

# Māori healthcare professionals' perceptions of psychedelic-assisted therapy: a qualitative study

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## ABSTRACT

**AIM:** Psychedelic-assisted therapies are gaining interest as an innovative treatment for problems with mental health and addictions, and there are several clinical trials in this area currently being conducted in Aotearoa New Zealand. However, many stakeholder groups hold concerns about cultural acceptability and safety. While psychedelic substances have a long history overseas in various Indigenous populations for spiritual and ritualistic purposes, their traditional use with Māori in Aotearoa New Zealand is unclear. Given our Te Tiriti o Waitangi obligations and the significant health inequities for Māori, any new treatments should be developed considering Te Ao Māori (Māori worldview) perspectives. This study aimed to explore Māori healthcare professionals' current awareness, attitudes and perspectives on psychedelics and psychedelic-assisted therapy.

**METHODS:** To explore these aims, 13 Māori healthcare professionals were recruited to participate in semi-structured qualitative interviews investigating psychedelic awareness, knowledge and attitudes using Māori health models Te Whare Tapa Whā and Te Wheke as a framework for data collection and analysis.

**RESULTS:** Four key themes were identified, including 1) greater awareness leads to greater openness towards psychedelic-assisted therapy (PAT), 2) more research and education about PAT is needed, 3) PAT has the potential to align with Te Ao Māori, and 4) equitable access is critical for Māori.

**CONCLUSION:** Our sample of Māori healthcare professionals generally supported research investigating psychedelic therapies in Aotearoa New Zealand. Improving awareness of this novel treatment is likely to influence its acceptability as a treatment option and will inform the cultural safety of its use with Māori.

Psychedelic-assisted therapy (PAT) is a treatment that involves the administration of psychedelic substances alongside psychological therapies to produce therapeutic benefit.<sup>1</sup> Common psychedelic substances include lysergic acid diethylamide (LSD), psilocybin, N,N-Dimethyltryptamine (DMT), mescaline and 3,4-Methylenedioxymethamphetamine (MDMA). Emerging evidence suggests that PAT can be used to treat a wide range of health conditions, including depression, anxiety, addictions and substance use, post-traumatic stress disorder and end-of-life distress.<sup>2-4</sup> Given that Māori in Aotearoa New Zealand (henceforth Aotearoa) face significant health inequities across such conditions,<sup>5</sup> it is essential the needs and perspectives of Māori are central to the development of new interventions in these areas.

While psychedelics are relatively novel in Western medicine, their therapeutic use is not new to many Indigenous populations with a long-standing history in traditional healing practices in countries such as South America

and Mexico.<sup>6,7</sup> Such substances have historically been used in ritualistic and religious contexts, as a bridge between the physical and spiritual world.<sup>6</sup> However, they have also been used medicinally, including to heal common ailments such as colds and pains.<sup>6</sup> It is currently unclear whether psychedelic substances were used in Aotearoa pre-colonisation due to the systematic suppression of traditional healing approaches since colonisation.<sup>8</sup>

Given that the contemporary approach to PAT was developed in a Westernised framework and little is known about its cultural safety, there is a need to explore this intervention in the context of Māori health. All new treatments in Aotearoa should be developed in accordance with the legislative obligations particular to Aotearoa, including Te Tiriti o Waitangi<sup>9</sup> and the *Pae Ora (Healthy Futures) Act*,<sup>9</sup> which ensure treatments meet the needs and aspirations of Māori. Māori health models are holistic and more collectively focussed compared with Western health models, which often prioritise a biomedical focus.<sup>10</sup>

Māori models of health, including Te Whare Tapa Whā<sup>11</sup> and Te Wheke,<sup>12</sup> symbolise principles in Te Ao Māori (Māori worldview) that contribute to health and wellbeing. Briefly, Te Whare Tapa Whā is based on four pillars of wellbeing, i.e., taha wairua (spiritual), taha whānau (family/social), taha hinengaro (mental/emotional) and taha tinana (physical),<sup>11</sup> and Te Wheke extends these domains to include concepts such as mauri (life essence), mana ake (unique identity of individuals and family), whatumanawa (open and healthy expression of emotion) and hā a koro ma, a kui ma (breath of life from forbearers). Culturally unsafe practices can arise when these aspects of health are not addressed in interventions, ultimately causing harm to the communities they intended to serve.

There are several clinical trials currently investigating PAT in Aotearoa<sup>13–15</sup> and, as such, it is a timely priority to include a Māori voice in the development of such interventions. This requires understanding the views of Māori healthcare professionals, given that they are key stakeholders in the development and delivery of such interventions and would become referrers and/or providers of PAT should it become available. Healthcare professionals have unique insights into the benefits and barriers of introducing a novel treatment modality, and patients rely on their health providers for education about treatment options.<sup>16</sup> The existing literature often presents an optimistic view towards PAT for the treatment of mental health conditions, with awareness often predicting greater openness towards the modality.<sup>17–19</sup> However, health professionals continue to endorse the need for further scientific research both internationally<sup>20</sup> and in Aotearoa.<sup>21,22</sup> While there has been some work exploring perceptions of PAT, there is currently little known about the specific perspectives of Māori healthcare professionals.

Thus, there is a need for Kaupapa Māori rangahau (Māori-led research) to explore the perceptions of PAT and its applicability for taha tinana, taha hinengaro, taha whānau and taha wairua. The current study aimed to investigate Māori healthcare professionals' awareness, attitudes and perceptions regarding the potential use of PAT in Aotearoa. Such an understanding should inform the development of PAT interventions to ensure they are culturally safe for Māori and to maximise their potential to address health inequities.

## Methods

This study was guided by Kaupapa Māori (Māori approach/ideology) in that it was conducted by Māori, with Māori and for Māori and prioritised tikanga Māori (Māori customs and traditions), Te Ao Māori and tino rangatiratanga (self-determination).<sup>23</sup> The research team were primarily Māori, and all participants were of Māori descent. Kaupapa Māori rangahau guided all study components from the project development and consultation, recruitment, data collection and data analysis, as well as dissemination of study results. The current report presents qualitative analyses of a larger mixed-methods study.

## Participants

The target populations for this study were Māori healthcare professionals and Māori university students studying to become healthcare professionals. The scope of healthcare professionals included Rongoā Māori (Māori medicine) practitioners, doctors, nurses, psychologists/counsellors and allied health professionals, and healthcare students included students currently studying any healthcare course with a clinical component (e.g., nursing, medicine, psychology). To be eligible, participants had to be over the age of 18, of Māori descent, fluent in English and must work or study clinically in healthcare with patients. Ethics approval was granted by the Auckland Health and Research Ethics Committee (reference AH25736).

Convenience sampling methods were used for recruitment, including snowballing techniques. Flyers were posted at The University of Auckland medical campus and with Māori health providers, Māori nurses council, Hospice kaimahi Māori, Aotearoa Psychedelic Māori Advisory Rōpū, Iwi United Engaged newsletter, health practitioner societies and/or registry boards and social network postings. Following locality approval, participants were also recruited through Te Toka Tumai and Counties Manukau mailing lists.

## Procedure

Following completion of an initial survey (not further discussed here), participants were asked whether they would be willing to take part in a qualitative interview. If they expressed interest, participants were contacted by the primary researcher (CH) by phone or email to schedule a hui (meeting). Interviews took place either by

phone, Zoom or in person. When conducted on the phone or in person, interviews were audio recorded via dictaphone, and Zoom interviews were recorded via the Zoom recording tool. In line with Indigenous data sovereignty, recordings were stored on a local server, not on internationally stored cloud services. The Microsoft Word dictation tool was used to facilitate transcription. The primary researcher also manually transcribed all te reo Māori kupu (words) to ensure correct transcription. Following transcription, recordings were deleted. Interviews were de-identified by assigning participants with a study number.

The hui began with whakawhanaungatanga (establishing relationships), which involved the researcher introducing themselves, their affiliation with Te Ao Māori and explaining the study. Space was provided for the participants to introduce themselves, and hui opened and closed with karakia (prayer). A semi-structured interview guide asked about psychedelic awareness, knowledge and attitudes. The Māori health models Te Whare Tapa Whā<sup>11</sup> and Te Wheke<sup>12</sup> were used as a framework for data collection and analysis. These models were chosen based on their holistic and spiritual approach to hauora (wellbeing). Participants were offered a \$40 gift voucher as compensation for their time and had the option to receive a copy of their transcript to review. Participants were given the opportunity to make changes to their transcript and withdraw their data within 14 days of receiving their transcript.

## Data analysis

Reflexive thematic analysis was used to generate themes from the qualitative data.<sup>24</sup> This involved the primary researcher (CH) initially familiarising themselves with the transcripts. Intelligent verbatim was used for transcription so that any redundant words and sounds were removed. The researcher used a reflexive journal throughout the transcribing and analysing process that facilitated reflections on positionality, how whakawhanaungatanga impacted the interview and in the development of themes. Mind maps were used to collate themes and link quotes together. Themes were discussed in an iterative process with all researchers (CH, EM, AW, LR) and collaboratively refined. Given the exploratory nature of the study, an inductive (bottom-up) approach was used for thematic analysis where the coding of the data was based on a semantic (explicit meaning) and latent (underlying ideas) approach.

## Results

### Participants

A total of 13 Māori healthcare professionals and students in their clinical years participated in the qualitative interviews (Table 1). Most interviews were held over Zoom (n=7), two were conducted over the phone and four were kanohi ki te kanohi (face-to-face). Interviews ranged between 45 and 60 minutes depending on the flow of the kōrero (conversation) and participants' other commitments.

**Table 1:** Demographic characteristics of interview participants (N=13).

	<i>n</i> (%)
<b>Gender:</b>	
Female	9 (69)
Male	4 (31)
<b>Profession:</b>	
Nurse	4 (31)
Doctor	2 (15)
Medical student	1 (8)
Counsellor/social worker	2 (16)
Rongoā practitioner	1 (8)
Other	3 (23)

Most participants identified as female (n=9) and a range of professions were represented.

## Findings

Four themes were identified; two had a specific focus on PAT with Māori, and two more generally pertained to PAT as a field. The briefer and more general themes are discussed below first.

### **Theme 1: greater awareness leads to greater openness towards PAT**

Awareness varied across participants, with some aware of psychedelic use for whai ora (person/s seeking wellness) and others demonstrating a lack of awareness by asking what counted as a “psychedelic substance” (see Table 2 for quotes). Greater awareness appeared to be associated with greater openness towards PAT. Those who had greater awareness of the psychedelic literature held knowledge across various aspects of psychedelic usage, including of studies investigating how different psychedelic substances can be used for various health conditions, how mystical experiences can arise from larger doses of psychedelics and the importance of set and setting. Many participants also noted there was stigma

associated with psychedelics that might limit openness from patients and practitioners towards PAT. Those that had less awareness of PAT tended to draw on knowledge of recreational use of psychedelics or attributed psychedelics to the “hippie era” and felt more comfortable with the provision of microdoses versus higher doses, associating the former with greater control and caution.

### **Theme 2: more research and education about PAT is needed**

Participants consistently spoke about the need for more research to investigate the risks and benefits of PAT, including concerns about safety issues such as drug-induced psychosis and how PAT might interact with other treatments like rongoā (see Table 3). Most participants were open to referring patients to clinical trials; however, some noted they needed more information about the therapy’s safety and efficacy before feeling comfortable to do so. Participants also called for continued education of healthcare professionals as psychedelic research progresses, including the need for more information and resources.

**Table 2:** Quotes representing theme “greater awareness leads to greater openness towards PAT”.

Sub-theme	Quote/s
Awareness of psychedelics and PAT is varied	“I don’t know a lot about it. It’s definitely something that I want to look more into for myself and for our whānau [family]. I attended a hui ... and we had a few speakers from all around the world and some of their kōrero was around using psychedelics and supporting whānau with addiction and mental health ... it is something that we should be open to.” – #4, mental health and addictions practitioner
Stigma impedes openness	<p>“But firstly, I was like why would you use it for therapy? But that’s just because it is that stigma of recreational use and I guess seeing it out there is different to having it in a controlled environment.” – #10, clinical nurse specialist</p> <p>“There’s obviously a lot of stigma around these medications and a lot of them are linked to the illicit production of said substances ... there’s obviously associations with illegal producers and suppliers, such as gangs and things like that ... personally, I think these substances have caused a lot of harm amongst our whānau, especially spiritual and mental health ... I have seen a lot of patients in the hospital with very severe mental health issues. A lot of schizophrenia from the use of psychedelics ... I think we just have to tread very carefully, especially given the effects that these have had on us.” – #7, doctor</p> <p>“I think it just comes down to that psychedelics are drugs and drugs are bad ... And I think that might just be a generational thing at the moment.” – #4, mental health and addictions practitioner</p>

**Table 3:** Quotes representing theme “more research and education about PAT is needed”.

Sub-theme	More research and education about PAT is needed
More research is needed around contraindications around safety	<p>“I’d feel fine myself as long as the trials had all been done and it was all positive or mainly positive outcomes, expecting, though there will be some that it just does not work for, for whatever reason. Could it mix with the medications they’re already on?” – #1, healthcare assistant</p> <p>“The only problem with our rongoā and today with PHARMAC’s and medication is that they don’t really want to mix natural with these. There’s a contraindication that they are afraid that it will react. And at the same time, they won’t allow us to just stop their meds and let us use the natural first ... So, there’s always been a bit of a battle between Western science and our tradition ... But we’ll see what our people want.” – #13, rongoā practitioner</p>
Healthcare professionals have limited confidence in referring patients to clinical trials	<p>“I think I would probably have to know a lot about what was happening in the trial. Like what support people were getting beforehand and the screening they were getting beforehand and how much support they were getting afterwards. All those kinds of things.” – #8, doctor</p> <p>“I’d be slow to accept it or advocate for it unless there was like solid evidence showing otherwise, but I guess you can’t do that without trialling it.” – #3, medical student, 2nd year</p> <p>“If the large majority of experts in the field came to a conclusion and that was the recommendations then by all means I’d be happy to give it a try. If there was sort of a division, even like 50/50, I think I’d be more averse to holding off until further research is done.” – #7, doctor</p>
Healthcare professionals need more education	<p>“I think if people had the right information or the right education or more education about things, they would be able to make their own decisions, but I feel like some people just jump on the waka [canoe] and go the other way.” – #4, mental health and addictions practitioner</p> <p>“I think if the health professionals are educated enough about this sort of therapy, and we are able to share that with our whānau and our communities, I definitely think that’s going to change the perceptions of our community.” – #4, mental health and addictions practitioner</p>

### **Theme 3: PAT has potential to align with Te Ao Māori**

As shown in Figure 2 and Table 4, participants perceived PAT to be a holistic approach that has potential to align with Te Ao Māori. Firstly, due to its holistic nature, PAT was perceived to target various domains of wellbeing relevant to Māori health frameworks. Participants expressed how Māori are inherently spiritual, and that PAT appeared to embrace a spiritual approach. In contrast, others feared that taking a “substance” to induce a spiritual experience would not be a “true” experience. Participants also thought PAT may have the potential to improve family relationships (such as fostering connection at end of life, increasing energy), but that it may also put

strain on whānau if they did not approve of the treatment. Participants felt that PAT may help people to open up more in therapy, supporting whatumanawa, rather than masking symptoms as is often the way in Western medicine. Some felt that it may be a tool to connect patients with their culture and “authentic” selves. However, others felt it may act as an interim measure in lieu of real connection.

Some participants expressed that PAT has the potential to connect people with their whenua (land) and tupuna (ancestors) through a physical and spiritual connection to Papatūānuku (Earth Mother). The notion that some psychedelics come from the earth and could enable a spiritual journey as opposed to being a “drug” was expressed in

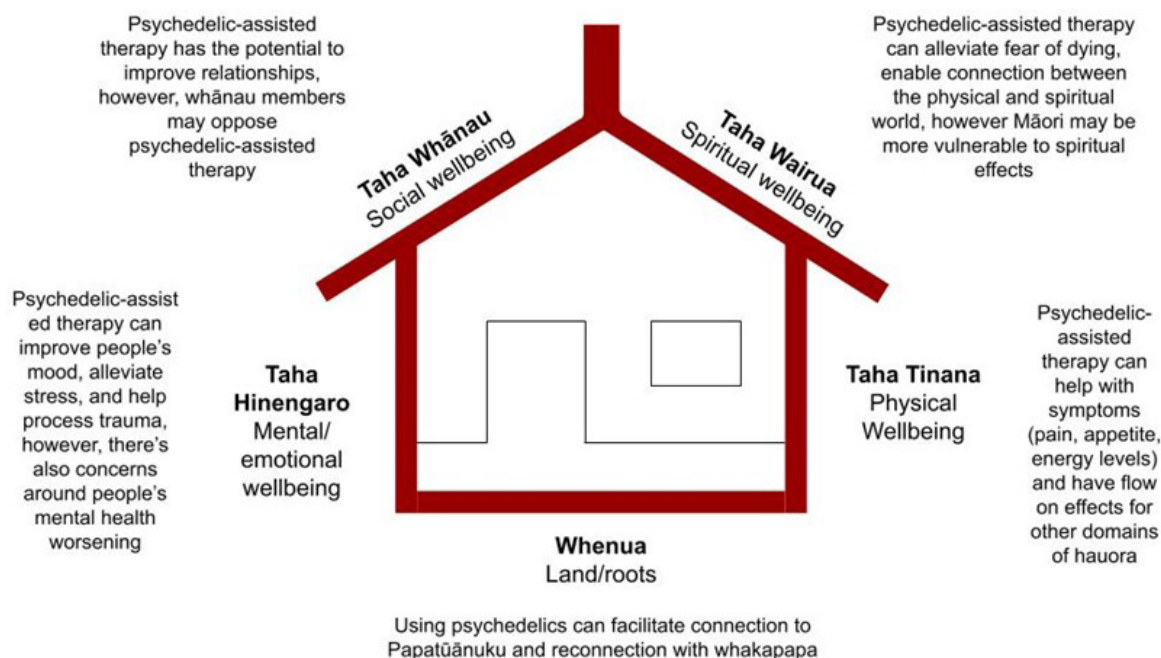
**Table 4:** Quotes representing theme “PAT has potential to align with Te Ao Māori”.

Sub-theme	PAT has potential to align with Te Ao Māori
Potential to align with a Māori health framework	<p><i>On taha wairua:</i> “We’re very spiritual, very intuitive human beings and that’s what makes us quite sensitive ... more susceptible for the substances.” – #11, counsellor/social worker</p> <p><i>On taha hinengaro:</i> “That [PAT] would give them some comfort in a hinengaro side of things. It’s sort of almost like a form of meditation, whereas the person can really relax and go into that stillness in the mind, sort of thing.” – #1, healthcare assistant</p> <p><i>On taha tinana:</i> “It might even help with pain, physical pain, by relaxing the mind. I believe it’s all connected.” – #1, healthcare assistant; and “If psychedelics are used in a way to help symptoms, once symptoms are alleviated then stresses are alleviated at the same time...” – #9, clinical nurse specialist</p> <p><i>On taha whānau:</i> “[PAT] could help improve whānau relationships potentially, especially if family dynamics are strained.” – #9, clinical nurse specialist; and “It’s important for whānau to be supportive and involved ... but if they don’t approve of the way that they’re getting help, then that could be a thing.” – #3, medical student, 2nd year</p> <p><i>On whenua:</i> “A lot of them [psychedelic substances] come from the earth so they’ve got that connection to Papatūānuku, which already gives them, in my opinion, a certain level of validity as an entity of healing, although you could argue that Māori didn’t really use them very much ... there’s many cultures that have used them for healing over in their cultural lines. There’s obviously something in them that connects people to some deeper senses of understanding.” – #8, doctor; and “They [friend] were talking about connecting with the whenua, connecting with Papatūānuku, but while they’re in that hallucinogenic state.” – #5, nurse</p>
Awareness of psychedelic use in Indigenous cultures	<p>“I think there’s definitely a place for psychedelic drugs given I think that’s been established anyway in terms of people’s culture ... various Indigenous peoples have used psychedelic drugs for shamanic purposes or interfacing with the spirit realm, to get messages of some sort.” – #2, equity and cultural advisor</p> <p>“I have heard of Indigenous people using it to connect to the spiritual world.” – #9, clinical nurse specialist</p> <p>“I’m not actually aware if we [Māori] had anything like that. I mean Fijians had kava, but I don’t actually know if Māori had any sort of substance or mind altering...” – #11, counsellor/social worker</p> <p>“I think if you’ve got that [evidence of psychedelic use in rongoā], then that’s your green light to that traditional pathway, using different fauna and flora, if it’s natural, then they would have used it.” – #12, counsellor/social worker</p> <p>“We do have a native psychedelic mushroom here, I’ve heard mixed reports about whether our tupuna used to consume them, some people say that the tohunga maybe did it for some very specific purposes. But besides that, the history that I’ve heard is that Māori prior to colonisation were essentially like a non-substance using culture, except for obviously your rongoā and plants and whatnot which can have their own effects, but we didn’t have any psychedelic compounds that were widely used by like the everyday person.” – #8, doctor</p> <p>“See the thing with mushrooms, our people also used, at different times, different types of sap and different types of bark roots to actually get the hallucinogenic effects. It wasn’t always just down to mushrooms ... so it was really, not hugely known about whatsoever. Mainly for a chief, if he was wounded or dying, they would probably, not so much the mushrooms, but they would go out and find the tawhara or the pukatea and would pretty much put them on that.” – #13, rongoā practitioner; and “A lot of tohunga (expert/traditional healer), were the only ones that knew about that. They were more so used by tohunga for the spiritual connection ... The knowledge has been lost.” – #13, rongoā practitioner</p>

**Table 4 (continued):** Quotes representing theme “PAT has potential to align with Te Ao Māori”.

<p>Preference for more “natural” psychedelic substances and rongoā</p>	<p>“If I had any issues that I needed to address and that was on offer, I’d probably be scared to touch it [PAT] because I’ve never explored those avenues and I’ll be like why are you trying to give me recreational drugs to help cure something when the Western medicine already doesn’t work?” – #10, clinical nurse specialist</p> <p>“For Māori, I think they’d still be for the more natural forms of the hallucinogenics. The rites of passage in our Indigenous cultures, where smoking the pipe or eating the mescaline or drinking it is actually part of a part of a traditional custom. Just with the normalisation of the rongoā and mirimiri (massage), the use of energy work, for Māori, I think some traditional tools need to be brought to the front as an option.” – #12, counsellor/social worker</p> <p>“I strongly feel like it should remain with Indigenous people, because that is quite a spiritual therapy and should remain so.” – #11, counsellor/social worker</p>
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**Figure 1:** Benefits and concerns for PAT within Te Whare Tapa Whā.



different ways. Some participants thought that Māori patients may be more accepting of natural, as opposed to synthetic, substances. Others reported that natural psychedelics should remain a taonga (treasure) to Indigenous people and not be utilised for Western practices, particularly as Western practices may be ill-equipped to deal with the spiritual nature of such an intervention. Participants who perceived PAT to be more holistic expressed greater openness, particularly when they held knowledge of the history of traditional psychedelic use in Indigenous populations. Many participants were more aware of traditional use among other Indigenous cultures

as opposed to Te Ao Māori or rongoā. Where PAT was perceived to be associated with Western medicine, participants felt that patients may not trust the treatment and would instead prefer accessing rongoā or other familiar treatments.

**Theme 4: equitable access is critical for Māori**

Overall, there was a perception that PAT has the potential to reduce health inequities if delivered in alignment with Te Ao Māori and in a culturally safe way (Table 5). Participants felt that PAT offers a hopeful alternative for whai ora, especially where current treatments are insufficient. Participants stated that transparency and informed consent

were priorities in line with the health literacy of the community. However, participants also noted concerns for PAT given systemic barriers to hauora will remain, including access and cost of treatment. Some participants likened foreseeing the implementation of PAT to medicinal cannabis, where access currently perpetuates inequities (see further below). Given that PAT can incorporate spirituality, there was also an expressed need to have appropriate support guiding participants through a psychedelic experience. This support included having Māori kaimahi (worker), kaumatua

(Māori elder), rongoā practitioner or tohunga who are experienced in the wairua realm supporting whai ora. Ensuring appropriate support and cultural safety will prevent the exacerbation of current health inequities.

### Discussion

The aim of this study was to explore Māori healthcare professionals’ awareness and perceptions of psychedelics and PAT. Four key themes were identified: 1) greater awareness

**Table 5:** Quotes representing theme “equitable access is critical for Māori”.

Sub-theme	Equitable access is critical for Māori
PAT offers opportunity for health equity	<p>“I want Māori people to catch up to Pākehā people.” – #1, healthcare assistant</p> <p>“Because if it’s a matter of public health. If you look after the people whose health is the worse, then naturally that raises the gradient, so everyone benefits anyway.” – #2, equity and cultural advisor</p> <p>“I’m all for it, especially if it’s proven to work, it’s proven to heal, and it’s proven that people can get on with their lives and that’s what we’re here for, is to help change people’s lives for the better.” – #12, counsellor/social worker</p>
Barriers to PAT	<p>“I would personally think of the stigma coming with recreational drugs and the use in like a medical environment and what that might mean for the patient and the whānau.” – #9, clinical nurse specialist</p> <p>“I see the process that people are currently going through to get prescribed medicinal cannabis and ... I’m worried that this is the way that psychedelic therapy is going to end up ... the expense that it costs people to do that.” – #4, mental health and addictions practitioner</p> <p>“I just hope it’s something that’s not like all this pūtea (money) and time put into it and then it’s something that isn’t accessible for us. So, I definitely hope the research that comes out shows how we can remove those barriers for our whānau who actually need it.” – #4, mental health and addictions practitioner</p>
Cultural support for Māori	<p>“I think if you were considering it to Māori, and ... maybe having like kaumatua or some type of kaimahi support or something along with them or available to them, especially if you’re looking at connecting to the spiritual world ... how can they keep themselves safe when they’re going through some stuff that they quite don’t understand themselves, whether it’s from a medical perspective or spiritual.” – #9, clinical nurse specialist</p> <p>“You might need people who are Māori to help facilitate. Or you might need people who have had personal experience with drugs because then you understand the lived reality ... Sometimes women understand women better than a man will understand the women. And maybe Māori people will understand each other a little bit better because we’ve all got shared experiences of being discriminated against. Or maybe someone who’s been an addict will know how a current addict feels. That’s all I’m saying is using people who can somehow allow their experience.” – #2, equity and cultural advisor</p>

leads to greater openness towards PAT, 2) more research and education about PAT is needed, 3) PAT has potential to align with Te Ao Māori, and 4) equitable access is critical for Māori. These themes reflect that while PAT may offer opportunities for health equity, there are barriers to consider about how to ensure cultural support for Māori.

### Clinical and research implications

Low awareness of PAT and psychedelics more generally in the current study suggests that evidence for psychedelic therapies is not being effectively disseminated from researchers to key stakeholders, and this is consistent with previous findings.<sup>17–19</sup> The tendency to rely on heuristics or informal knowledge sources (i.e., recreational use) where formal knowledge is lacking has similarly been reported elsewhere.<sup>22</sup> For those with low awareness, the prospect of “microdosing” appears to sit more comfortably than higher doses. Microdosing refers to the practice of repeated consumption of a psychedelic at doses lower than the threshold to cause substantial alterations in consciousness.<sup>25</sup> Benefits of microdosing are commonly reported in observational research, though rigorous experimental evidence is still underway.<sup>14,15,26–28</sup> Despite this, anecdotal reports and media attention combined with the growing body of evidence for macrodose interventions may have contributed to reduced risk perception of LSD and other psychedelic substances, leading to an uptick in naturalistic use with therapeutic intention.<sup>29</sup> Though psychedelics have a good safety profile, some naturalistic users may be unaware of potential risks, including psychiatric or physical risk factors and variability in drug purity and dosage.<sup>30</sup> Increasing awareness and education around PAT may work to address these risks, as well as any stigma associated with psychedelics, ultimately increasing acceptability of it as a treatment option and reducing harm.

Our sample perceived that PAT has the potential to align well with Te Ao Māori; however, if not implemented in a culturally safe manner, it could further exacerbate health inequities. For example, participants highlighted several potential barriers, including costs and access to treatment, policy, racism and stigma. Many of our participants hoped that PAT would not follow the path of medicinal cannabis, where current legislation and practices limit access for those in need and perpetuate stigma.<sup>31–33</sup> These shortcomings include reported difficulty in accessing prescription cannabis, high costs of cannabis products and appointments, lack of education among healthcare

providers and the lack of clarity and fairness in roadside drug testing laws and workplace drug testing policies. Cost, access and low knowledge are common concerns regarding PAT.<sup>19</sup> Despite the potential benefits of PAT, work is required to mitigate or remove such social, political and legal barriers.<sup>34</sup> Critical appraisal of international models of legalisation or access would help to move forward decision-making in an evidence-based and equity-based manner.

To design interventions that work for Māori, there must be strong representation of Māori at every stage of development.<sup>35,36</sup> This includes Māori representation in research participants, and also in researchers, clinicians and trial staff. Workforce considerations include ensuring Māori kaimahi involvement and access to relevant training or accreditation.<sup>37,38</sup> Future interventions and trials should have clear informed consent protocols, including full transparency about the risks and benefits of PAT to tangata whai ora, in line with their health literacy (meeting people where they are at), and to involve cultural/whānau support.

It is also important to consider mana ake and that PAT may not be appropriate for all. Furthermore, the type of psychotherapy being delivered alongside psychedelics in current clinical trials generally follows a Western approach, which may not be appropriate for Indigenous populations.<sup>39,40</sup> There are examples of psychotherapy approaches specifically for Māori that are worthy of consideration in the development of this new treatment modality.<sup>41–44</sup> Ensuring ongoing and genuine consultation with Māori will assist in improving PAT’s acceptability and cultural safety.

### Future research

Further exploration of the perspectives of tohunga and rongoā practitioners would provide a better understanding of psychedelics’ potential therapeutic use in Te Ao Māori and rongoā. To ensure that PAT is developed equitably, it is essential to co-design interventions with tangata whenua (people of the land). The psychedelic literature would benefit from Kaupapa Māori clinical trials, including marae-based trials. For example, Rangiwhāo Marae in Gisborne have obtained the first license in Aotearoa to cultivate native psychedelic mushrooms for the treatment of those affected by addictions.<sup>45</sup> Marae-based trials would not only encourage Indigenous cultivation practices but could also explore the effects and perceptions of PAT in a culturally safe manner.

### Strengths and limitations

This is the first study to explore the perspectives of Māori healthcare professionals towards psychedelics and PAT in Aotearoa.<sup>17,18</sup> The use of Kaupapa Māori methodology has allowed Māori practices and values to be at the forefront of this work. Extensive consultation with Māori stakeholders was also a strong focus of this kaupapa, including the research team being primarily Māori and liaising with the Aotearoa Psychedelic Māori Advisory Rōpū throughout the development and implementation of this rangahau (research). This design has potential to inform the cultural safety of PAT for tangata whenua in the hope of addressing the health inequities that Māori currently face across most health conditions.

Given that greater awareness was associated with greater openness towards PAT, perceptions may evolve as more clinical trials and dissemination of findings emerge. It is important to note that the results from the current study reflect the attitudes, awareness and perceptions of psychedelics and PAT over a particular time period (April to December 2023). Along with the

growing interest and development of PAT in the research and media, the awareness and perceptions of PAT will almost certainly change over time. As is typical in qualitative research, data were collected from a small convenience sample, thereby limiting the potential generalisability of these findings.

### Conclusion

This study contributes an Indigenous perspective to the existing PAT literature. This emerging treatment has potential benefits across domains of Te Whare Tapa Whā and Te Wheke, though further consideration of contraindications and safety, stigma and systemic barriers to health equity is required to ensure future interventions work to reduce inequity rather than exacerbate it. Future research would benefit from ongoing consultation and co-design with Māori to aid the development of culturally appropriate and safe PAT. Importantly, this study gave the opportunity for Māori healthcare professionals to share their perspectives and shape the development of future PAT interventions.

**COMPETING INTERESTS**

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## Appendix: glossary of te reo Māori used in text

- **Hā a koro ma, a kui ma:** breath of life from forbearers.
- **Hauora:** wellbeing.
- **Hui:** meeting.
- **Kanohi ki te kanohi:** face-to-face.
- **Karakia:** prayer.
- **Kaumatua:** Māori elder.
- **Kaupapa:** Māori approach/ideology.
- **Kaupapa Māori rangahau:** Māori-led research.
- **Kōrero:** conversation.
- **Mana ake:** unique identity of individuals and family.
- **Māori kaimahi:** worker.
- **Mauri:** life essence.
- **Mirimiri:** massage.
- **Pūtea:** money.
- **Papatūānuku:** earth mother.
- **Rangahau:** research.
- **Rongoā Māori:** Māori medicine.
- **Taha hinengaro:** mental/emotional.
- **Taha tinana:** physical.
- **Taha wairua:** spiritual.
- **Taha whānau:** family/social.
- **Tangata whai ora:** person/s seeking wellness.
- **Tangata whenua:** people of the land.
- **Taonga:** treasure.
- **Te Ao Māori:** Māori world view.
- **Te reo Māori kupu:** te reo Māori words.
- **Tikanga Māori:** Māori customs and traditions.
- **Tino rangatiratanga:** self-determination.
- **Tupuna:** ancestors.
- **Tohunga:** expert/traditional healer.
- **Waka:** canoe.
- **Whakawhanaungatanga:** establishing relationships.
- **Whānau:** family.
- **Whatumanawa:** open and healthy expression of emotion.
- **Whenua:** land.