Background and aims: Psychedelics show promise for treatment of mental health conditions (MHCs). But there is relatively little research on indigenous psychedelics conducted in the Global South (GS). Much research is carried out in the Global North, where there are different cultural perceptions of mental health and psychedelics. Therefore, this paper appraises research on psychedelics for treatment or therapy where research was carried out in the GS. Method: A systematic review of research literature was conducted from 1st January 2010 to 31st July 2023. Medline, PsychINFO and Global Health databases were searched for studies of patients undergoing treatment for MHCs with psychedelics. Results: Data from 27 papers were extracted and narratively synthesized. A total of 984 participants were included suffering from depression, obsessive-compulsive disorder, substance use disorder, post-traumatic stress disorder and eating disorders. The studies investigated the feasibility of psychedelic treatments and presented evidence for their safety. There was preliminary efficacy data for ayahuasca, iboga, 5-MeO-DMT, psilocibin, and MDMA in the treatment of some MHCs. All studies were conducted in line with ethical and medical guidelines, and no serious adverse events were reported. Conclusion: A renaissance of clinical psychedelic research on substances that have been used as traditional medicines in the GS presents promising evidence for treatment efficacy and safety across a range of MHCs. Psychedelics present an exciting new treatment approach for people in the GS, in a health area with considerable unmet need. Moreover, research demonstrated cost-effectiveness, while results suggested no significant safety concerns or side effects.
psychedelics in the treatment of mental health conditions such as depression, post-traumatic stress disorder, anxiety, and tobacco and alcohol addiction (Calleja-Conde et al., 2022; García-Romeu, Griffiths, & Johnson, 2015; Krediet et al., 2020; Rucker, Jelen, Flynn, Frowde, & Young, 2016). A bibliometric analysis by Weleff (2021) highlighted that post 2010 there was a shift in focus from the risks associated with psychedelics to the therapeutic effects of these compounds. There are different cultural perceptions of mental health and Amazonian and African psychedelic practices, it is believed that in psychedelic ceremonies, balance is being brought to the individual, community, spiritual realm, ecosystem and geographical area (Bouso et al., 2020). Meanwhile, the Western biomedical perspective focuses on individuals, and neuropharmacological and psychiatric effects. In the GN, mental health has been individualised and treatment has focused on symptoms. Individual causes for mental health conditions have been separated from the socioeconomic and political context of societies and not viewed holistically (Summerfield, 2012). However, in recent years traditional psychedelics from the GS are being exported to the GN. Westerners are also travelling to the GS in search of these treatments (dos Santos, Bouso, Rocha, Rossi, & Hallak, 2021).

In 2019, an estimated one in eight people globally were living with mental health conditions (WHO, 2022-b). This WHO report estimates 283 million people had alcohol use disorders in 2016, while 36 million people had drug use disorders. In addition, the report estimated that 301 million people had anxiety disorders, while 280 million had depressive disorders. Innovative, effective treatments are required to tackle the global burden of mental ill health (WHO, 2022a), and we are now undergoing a paradigm shift, with psychedelics emerging as exciting new treatment options (Noorani, 2019; Yehuda et al., 2023). Much of this research is being carried out in high income countries (HICs) in the GN. The GS regions of Latin America, Asia, Africa and Oceania generally include countries that are less economically developed (Dados et al., 2012). In these regions, ayahuasca, iboga, San Pedro, psilocybin and 5-MeO-DMT are psychedelics that have been used for centuries by indigenous populations for traditional ritual and therapeutic use (George, Michaels, Sevelius, & Williams, 2019). They are respected by indigenous and non-indigenous populations and are culturally acceptable (dos Santos et al., 2021). An example of this is the cultural and legal acceptance of ayahuasca in countries such as Brazil, Peru, Columbia and Ecuador, where it is protected by local legislation and used in ritual and therapeutic contexts in indigenous and religious populations (Gerber et al., 2021). Previously there was an assumption that the western mental health paradigm would expand, but now there is a phenomenon of traditional indigenous healing practices such as ceremonial use of psychedelics (e.g., ayahuasca) being exported to the GN (Bouso et al., 2020). Moving forward, it is important to avoid biomedical and cultural misappropriation. It is essential to acknowledge that awareness of many of these substances and their use in ritual supportive settings was derived from generations of indigenous populations having experience in cultivating and administering these substances (Ona, Berada, & Bouso, 2021; Ona, Rocha, et al., 2021). The integration of traditional psychedelic practice and knowledge into contemporary mental health treatment is a topic that urgently needs to be addressed (Gerber et al., 2021). Bouso and colleagues (2020) have highlighted the importance of investing in indigenous research while protecting these populations, their right to science, and to avoid biomedical and cultural misappropriation. While there are numerous systematic reviews on the nature of contemporary research on psychedelics in HICs in the GN (see Andersen, Carhart-Harris, Nutt, & Erritzoe, 2021; Köck, Froelich, Walter, Lang, & Dürsteler, 2022; Rucker et al., 2016) there is presently a gap in the research literature for reviews focusing exclusively on the GS. This distinction on articles solely in the GS is important due to cultural context, the differing views on adverse effects and seamless use of communal practices practices’ in the GS. Therefore, this review examines the nature of published research from the GS on psychedelics for use in treatment or therapy for mental health conditions. The aim of this systematic review is to examine research and provide a summary of GS studies on the therapeutic effects of psychedelics in the treatment of mental health conditions. Specifically, this article focuses on preliminary evidence for the feasibility, efficacy and safety of psychedelics, and effect duration.

METHODS

Systematic search

Databases were searched using the terms displayed in Table 1. More detailed search terms are presented in Supplementary material 1. MeSH terms were incorporated where available. The renaissance of clinical psychedelic research has accelerated at pace since 2010, so articles from 2010 to July 31st, 2023, were reviewed. Although earlier studies exist, a cut-off date of 2010 onwards was adopted as Weleff, Akiki, and Barnett (2021) demonstrated that post 2010 the research shifted from the risks associated with psychedelics to research on their therapeutic applications.

Information sources

The search strategy aimed to locate published, peer-reviewed scholarly articles. Medline, PsychINFO and Global Health databases were searched using the terms displayed in Table 1. Per PRISMA-Sce guidelines, text words in the titles and abstracts of suitable articles, and index terms were reviewed to develop search terms. Reference lists of included studies were hand-searched to locate additional relevant studies. The search strategy, vocabulary and syntax were modified across the three databases where required. Selection of studies was performed by the first author (CG) and checked by the second author (AK). Discrepancies were resolved through discussion. The Journal of Psychedelic Studies and Journal of Psychoactive Drugs were also hand-
searched for relevant articles. All peer-reviewed qualitative, quantitative, and mixed-methods empirical studies were included, as were peer-reviewed commentaries and editorials. Systematic reviews were not included but were mined for references.

Eligibility criteria

This Scoping review (ScR) was conducted in accordance with the PRISMA-ScR methodology for scoping reviews (Tricco et al., 2018; WHO, 2022a). Inclusion and exclusion criteria were based on the participants–concept–context criteria, itself based on the ScR protocol guiding the review (Peters et al., 2020). These criteria are advised as a guide to establish comprehensive and relevant aims and eligibility criteria for a ScR (Pollock et al., 2023). The criteria are displayed in Table 2.

Selection of sources of evidence

Identified citations were gathered from the databases and were uploaded into reference management software (Paperpile, 2022). Duplicate citations were removed. Titles and abstracts were screened against the inclusion criteria for the review, and relevant studies were retrieved. The full text of papers was assessed in detail against the exclusion and inclusion criteria. Reasons for exclusion at full text review stage were recorded. The search results and the inclusion process are displayed in Fig. 1. This systematic search identified 406 references. Twenty-five references were duplicates, leaving 381 references to be title and abstract screened. A total of 348 records were excluded during screening, leaving 33 research papers, of which 27 were included in the review. The 6 papers removed did not specifically look at the use of psychedelics for treatment and therapy of mental health conditions.

Data were extracted from the included articles using a data extraction tool developed by the reviewer. This included specific details about the participants, psychedelic, setting, study methods, outcomes and adverse effects, in line with the review question.

Data items

All studies were screened by CG. Data extracted from each paper included:

- Publication year and names of authors
- Participant characteristics
- Study design
- Psychedelic intervention
- Non-drug intervention
- Clinical outcome measures
- Adverse effects

Critical appraisal of individual sources of evidence

The Mixed Methods Appraisal Tool (MMAT), 2018 version (Supplementary material 2) was used to analyse the methodological quality of all empirical studies. A score from 1 to 5 was allocated (5 = very good, 4 = good, 3 = moderate, 2 = poor, 1 = very poor). Data were analysed and studies grouped by the types of psychedelics and conditions they treated, the settings, populations, and study designs for each group, along with the measures used and broad findings. The MMAT scores ranged from very poor to very good (see Supplementary material 3).
RESULTS

Selection of sources of evidence

Full-text reports of the thirty-three identified research papers were evaluated in accordance with eligibility criteria. Twenty-seven were included in this ScR. There were 11 studies on Ayahuasca, 10 on iboga/ibogaine, four combining iboga with 5-MeO-DMT, one on psilocybin, and one on MDMA.

Characteristics of sources of evidence

A total of 984 participants were included. Table 3 displays the conditions treated, study types, location, and MMAT scores.

Synthesis of results

The included studies demonstrated positive results for the use of ayahuasca, iboga, ibogaine and 5-MeO-DMT, MDMA and psilocybin in the treatment of MHCs. Notably no serious adverse effects were reported.

Ayahuasca

There were five studies that investigated the use of ayahuasca for the treatment of depression and one investigating its effect on grief. Sanches et al. (2016) demonstrated significant clinical reduction of symptoms, in a study of good quality, and a five-year qualitative follow-up, rated moderate, demonstrated that ayahuasca was well tolerated and symptom reductions were limited to a few weeks (Santos, Sanches, Osório, & Hallak, 2018). Palhano-Fontes et al. (2019) conducted an RCT of good quality, which demonstrated a significant reduction in depression in the ayahuasca group. Similarly, Osório et al. (2015) conducted an open label trial of moderate quality, showing significant results with reductions of symptoms of up to 82% in depressive scores. Furthermore, Giovannetti, Garcia Arce, Rush, and Mendive (2020) evaluated the impact of integrating ayahuasca and Traditional Amazonian Medicine (TAM) with psychotherapy for depression and anxiety. Reduction of symptoms was significant in this study of moderate quality. Similarly, in a study of poor methodological quality by González et al. (2020) results suggested that the ceremonial use of ayahuasca has therapeutic value by reducing the severity of grief.

Three moderate quality studies investigated the use of ayahuasca for treatment of SUDs. These studies suggested that ayahuasca may have therapeutic use for treatment of crack cocaine dependence (Cruz et al., 2018), and SUD when combined with Amazonian medicine and psychotherapy (Berlowitz, Walt, Ghasarian, Mendive, & Martin-Solch, 2019). A phenomenological study by Loizaga-Velder et al. (2014), of moderate quality, also suggested that ayahuasca helped participants gain a better understanding of the underlying causes of addictions and manage psychological...
<table>
<thead>
<tr>
<th>Psychedelic</th>
<th>Condition</th>
<th>Study Type</th>
<th>Country where treatment/research took place</th>
<th>Quality appraisal (Modified MMAT score)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ayahuasca 11 studies 277 participants (Exact number of doses is unknown but at least 277)</td>
<td>Depression (n= 5) Smoking cessation (n= 1) Grief (n= 1) ED (n= 1) Substance misuse (n= 3)</td>
<td>Open label studies (n= 2) SPECT study (n= 1) 5-year qualitative follow up study (n= 1) Qualitative studies (n= 2) Placebo RCT (n= 1) Open label study (n= 1) Naturalistic study (n= 1) Phenomenological study (n= 1) Cross sectional mixed methods study (n= 1) Retrospective mixed methods analysis (n= 1) Naturalistic observational study (n= 1) Phenomenological studies (n= 2) Online survey (n= 1) Open label studies (n= 2) Qualitative studies (n= 2) Case report (n= 1)</td>
<td>Studies where treatments occurred in Peru (n = 4) (1) 6 studies were carried out in Brazil (2) In 1 study treatments occurred in North, South and Central America (3).</td>
<td>3 studies were rated good 7 studies were rated moderate 1 study rated poor</td>
</tr>
<tr>
<td>Iboga 10 studies 540 participants (Exact number of doses unknown but at least 540)</td>
<td>Opioid addiction (n = 4) Opioid and cocaine addiction (n = 1) Drug dependence (n = 4) Weaning off methadone (n = 1)</td>
<td>Case study and SPECT report (n = 1) Retrospective cross-sectional design (n = 1) Retrospective online survey (n = 1) Prospective (n = 1)</td>
<td>Treatment occurred in Mexico (n = 4) and the research in USA (4). Treatment and research was conducted in Mexico (n = 1) (5). Studies were carried out in Brazil (n = 3) (6). In 1 study treatment was conducted in Saint Kitts and Nevis and research in USA (7). 1 study was conducted between USA/Brazil/Mexico/Spain (8).</td>
<td>4 studies were rated good. 6 studies were rated moderate.</td>
</tr>
<tr>
<td>Iboga and 5-MeO-DMT 4 studies (Each participant took 1 dose of ibogaine and at least 3 doses of 5-MeO-DMT)</td>
<td>Treatment of alcohol use disorder (n = 1) Treatment of trauma related psychological and cognitive impairment (n = 1) Treatment of co-occurring alcohol misuse and PTSD symptoms (n = 2) Treatment of OCD (n = 1)</td>
<td>Case study and SPECT report (n = 1) Retrospective cross-sectional design (n = 1) Retrospective online survey (n = 1) Prospective (n = 1)</td>
<td>In all 4 studies treatments were carried out in Mexico and studies completed in the USA (9).</td>
<td>1 study was rated moderate. 3 studies were rated poor</td>
</tr>
<tr>
<td>Psilocybin 1 study (unknown number of doses)</td>
<td>Treatment of OCD (n = 1)</td>
<td>Case study (n = 1)</td>
<td>The study was conducted in Mexico (10).</td>
<td>This study was rated poor.</td>
</tr>
<tr>
<td>MDMA 1 study 3 participants 9 MDMA doses</td>
<td>MDMA assisted psychotherapy for victims of sexual abuse with severe PTSD (n = 1)</td>
<td>Open label pilot study (n = 1)</td>
<td>The study was conducted in Brazil.</td>
<td>This study was rated moderate.</td>
</tr>
</tbody>
</table>

10. Lugo- Radillo et al. (2020).
issues. Results of a good quality cross-sectional, mixed-method study indicated that ayahuasca could be used as a potential tool for smoking cessation (Dalgren- Bueno et al., 2022). Similarly, Lafrance et al. (2017) conducted a good quality study with findings that indicated ceremonial ayahuasca use showed promise in treatment of eating disorders.

Iboga

There were 10 studies investigating the use of iboga for the treatment of SUDs. Wilkins et al. (2017) published a moderate quality case study of a patient who was successfully weaned off methadone using iboga. Two other moderate quality studies demonstrated that iboga facilitates opioid detoxification, reducing withdrawal and craving in participants (Malcolm, Polanco, & Barsuglia, 2018; Mash, Duque, Page, & Allen-Ferdinand, 2018). In another moderate quality study, Brown and Alper (2017) concluded that Iboga had significant effects on opioid withdrawal symptoms and drug use, in participants for whom previous treatments were unsuccessful. A good quality study by Camlin et al. (2018), suggested Iboga gives a powerful physical, emotional, and psychological experience, decreases opioid withdrawal symptoms, and results in a more positive outlook. A further two studies of moderate and good quality examined the acute subjective effects of iboga in opioid use disorders (OUDs). These indicated low rates of depression and anxiety, high rates of well-being, increased spiritual awareness and improved relationship connection after iboga detoxification (Davis, Barsuglia, Windham-Herman, Lynch, & Polanco, 2017, 2018). In two studies of moderate and good quality, Schenberg et al. (2017, 2014) concluded that iboga assisted psychotherapy has therapeutic potential in the treatment of SUDs, with no serious adverse effects. In another good quality study, Schenberg (2017) described phenomenology of the subjective experiences of iboga as a challenging experience with strong, unpleasant physical effects.

Iboga and 5-MeO-DMT

There were four studies investigating treatments combining iboga and 5-MeO-DMT. Barsuglia et al. (2018) conducted a moderate-quality case study of a patient who described mood amelioration, ending alcohol use, and decreased cravings for a month post treatment. SPECT imaging showed pre- and post-treatment changes in several relevant brain regions associated with SUDs. A study of poor methodological quality (Mangani et al., 2021) suggested treatment resulted in significant reductions in alcohol use and PTSD symptoms, and significantly increased psychological flexibility. Another study of poor methodological quality (Davis, Averill, Sepeda, Barsuglia, & Amoroso, 2020) concluded that symptoms of PTSD, depression, and anxiety were reduced in U.S. veterans following psychedelic treatment. Furthermore, a study of poor quality, by Armstrong et al. (2023) concluded that ibogaine and 5-MeO-DMT is an effective and robust treatment for alcohol misuse and PTSD in US Special Operations Forces Veterans.

MDMA and psilocybin

Jardim et al. (2020) published a moderate-quality open-label pilot study looking at MDMA-assisted psychotherapy for victims of sexual abuse with severe PTSD, which suggested significant improvement in PTSD symptoms. A case study of poor methodological quality described the long-term reduction of OCD symptoms in a patient who ingested psilocybin (Lugo-Radillo et al., 2020).

DISCUSSION

Twenty-seven studies were systematically reviewed for the treatment of mental health conditions in the GS, with a total of nine hundred and eighty-four patients being dosed with ayahuasca, iboga, 5-MeO-DMT, MDMA or psilocybin. There were eleven studies on ayahuasca, ten on iboga, four combining iboga and 5-MeO-DMT, one on psilocybin and one on MDMA. This again highlights the importance of an exclusive GS review. Recent meta-analyses such as Andersen et al. (2021) (included 7 psilocybin, 2 ayahuasca and 1 LDS study) and Rucker (2016) included mostly LSD studies. Studies investigating substances such as ayahuasca and iboga, come with inherent challenges such as standardization of ayahuasca/iboga for pharmacological studies. There are also advantages to studying the use of these substances in the GS such as the existing ceremonial and cultural context and the existing legal frameworks around these substances in the GS. Generally, these studies established feasibility, evidence of safety, and positive preliminary data of efficacy in the treatment of depression, SUDs, PTSD, OCD, Eating Disorders, tobacco and alcohol use disorders. All the included studies were conducted in line with ethical guidelines and no severe adverse events were reported. The most common transient adverse effects were psychological distress, ataxia, nausea and diarrhea. This highlights another interesting difference between classification of adverse effects between the GN and GS. In ayahuasca ceremonies vomiting is seen as an important therapeutic component for participants in indigenous traditions, while in the GN medical model it would be described as an adverse effect. Bouso et al. (2022) investigated the adverse effects associated with ayahuasca use and reported that while vomiting was reported in 69.9% of participants and general adverse mental health effects in 55.9%, 88% of the sample considered these as part of a positive process of growth and integration. As there are a large number of iboga and ayahuasca studies in the GS review these issues may disproportionately affected. There may be a case for reclassifying adverse effects to reflect these findings as it has been demonstrated that individuals with experience of psychedelic use have lower psychological distress and suicidality (Johansen & Krebs, 2015). Caution should be taken when interpreting evidence regarding effectiveness of these studies as they included open-label use, qualitative studies, and relatively small sample sizes. There was a lack of RCTs (n = 1) and control groups in most of the reviewed studies. While rigorous methodological design...
is lacking in many of the included studies (case reports, case series, retrospective surveys, observational studies), the results suggested beneficial effects of ibogaine (for SUDs, PTSD), ayahuasca (for depression, SUDs, Eating disorders and PTSD), psilocybin (for OCD) and MDMA (for PTSD).

RCTs and naturalist studies examining psychedelics have produced evidence to indicate that these substances have potential to treat MHCs and improve social bonds (Dos Santos, 2020). Ritual ayahuasca users have demonstrated reduced anxiety, better quality of life and stress coping strategies (Frecska, Bokor, & Winkelman, 2016). Large scale naturalistic studies have demonstrated that individuals with experience of psychedelic use have lower psychological distress and suicidality (Johansen & Krebs, 2015). There is extremely limited evidence of psychedelics causing dependence or addiction and they have a low potential for abuse (Fábregas et al., 2010). Cases of serious adverse events in psychedelic use have been documented (Ona, Berrada, et al., 2021; Ona, Rocha, et al., 2021), although none were observed in the participants of studies in this review. Careful screening and supervision should be conducted to prevent serious adverse effects (Schlag, Aday, Salam, Neill, & Nutt, 2022). Research has shown the effectiveness of MDMA in the treatment of PTSD (Mitchell et al., 2021, 2023; Sessa, 2017) and iboga in treatment of addiction (Köck et al., 2022). Research also suggests psilocybin may be an effective treatment for OCD (Wilcox, 2014), treatment-resistant depression (Carhart-Harris et al., 2017; Goodwin et al., 2022), smoking cessation (Johnson, García-Romeu, Cosimano, & Griffiths, 2014), alcoholism (Bogenschutz et al., 2015, 2022) and end of life anxiety (Griffiths et al., 2016). An RCT comparing psilocybin to a selective serotonin reuptake inhibitor found the former to be as effective with fewer adverse effects (Carhart-Harris et al., 2021). A GS systematic review conducted by dos Santos (2016), investigating ayahuasca studies, concluded that psychedelics have therapeutic potential for treatment of anxiety/mood disorders as well as drug dependence, particularly in treatment-resistant patients.

Publication bias may have affected the results as nearly all the studies reviewed reported positive results (Olson, 2002). Moreover, only English language studies were reviewed. A large number of false positive studies were found when searching within the parameters of psychedelics and the GS. Therefore, the filter of mental health was added to refine the search, which may have led to studies being excluded. The dose-response relationship is unclear from many of the studies, as the composition of psychedelics was not always precise and the number of doses in some treatment centers varied (González et al., 2020). Methodological rigor varied across studies reviewed with a single RCT, few long-term studies and typically small sample sizes. It was difficult to distinguish placebo, drug effects, and the influence of community, religion, psychological interventions, and alternative therapies included in the some of the studies (Berlowitz et al., 2019; Giovannetti et al., 2020). These limitations are to be expected in preliminary research studies while safety, feasibility and efficacy are being determined. ScRs such as the present article may serve as a precursor to broader systematic reviews with wider inclusion criteria (Munn et al., 2022). As noted by Ioannidis (2005) there is a possibility that study findings can be a representation of current bias. Attempts to mitigate these limitations include the process of reporting per PRISMA ScR guidelines, the use of the MMATs to appraise the papers, and the internal peer-review within the research team. Another strength of the review is the history of indigenous use of psychedelics in the GS where they are respected, and Brazil has been conducting extensive research into the effects of ayahuasca (Leite, 2021). Africa may be lacking the research or academic infrastructure to conduct iboga studies, despite it being used as a traditional indigenous medicine in Central Africa for centuries (Richer, 2009). Accordingly, no African studies were reported in this review. It is necessary to highlight the importance of this review being based solely on research from the GS where there is a long history of indigenous use of traditional psychedelic healing practices and a wide cultural acceptance of these substances. Respect and reciprocity in ongoing research are imperative and may help bridge the gap between traditional indigenous practices and the Western biomedical model, integrating the knowledge and research from both systems (Bouso et al., 2020). Although there are promising efficacy and safety results, evidence for psychedelic therapy is regarded as preliminary at this point. Results consistently demonstrated the effective therapeutic use of ayahuasca, iboga, 5-MeO-DMT, MDMA and psilocybin resulted in the treatment of mental health conditions with no serious adverse effects.

CONCLUSIONS AND IMPLICATIONS

Overall, the studies included in this review reported positive preliminary results for the treatment of mental health conditions, with no serious adverse effects. There is a need for studies with rigorous methodologies such as RCTs and long-term, controlled studies incorporating placebo and large samples. The dose-response relationship warrants investigation as do the effects of other modalities such as alternative therapies, TAM, community and religion. The advantage of studies carried out in the GS is that TAM, community etc. are more seamlessly incorporated in the process. The influence of psychedelic-assisted-psychological interventions should also be further investigated as should the mechanism of action, role of the subjective experience, set and setting (Strickland, Garcia-Romeu, & Johnson, 2020). The United Nations Convention on Psychotropic Substances (1971; Crean et al., 2013) places psilocybin, DMT and LSD in schedule 1, implying an elevated risk for abuse, adverse effects, and an absence of therapeutic effect (Crean et al., 2013). This makes clinical research difficult, and the need for reclassification of these substances has been highlighted, to increase clinical research and acceptance (Andrews & Wright, 2022). Classification of ethnobotanicals differs and although ayahuasca, iboga, peyote and psilocybe
mushrooms are not scheduled, many countries have laws controlling them (dos Santos et al., 2021).

It is essential to acknowledge that awareness of many of these substances and their use in ritual supportive settings was derived from generations of indigenous populations experience in cultivating and administering these substances (Ona, Berrada, et al., 2021; Ona, Rocha, et al., 2021). This is a rapidly evolving field and pharmaceutical companies are now investing in psychedelics. Issues such as reciprocity and compensation for local and indigenous populations need to be highlighted as these substances become profitable, as well as ensuring that marginalised groups have equitable access to them (Williams & Labate, 2019).

Many of the included studies while conducted in the GS consisted of participants who travelled from the GN to access psychedelic treatments. There are problems around sustainability with many of these substances including ayahuasca, peyoty, and iboga becoming difficult to obtain for local populations due to the surge in interest globally. In Latin America due to an explosion of western tourists seeking psychedelic treatments many local indigenous communities are unable to afford ayahuasca, which they depend on as part of traditional healing systems (Ona, Berrada, et al., 2021; Ona, Rocha, et al., 2021). In February 2019, the Government of Gabon finally stopped all exports of iboga from the public domain, expressing concern about the sustainability of the plant (ICEERS, 2021). There are worries regarding unsustainable harvesting of psychedelics. Destructive harvesting driven by non-medical psychedelic use have been raised with regards to peyote, with the consequences of this becoming so apparent that it is considered endangered and traditional healers are having difficulty in accessing it (McMillan, 2021). The legal status of psychedelics in the GN has a complex history and is currently evolving rapidly, while many have been and continue to be legal and accepted in indigenous and local nonindigenous countries in the GS.

Countries such as Brazil may serve as an example for integrating traditional healing practices such as psychedelics into medical systems (dos Santos, 2021). Issues such as sustainability, reciprocity and respect of the indigenous cultures that have used these substances as part of their traditional practices need to be addressed when incorporating these into medical systems (George et al., 2019). Medicalisation and decriminalisation of psychedelics may lead to profit-driven aims, and there are concerns therapeutic efficacy could be compromised as psychedelic treatment increases (Noorani, 2019). It may be logical to pursue both medicalisation and decriminalisation, and to investigate the wider determinants of the increasing prevalence of mental health conditions in our societies (Andrews et al., 2022). While studies in the GN use traditional therapies such as cognitive behavioural therapy (CBT) or MET approaches this review suggests comparable therapeutic efficacy in studies using Traditional Amazonian Medicine (TAM) and other approaches. This challenges this idea of ‘psychedelic-assisted-therapy,’ if we are conceptualizing therapy as exclusively ‘evidence-based’ approaches e.g CBT.

In summary, the review of research into the use of psychedelics highlights encouraging results that are especially relevant given the current epidemic of mental health conditions, exacerbated by the recent COVID-19 pandemic. The GS has a long history of the use of psychedelics as part of sacred healing rituals and it is an accepted part of indigenous culture. There is positive early support for the therapeutic effects of psychedelics for depression, SUDs, PTSD, OCD and ED. Results surrounding the effectiveness of psychedelics for treatment of MHCs is preliminary, and further clinical and naturalistic studies are required. These should include larger sample sizes, rigorous methodologies, multiple doses, and longer follow-up, to fully determine both safety and efficacy (Andersen et al., 2021).

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SUPPLEMENTARY MATERIALS

Supplementary data to this article can be found online at https://doi.org/10.1556/2054.2024.00333.

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