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Review

Increasing the Evaluation and Reporting Rigor of Psychotherapy Interventions in Treatments Involving Psychedelics

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Abstract

Psychedelic treatments are emerging as promising interventions for many mental health conditions. These interventions are not offered in a standardized fashion across studies and between different healthcare centers. Beyond differences in substances and doses, there is also a great heterogeneity in the interventions provided by therapists. The current review offers a summary of important elements that should be reported when describing psychedelic-assisted therapies. Clinical trials involving psilocybin for depression are systematically reviewed to synthesize available descriptions of their interventions. This review demonstrates that the exact nature of these psychotherapeutic interventions tends to be poorly defined in most scientific papers on psychedelic treatments. This problem and its implications are examined. The field stands to gain from optimized psychotherapeutic methods; however, insufficient documentation in scientific papers currently hinders the dissemination and improvement of evidence-based protocols. This article offers ideas to encourage the progress of research on psychedelic-assisted therapies.

Keywords: psychedelics; psilocybin; psychotherapy; psychedelic-assisted therapy; evidence-based psychotherapy; review

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Academic Editor: Rafael Guimarães Dos Santos

Received: 14 May 2025
Revised: 19 June 2025
Accepted: 21 June 2025
Published: 29 June 2025

Citation: Fradet, M. Increasing the Evaluation and Reporting Rigor of Psychotherapy Interventions in Treatments Involving Psychedelics. *Psychoactives* **2025**, *4*, 21. https://doi.org/10.3390/psychoactives4030021

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1. Introduction

A growing body of evidence supports the use of psychedelic treatments for mental health conditions [1–3]. These interventions combine the intake of a psychedelic substances (e.g., psilocybin, ayahuasca, MDMA, ibogaine, etc.) with some form of psychological intervention. In these treatment models, therapists (also sometimes called facilitators, guides, or sitters) generally offer guidance and support before, during, and after the intake of the psychoactive substance [4]. Interventions involving psychedelics vary widely between studies and between healthcare centers: different substances and doses have been used, and there is a tremendous heterogeneity in the interventions offered by therapists [4–7].

The current review offers a summary of important elements that should be reported when describing psychedelic-assisted therapies. Subsequently, clinical trials involving psilocybin for depression are systematically reviewed to synthesize available descriptions of their interventions. This review does not compare the nature and components of therapeutic approaches across studies, but rather emphasizes that authors typically fail to offer a thorough description of their interventions. The implications of poorly describing psychotherapeutic interventions are discussed. To conclude, some suggestions are offered to encourage the progress of this field of research and therapy.

2. How Should Psychotherapeutic Interventions Involving Psychedelics Be Described?

Describing the nature of psychotherapeutic interventions involving psychedelics can be challenging, and no consensus exists on how they should be defined and presented in scientific publications. Although guidelines exist to encourage a thorough reporting of interventions provided in clinical trials [8,9], they have not specifically been designed for the reporting of psychedelic treatments. Therefore, these checklists do not require authors to report certain important elements deemed essential for the safety and efficacy of psychedelic-assisted therapy. To complicate things further, these interventions are often principle-based, sometimes eclectic, and many protocols or training programs emphasize the importance of flexibility when delivering the interventions. Rather than being defined by a set of easily manualized techniques, these interventions generally rely on broad therapeutic principles. These principles, as well as underlying theoretical frameworks and rationale, should be described by authors. Table 1 offers a brief overview of important elements to report when describing psychotherapeutic interventions involving psychedelics.

Table 1. Important elements describing psychotherapeutic interventions involving psychedelics.

General information and overarching principles	• Name of the intervention • Important principles that define the essence of the therapy • Underlying theoretical framework and rationale • Outline of the therapy (number and duration of sessions, total length of the therapy, necessary infrastructures) • Mode of delivery (e.g., individual, group, in person, virtual) • Location and infrastructures • Who provided it: describe essential therapist competencies and qualifications • Describe the changes if the intervention was modified during the study • Describe fidelity assessment • If applicable, provide material and worksheets used in the intervention • Describe the potential involvement of support persons, family members, or friends through preparation, dosing or integration
Preparation	• Checklist of the themes discussed during preparation • Strategies taught or practiced to facilitate medicine session(s) (e.g., encouraged attitudes, tips, stress inoculation techniques, etc.) • Agreements and limits on the use of therapeutic touch • Interventions and attitudes that may promote the therapeutic alliance • Guidelines on formulating the therapeutic intentions or objectives • Educational material preparing for the medicine session (e.g., documents explaining the effects of the substance, instructions, etc.)
Medicine session(s)	• Quality of presence provided by therapists • General principles applied by therapists, including techniques for the supportive intervention • Situations in which therapists should refrain from intervening • Boundaries surrounding therapeutic touch, and other measures to promote safety • Specific techniques applicable in typical situations (e.g., challenging experiences, avoidance, distraction, prolonged silence, etc.) • Use of music during therapy • Characteristics of different session stages (beginning, period of peak psychedelic effects, end of session) • If multiple medicine sessions are offered, describe how they may be similar or different
Integration	• Proposed mechanisms causing therapeutic change • Specific tasks and guidelines for interventions aligned with the aforementioned mechanisms • Theoretical framework(s) that support the interventions • Considerations to prevent epistemic harm and other measures to ensure safety • Potential assignments or action plans to be completed between sessions or at the end of therapy

3. Reporting of Psychotherapy Protocols: Review of Studies Involving Psilocybin for Depression

Since the literature on psychedelic treatments is rapidly expanding, presenting and commenting on all existing therapeutic approaches would be arduous. It is, therefore, beneficial to narrow our attention to a more homogeneous set of studies. For this reason, it can be enlightening to examine studies involving psilocybin for the treatment of depression.

The PubMed database was searched with the term "psilocybin" for articles published between January 2000 and April 2025. The results were initially limited with filters for "clinical studies", "clinical trials", "controlled clinical trials", "multicenter studies", "pragmatic clinical trials", and "randomized controlled trials". The references of these articles were also analyzed to identify additional relevant studies. PubMed was also searched for "meta-analysis", "network meta-analysis", "reviews", "scoping reviews", and "systematic reviews" published during the same period and containing the words "psilocybin" and "depression". These papers were not included, but their references were analyzed to identify relevant studies that might have been otherwise missed. Titles, abstracts, and methods were read to select clinical trials involving psilocybin. Studies selected for the current review recruited participants with a confirmed diagnosis of major depressive episode. To avoid duplicating the presentation of studies, publications reporting primary outcomes of clinical trials were selected rather than papers reporting secondary analyses and long-term follow ups.

This review of the literature revealed that seven controlled trials and six open-label studies have so far been published on psilocybin treatments for depression. A summary of these studies is presented in Table 2, including available information about the psychotherapeutic intervention provided.

Table 2. Clinical trials involving psilocybin for depressive disorders.

Clinical Trials of Psilocybin for Depression	Study Sample	*N*	Study Design	Intervention	Is the Therapy Protocol Available?	Is the Intervention Described?
Carhart-Harris et al., 2016 [10]	Moderate–severe TRD	12	Open-label	Two doses of psilo 10 mg and 25 mg + psychological intervention	No	Limited reporting of the intervention, no description of the integration.
Carhart-Harris et al., 2018 [11]	Moderate–severe TRD	20	Open-label	Two doses of psilo 10 mg and 25 mg + psychological intervention	No	Limited reporting of the intervention, no description of the integration.
Carhart-Harris et al., 2021 [12]	Moderate–severe MDD	59	Phase II, double-blind RCT	Two doses of 25 mg psilo + psychotherapy according to the ACE model. After 1st psilo session, participants received daily inert placebo.	Yes The "ACE (Accept-Connect-Embody) Model Manual" is available [13]. A referenced article also describes the ACE model [14].	Yes
Davis et al. 2021 [15]	Moderate–severe MDD	24	Randomized, waiting list–controlled clinical trial	One dose of psilo 20 mg + 1 dose of psilo 30 mg + psychological intervention.	No	Partial description of the method in another reference [16], no description of the integration sessions.
Goodwin et al., 2022 [17]	Moderate–severe TRD	233	Phase II double-blind, dose-finding, parallel-groups design	One dose of psilo 10 or 25 mg + psychological intervention.	Reference made to an undisclosed "Therapist Manual"	Partial description of the method in other references [18,19], very little information about the integration process.
von Rotz et al., 2023 [20]	MDD with MADRS between 10 and 40	52	Randomised, double-blind, placebo-controlled, parallel-groups design	One dose of psilo 0.215 mg/kg + psychological intervention.	No	Partial description of the method, little information about the integration process.

Table 2. *Cont.*

Clinical Trials of Psilocybin for Depression	Study Sample	*N*	Study Design	Intervention	Is the Therapy Protocol Available?	Is the Intervention Described?
Sloshower et al., 2023 [21]	Moderate–severe TRD	19	Placebo-controlled, within-subject, fixed-order study	One dose of psilo 0.3 mg/kg + psychotherapy based on ACT model.	Yes The "Yale Manual for Psilocybin-Assisted Therapy of Depression" is available [22].	Yes
Raison et al., 2023 [23]	Moderate–severe MDD since ≥60 days	104	Phase II, randomized controlled trial	One dose of psilo 25 mg + psychological intervention.	Reference made to an undisclosed "Manual for Clinical Facilitators"	Partial description of methods in another reference [16], no description of the integration sessions.
Goodwin et al., 2023 [24]	Moderate–severe TRD	19	Open-label	One dose of psilo 25 mg + psychological intervention.	Reference made to an undisclosed "Therapist Manual"	Partial description of the method in other references [18,19], very little information about the integration process.
Rosenblat et al., 2024 [25]	TRD (MDD or BDII)	30	Randomized, waiting list–controlled clinical trial	One to three session(s) with psilo 25 mg + psychological intervention.	No	Limited reporting of the intervention, very little information about the integration process.
Ellis et al., 2024 [26]	Moderate–severe TRD	15	Open-label	One dose of psilo 25 mg + psychological intervention.	No	Limited reporting of the intervention, partial description of the method in another reference [18], very little information about the integration process.
Aaronson et al., 2024 [27]	Bipolar type II, currently in moderate–severe TRD episode since >3 months	15	Open-label	One dose of psilo 25 mg + psychological intervention.	No	Limited reporting of the intervention, very little information about the integration process.
Aaronson et al., 2025 [28]	TRD	12	Open-label	One dose of psilo 25 mg + psychological intervention.	No	Limited reporting of the intervention, very little information about the integration process.

Note: This is a comprehensive list of clinical trials having recruited patients suffering from a major depressive episode (unipolar or bipolar), but it does not present studies which solely recruited patients suffering from depressive symptoms in the context of a life-threatening illness (sometimes called "secondary depression"). Acronyms: PT, psilocybin therapy; psilo, psilocybin; MDD, major depressive disorder; TRD, treatment-resistant depression; QIDS, Quick Inventory of Depressive Symptomatology; RCT, randomized controlled trial; HAMD, Hamilton Depression Rating Scale; MADRS, Montgomery–Åsberg Depression Rating Scale; BDI, Beck Depression Inventory.

All publications in Table 2 present their intervention from a biomedical perspective, with an emphasis on technical procedures before dosing, medical assessments to promote safety, and the administered molecule. Very little detail is generally offered about the intervention performed by therapists. Authors from only two studies have provided their therapy manual [12,21], and only one group provided it as a supplement to their main article [21].

Overall, the studies listed in Table 2 adequately describe some basic elements of the psychotherapeutic intervention, such as the number and duration of sessions. Most authors mention some common aspects of the preparation process, such as exploring the patient's history, building the therapeutic alliance, setting an intention for the treatment, and offering education about the expected effects of psilocybin. Except for two studies [12,21], no explanation is provided about the theoretical framework supporting the therapists' intervention during the preparation phase.

The description of the therapists' role during the psilocybin sessions is relatively uniform across studies. Their presence is generally presented as "supportive" and "non-directive", although these terms are often left undefined, despite the existence of an abundant literature describing and defining supportive therapy [29,30]. Most publications also mention using music and eyeshades to support the patient on an "inner journey". Although some papers describe the psychological support offered to patients facing chal-

lenging experiences, only one publication [14] describes recommended actions if patients were disengaged, distracted, or felt stuck. Considering the intensity of many dosing sessions, the vulnerability of participants in an altered state of consciousness, and the risk of boundary violations, it would seem important that studies describe measures applied to ensure the psychological safety of participants and to prevent boundary violations. Ten of the thirteen papers fail to describe whether therapeutic touch was allowed or prohibited during the psilocybin sessions. Only the Yale study [21] protocol mentions the use of therapeutic touch, while two studies [15,23] cite a guideline for safety [16] delineating the use of touch. Contrary to the protocol developed by MAPS for MDMA-assisted therapy [31] and other available manuals [32], nearly all studies in Table 2 fail to describe the essential elements of the therapeutic stance recommended during psychedelic sessions (i.e., calmness, respect for boundaries, non-judgmental attitude, unhurried pace, etc.). An appropriate therapeutic stance is crucial to promote the well-being and safety of participants and to ensure a constructive and ethical respect of boundaries. Therefore, it seems surprising that many studies fail to describe essential elements of the recommended therapeutic stance.

The integration process is arguably the most important step to ensure the durability of the therapeutic effect [33,34]. This process has been defined in many different ways, and trying to delineate its objectives, principles, or methods is remarkably challenging [33,34]. With a few notable exceptions [12,21], the publications in Table 2 offer little detail about this process, the techniques applied by therapists, and the underlying theoretical frameworks. Some authors only briefly describe these sessions as "psychological debriefing" [10,11]. Within published safety guidelines [16], integration is minimally described: "*Safety monitoring should continue in the form of one or more post-session meetings (typically the next day) [. . .] to ensure psychological stability and provide an opportunity for the volunteer to discuss thoughts or feelings from the session.*" [16]. Another recent paper [19] describes the intervention applied in the studies initiated by the pharmaceutical company Compass Pathways. This article mostly describes the actions of the therapist during preparation and dosing sessions, but it also provides some cues about interventions during integration. Unfortunately, this reference seems to outline what therapists should avoid more than what they should do: "*[the integration phase] involves the participant-driven selection of salient themes from administration and the generation of subsequent insights. [. . .] Therapists refrain from leading participants to a particular answer, solution, or path. They do not give advice, interpret the participant's experience, or impose their values or agenda into the process. Instead, they support participants in adopting an inquisitive stance toward any emerging content. [. . .] Participants are encouraged to determine the insights or behaviors that they would like to carry forward after their participation in the study, as integration continues to unfold through their own processing and actions in daily life.*" [19].

In summary, the articles involving psilocybin for the treatment of depression present their intervention from a biomedical perspective, without properly describing the treatment delivered by therapists. In most cases, readers cannot discern the nature of the intervention provided, since no description or protocol is available. This is especially true when considering the integration phase, which tends to be vaguely evoked and poorly characterized. Overall, this reporting lacks the depth of explanation expected in the scientific literature on psychotherapeutic interventions. Notably, the TIDieR checklist and guide [8] is an instrument that promotes better reporting of interventions in the scientific literature. Although not specifically designed for the description of psychedelic-assisted therapies, this checklist outlines elements that should be reported by authors. It does so more precisely than the Consolidated Standards of Reporting Trials (CONSORT) statement [9]. For example, the TIDieR checklist encourages reporting "rationale, theory, or goal of the elements essential to the intervention", "procedures, activities, and/or processes used in the intervention, including any enabling or support activities", and "adherence or fidelity

[assessment]". A thorough description of these elements and the disclosure of protocols is typically required for publications evaluating the efficacy of manualized therapies such as cognitive–behavioral therapy, interpersonal therapy, or problem-solving therapy.

Although a systematic review was not conducted to analyze the protocol of all other studies involving psychedelics, it is easy to find in this vast literature many studies that also suffer from under-reporting of their psychotherapeutic intervention. For example, therapist qualifications are frequently eluded [35–38], theoretical frameworks are often left undisclosed [35–38], boundaries surrounding therapeutic touch are not systematically mentioned [35–37,39], and integration sessions are either not described [35–37] or vaguely defined [38,40,41]. Thus, the problem of under-reporting psychotherapy interventions is not limited to studies involving psilocybin for depression.

4. Why Is This a Problem?

The field stands to gain from optimized psychotherapeutic methods, but insufficient documentation in scientific papers remains a major barrier [8]. Notably, this lack of transparency goes against principles of the scientific method and hinders our understanding of the treatments' mechanisms of action. In turn, these problems can slow the progress of the field and generate stigma against psychedelic therapies.

The scientific method is an unparalleled approach aiming to expand our collective knowledge by relying on empiricism and inquiry. It implies the elaboration of hypotheses, testing them through experiments and statistical analysis, and refining or deepening our questions based on the results. Scientists applying this method must embody important values such as transparency and attention to detail, notably when describing their interventions and experiments. This is necessary to ensure the results of experiments are valid, reproducible, and interpretable [42]. This reason alone should prompt researchers to publish a detailed account of their methods, including interventions provided by psychotherapists. Openly sharing research methodology is an important recommendation of the global open science movement, which aims to make scientific research more accessible to everyone. The open science movement emphasizes transparency and accessibility to promote increased scientific collaboration, favor equity, and improve the reproducibility of the results [43–46].

Some could argue that psychedelic treatments may not require psychotherapy or support to be effective, and therefore, precisely describing these interventions may be unnecessary. Although the added value of psychotherapy is still being debated, therapists and researchers unanimously agree that the "*set*" and "*setting*" hugely influence the response to psychedelics [47,48]. The set refers to the patient's state of mind, while the setting is the physical and interpersonal environment in which treatment is delivered. Psychotherapy or support provided during and around psychedelic administration is a major element of the setting, and it greatly influences the patient's mindset. These elements unequivocally influence the treatment's unfolding and its effects and should therefore be thoroughly described in clinical trials involving psychedelics.

Conducting a fidelity assessment is essential to ensure that interventions in clinical trials are delivered or provided as intended, and the importance of this process is mentioned in guidelines on scientific reporting [8,9]. For obvious reasons, fidelity assessments or adherence ratings can only be conducted if interventions have been adequately described. Therefore, thoroughly describing psychotherapy interventions is an essential first step before performing any fidelity assessments during clinical trials or when implementing treatment programs. Interestingly, none of the articles in Table 2 discussed adherence or fidelity assessments to ensure the psychotherapeutic intervention was delivered as intended per protocol. Furthermore, although MAPS Public Benefit Corporation has

developed a manual for adherence rating of MDMA-assisted therapy [49], the results of fidelity assessments were not reported in publications of their phase III clinical trials [40,41]. The lack of fidelity assessments in psychedelic-assisted therapies is problematic because it limits the internal and external validity of these studies and hinders the dissemination of empirically supported treatments [50–53].

Since psychedelic treatments are in their infancy, it is especially important to deepen our understanding of their mechanism of action. But how can we understand the mechanisms of action of these interventions or improve protocols if they have not been adequately described? How can we separate the effective processes or techniques from what is unsuccessful? Since the effectiveness of psychotherapeutic techniques has not yet been convincingly presented, some go so far as to question the necessity of having psychotherapists involved in these treatments [54,55]. Rather than relying on empirical data demonstrating the effectiveness of processes and techniques, a large part of what is currently done in psychedelic-assisted therapy relies on the experience and opinion of those who pioneered the field [56–58]. Although expert knowledge is highly valuable, it can unfortunately be biased by erroneous assumptions, trends, and anecdotal experiences. Having empirical data comparing the outcome of well-described protocols is necessary to identify the essential and effective components of psychedelic treatments.

If researchers and clinicians fail to precisely describe their therapeutic interventions, it is difficult to delineate what constitutes the common and essential features of psychedelic treatments. This problem perpetuates the vagueness of certain concepts (e.g., "integration" or "supportive intervention"), hinders the emergence of standard protocols, and maintains heterogeneity between studies and clinics. Teaching these interventions to new therapists is also hampered by the lack of good evidence about what is effective.

In the end, this can also reinforce negative perceptions about the field of psychedelic therapies and research. Since they involve mind-altering substances and a novel framework of intervention, psychedelic treatments are truly unconventional. Unfortunately, this leads many to perceive them as unscientific or eccentric. These negative biases risk being amplified if our interventions are informal and poorly described. In turn, this can hinder regulatory approval, reduce research funding, and impede treatment access.

5. Future Direction

The following are a few ideas that could help bring the field of psychedelic therapies forward by encouraging a thorough description of treatment interventions and probing to uncover the useful elements of these psychotherapy protocols.

5.1. Short-Term Actionable Recommendations

First, in line with best practices on scientific reporting [8,9], authors should consistently describe the psychotherapeutic methods applied in their studies, including all elements listed in Table 1. In agreement with the principles of open science [43,44], editors and publishers should strongly encourage offering access to therapy manuals or protocols. Furthermore, authors should avoid describing their intervention with formulations that minimize the importance of psychotherapy. For example, using terms such as "psilocybin with psychotherapy" or "psilocybin-assisted therapy" is certainly more explicit and accurate than using terms like "single dose psilocybin" or "psilocybin".

Understandably, some research teams may hesitate to write and publish novel therapy manuals. Fortunately, rather than reinventing the wheel by developing new protocols, researchers and clinicians should consider applying already published manualized interventions, such as the transdiagnostic and trans-drug EMBARK protocol [32,59] developed by the pharmaceutical company Cybin. The EMBARK protocol is a coherent synthesis of

many other approaches and can be adapted to a wide range of clinical situations. This treatment model clearly defines its underlying theoretical assumptions and precisely describes specific therapist tasks and guidelines for each treatment stage. Rather than proposing a one-size-fits-all approach that constrains treatment mechanisms to a limited framework, the EMBARK approach considers many different potential mechanisms (e.g., behavioral activation, existential–spiritual insight, mindfulness, emotional breakthrough, etc.) that could bring meaningful change for each patient.

No matter which protocol is used to deliver psychedelic-assisted therapy, researchers should perform fidelity assessments to make sure their intervention was provided as intended per protocol, and results of these adherence ratings should be reported.

5.2. Long-Term Research Directions

After solving the fundamental problem of describing the interventions offered in clinical trials, researchers should commence a quest to identify effective and essential elements of these therapies. Although the task is herculean, psychotherapists must strive to find what works and what is preferred by patients. Both quantitative and qualitative approaches could bring some answers to this problem. For example, instruments such as the *Helpful Therapeutic Attitudes and Interventions Scale* [60] should be considered in parallel to outcome assessment since this patient-rated instrument can help identify effective therapy interventions. Artificial intelligence and large language models could also bring new opportunities by trying to identify associations between session content and clinical outcomes. Alternatively, rigorous qualitative research could help differentiate effective interventions from those that do not work. Researchers could systematically review video recordings of therapy sessions to identify effective interventions and principles (i.e., content analysis). Similarly, qualitative interviews with patients who benefited from psychedelic therapy could help identify the processes and techniques that might have fostered clinical improvement. Similarly, interviews with poor responders could help describe what does not work or what might interfere with treatment response.

Eventually, conducting clinical trials comparing interventions delivered according to competing treatment manuals could also help identify the most effective and acceptable approaches. Non-inferiority component studies that compare the original version of a manual to a simplified version could also help define the essential and effective elements of these interventions.

Ultimately, different patients may benefit from and prefer different interventions. It seems unlikely that a one-size-fits-all approach would provide the best results for everyone, so treatment manuals should integrate well-defined mechanisms of change and remain adaptable to each patient's reality. Let us aim for a better description of psychotherapy interventions in treatments involving psychedelics. May the most effective and most acceptable interventions be offered.

Funding: This research received no external funding.

Conflicts of Interest: The author declares no conflicts of interest.

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