of design

and reliability, so more studies are needed to confirm whether MBIs can be a good option in the training of psychotherapists to develop empathy. On the other hand, the evidence on the efficacy of MBIs to improve the therapeutic alliance is scarce, given that most of the studies included in this systematic review did not find improvements in this variable. However, evidence on the positive effects of MBIs for the development of therapeutic alliance was found in a correlational study (Ryan et al., 2012). More specifically, a relationship was found between sustained attention and the therapeutic alliance and between nonjudgmental acceptance and the therapeutic alliance. Positive results have also been found in this variable measured by psychotherapists in pre-psychotherapy session mindfulness practice (Stone et al., 2018). Finally, we only have 2 studies that have evaluated the symptoms of the patients as a result of an MBI applied to their psychotherapists. For this reason, we cannot draw conclusions about the effects on this variable.

Furthermore, the results found after MBIs in terms of empathy can be expected to relate to improvements in therapeutic alliance. In this regard, a relationship between the empathy reported by psychotherapists and the levels of mindfulness and therapeutic alliance was observed in an experimental study (Leonard et al., 2018). That is, they found that psychotherapists with higher levels of mindfulness were better able to maintain an effective therapeutic alliance. In this study, the authors argue that the ability acquired in an MBI to understand the other without reacting to their emotions helps to maintain the therapeutic relationship. Given the limited evidence that we have so far, it is necessary to continue the research with more empirical studies in which the direct influence of an MBI on the development of these variables can be observed.

In addition, it would be necessary to consider if the improvement in empathy and the alliance truly influence the symptoms of the patients. Understanding that part of the success of the psychotherapy process involves the improvement of the patient's symptoms (Lorentzen & Hoglend, 2004), we have very few studies that have been able to verify its usefulness. Furthermore, this is only a specific indicator and other variables such as perceived well-being, duration of treatment or expectations regarding psychotherapy can also be a sign of the benefits of psychotherapy intervention (Popescu, 2012). If this were the case, much of the research that we have found so far would not be providing complete conclusions about the benefits that MBIs can have in the practice of psychotherapy.

The results in empathy after an MBI have been shown to be limited, and it is not possible to affirm that they are beneficial for the development of the therapeutic alliance, nor for the improvement of the patient's symptoms. These results raise a series of questions about the real utility that MBIs can have in the field of psychotherapy. We cannot know if the improvements in empathy as a result of MBI have a real effect on the work carried out in the psychotherapy praxis, given that they do not seem to be related to improvements in therapeutic alliance. Furthermore, if these improvements are only in self-perceived measures by psychotherapists, it is possible that they are not having a real impact on the patient's perception and the results of psychotherapy. Despite the massive use of mindfulness by many psychotherapists and its integration into daily practice, the impact it has on the practice of psychotherapy has hardly been investigated. Research needs to be expanded, relying on standardized designs and larger samples of psychotherapists and patients, to see if the acquisition of skills trained in an MBI can really have beneficial effects in psychotherapy. In addition, research on the effects of MBIs on therapeutic alliance and on patient's symptomatology could have a relevant impact on the training and understanding of various skills in psychotherapy, given that it would give us a greater number of tools to apply in the field of psychotherapy.

### 4.2 | Limitations of the studies included in this systematic review

First, we only found four studies on the effects of MBIs in psychotherapist in the long term that carried out follow-ups. It may affect the results in this regard given that it has been shown that MBIs produce a greater effect on behaviour and the acquisition of meditators' mindfulness attitudes after a few months of practice (Grossman, 2010; Kabat-Zinn, 2005).

Furthermore, some quality problems were observed in the studies examined after assessing the risk of bias. Many of the studies (62.5%) had limited sample sizes, making it difficult to identify small changes and generalize the results.

Moreover, 93.8% of the total number of participants were still in training, making it difficult to generalize the results to psychotherapists who are actively caring for patients. Some research suggests that the effects of MBIs can potentially vary when applied to students or healthcare professionals (Smith, 2014). This is probably due to the fact that the tasks performed during training and the stress associated with them are different from that experienced in professional care (Lamothe et al., 2016). It is also important to note that just one of the studies addressed the training of instructors (Chan et al., 2021), which may directly affect the results, bearing in mind that the skills of the instructor are essential to ensure a certain level of standardization between studies (Miller & Rollnick, 2014).

Finally, none of the studies have included the evaluation of psychotherapists' empathy, therapeutic alliance and patients' symptoms together, so we do not have a complete model to help us understand what factors are affecting the improvement of patient's symptoms. Furthermore, it is difficult to attribute the effect of MBI on patients' outcomes, as no study examined the mediation effect of the mindfulness variable in psychotherapists on perceived empathy, therapeutic alliance or patient's outcomes. We also found that, in some of the analysed studies, patients gave their evaluations to their psychotherapists (Ivanovic et al., 2015), introducing a possible response bias due to the possible effect of social desirability and the lack of anonymity that this entailed. All this results in great difficulty in generalizing the results obtained by each of these studies.

### 4.3 | Limitations of this systematic review

First of all, it is important to note that the inclusion criteria for this systematic review contemplated only studies that performed quantitative analyses, so that a high number of studies that dealt with the effects of MBI on the psychotherapy process and results were left out because they only included qualitative results. Furthermore, studies with different methodologies in which mindfulness practices were applied pre-psychotherapy sessions and evaluated the effects obtained after each session were excluded from this review (Dunn et al., 2012; Stone et al., 2018).

Second, there are a number of variables that may be affecting the results obtained in the studies and that were not taken into account when searching and selecting articles. No distinction was made between the psychotherapeutic orientations of the participants, despite the fact that some of them may have similarities with skills trained in an MBI, such as some third-generation psychotherapies or the acceptance and commitment therapy (Moñivas et al., 2012). Additionally, there was no distinguishment between the different types and levels of symptoms of the patients who participated in the studies.

### 4.4 | Future lines of research

In future research, it will be necessary to include the evaluation of control groups in order to obtain reliable results regarding the effectiveness of an MBI on empathy, therapeutic alliance and patient's symptomatology. Likewise, it would be important to compare its effects with specific interventions aimed at developing empathy and therapeutic alliance. In this way, we could evaluate whether MBIs provide additional benefits with respect to current interventions aimed at training psychotherapists (Barone et al., 2005).

In addition, it is necessary to apply standardized MBIs to make the comparison of the results obtained after the practice of mindfulness more accessible. Along these lines, it would be very interesting to study whether the reduced MBI versions that we found are equally effective as a standardized and protocolized MBI, at the level of results obtained by psychotherapists and their patients. Similarly, there are interesting initiatives to evaluate the effects of mindfulness training in psychotherapists from a different methodological framework. In this regard, studies which carry out brief mindfulness sessions before psychotherapeutic work could be also analysed in depth. It would also be interesting to see the role that Compassion-Based Interventions (CBIs) play, given that they have been shown to be more effective than MBIs in increasing empathy (Brito et al., 2018).

Furthermore, it is important to include follow-ups in the future to have a measure of effectiveness in the medium–long term, thus being able to draw more specific conclusions about the effects that these interventions may have in the psychotherapy practice. Throughout this systematic review, we have seen how some studies included assessments that patients gave directly to their psychotherapists. In this regard, it would be necessary to have measurement and data collection strategies that do not imply access by psychotherapists to the evaluations of their patients to avoid possible biases in the responses of the latter.

Focusing on the sample of studies, it would be interesting to have active psychotherapy professionals, given that most studies evaluate the effects of an MBI on psychology students. This factor prevents us from knowing the real influence of these interventions on the therapeutic alliance established with their patients and on the evolution of their symptoms. Another important aspect to evaluate would be that of the different psychotherapy orientations. This would give us the chance to observe if there are differences in the mindfulness benefits on the development of empathy and therapeutic alliance and if these results are reflected in the symptoms of the patients depending on the approach from which the professional works. Furthermore, we have a great variety of contexts in the different studies; in some of them, the psychotherapy evaluation is carried out in hospitals (e.g., Grepmair, Mitterlehner, Loew, Bachler, et al., 2007) and others in private consultations (e.g., Swift et al., 2017) or in universities (e.g., Bellosta-Batalla et al., 2020). This means that professionals face different levels of stress that we find patients with different socioeconomic levels, a great variety of profiles—psychotherapists and patients from different countries, ethnicities and ages—in addition to different levels of severity in terms of patient's symptomatology. This is a field that has not been explored, and it may be interesting to study it in future research to expand our knowledge of the different contexts of psychotherapeutic practice and their impact on patient's outcomes. Finally, we also find it necessary to investigate in a controlled manner the level of previous practice in mindfulness of psychotherapists to see if this can influence the results. In many studies in this systematic review, we have observed that some of the participants had previous experience in mindfulness and others did not (e.g., Hopkins & Proeve, 2013), which is a clear limitation when comparing the data of one and the other.

Regarding the effects on patients, it is necessary to increase the studies in which the influence of MBI on symptoms is evaluated and include some relevant variables that give us information about the benefits of psychotherapy (Lorentzen & Hoglend, 2004). It would be interesting to have measures of well-being, life satisfaction (Cuadra-Peralta et al., 2010) and satisfaction with psychotherapy (Brady et al., 2011) or even on the perception that patients have about the effectiveness of the sessions (Ivanovic, 2016).

There are very few studies that evaluate the impact of MBIs on the therapeutic alliance and on patient's symptomatology, and the studies that we found do not obtain conclusive results. For this reason, it is necessary to expand research in this regard to better understand the impact of these interventions in the field of psychotherapy.

In future studies, it is also important to have complete models that evaluate both the development of empathy and the established therapeutic alliance, as well as the repercussions this has on the psychotherapeutic results observed in their patients. It would be equally interesting to carry out statistical models that allow us to analyse the relationships between the psychotherapists' results and the results of

each of their patients, establishing dyads that allow us to obtain more specific conclusions about the effects of an MBI in psychotherapy.

## 5 | CONCLUSIONS

This systematic review has analysed the available studies on the effects of MBIs on empathy, therapeutic alliance and the symptomatic evolution of patients. Results are limited in terms of increases in psychotherapist-evaluated empathy after an MBI. On the other hand, we do not have enough results that demonstrate a beneficial influence of MBIs in the establishment of a good therapeutic alliance, as well as in the evolution of the patients' symptoms. Despite the scant evidence found in the studies in this review, other correlational and qualitative research has found that these interventions may represent a beneficial strategy in the training of psychotherapists, in order to improve psychotherapeutic practice and thus increase the benefits obtained by their patients (Dekeyser et al., 2008; Razzaque et al., 2013; Rothaupt & Morgan, 2007). The study of the relationship between psychotherapists and patients is an added difficulty to research in psychotherapy, given that it is extremely difficult to have a significant sample of psychotherapists who want to participate in research together with their patients, whose information must remain anonymous and confidential. In addition, it is complicated to evaluate them during the duration of the investigation, even more so if a follow-up evaluation is included, given that in many cases, the patient's measurements must be collected indirectly. Finally, the different evaluation methodologies and instruments that can be used to measure these variables allow different conclusions to be drawn from the results. For example, some empathy instruments offer global outcome measures (TEQ; Spreng et al., 2009), while others offer a variety of subscales that classify between cognitive or emotional empathy (IRI; Davis, 1980). For all this, it is necessary in the future to have studies with higher quality methodologies and designs, as well as with more homogeneous populations and standardized MBIs to be able to make comparisons between the different results.

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### CONFLICT OF INTEREST

The authors declare that they have no conflict of interest.

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