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# Māori Perspectives on Assisted Reproduction and Fertility Treatment: A Review of the Literature

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**Abstract**

International researchers have documented the increasing availability and acceptability of assisted reproductive technologies (ARTs) across high-income countries, yet barriers to access remain. While such barriers are often framed in terms of affordability, international studies show that culture and ethnicity can have a significant impact on access and outcomes. There is minimal research in Aotearoa New Zealand exploring barriers to equitable fertility treatment among Indigenous and ethnic minority groups. In this article, we review available literature related to assisted reproduction and fertility treatment to examine barriers to fertility care access for Māori individuals and couples. The article intentionally references studies undertaken by Māori researchers. The aim of the review is twofold: first, to recommend increased efforts by healthcare professionals and fertility clinics to draw on te reo Māori to produce accessible information for Māori individuals and couples to make informed decisions around fertility treatment options; and second, to call for further empirical research to account for the experiences of Māori individuals and couples seeking assisted reproduction and fertility treatment.

**Keywords:** Aotearoa New Zealand; assisted reproduction; ethnicity; fertility treatment; Māori

Kāhore he uri, he tangi
*Without descendants, there are lamentations* (Mead & Grove, 2001, 155.941)

There is minimal research on Māori perspectives of assisted reproduction and fertility treatment. With the last major research on this topic undertaken more than a decade ago (Glover et al., 2007; Reynolds & Smith, 2012), a review of the existing literature is timely. Today, Māori experience infertility at similar rates to other ethnicities yet are less likely to seek fertility clinic treatment (Righarts et al., 2021). By reviewing some of the literature focused on and adjacent to Māori and assisted reproductive technologies (ARTs), we hope to bring a clearer understanding of the issues surrounding Māori infertility and access to ARTs, and to identify areas for further research.

We have deliberately prioritised Māori research in this review; however, there are instances where it has been helpful to include research from non-Māori authors. We draw primarily on literature from two major studies on the topic of Māori infertility and assisted reproduction. The first study, undertaken by Marewa Glover, Alvie McCree and Lorna Dyall (2007), asked Māori directly about their views on assisted reproduction, and remains a touchstone for information on this topic. It is a well-researched study, consisting of interviews with 15 key informants (people with expertise in Māori health policy, ethics or research, provision of Māori health or welfare services, provision of fertility services, and/or proficient in tikanga (custom/protocol) and mātauranga Māori (knowledge, understanding, skill)), as well as six

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hui/focus groups with different demographic targets: takatāpui (Māori with diverse genders, sexualities and sex characteristics), health workers, kaumātua (respected elders), consumers, rangatahi (young people) and men. The second major study, which culminated in the book *The gift of children: Māori and infertility* (Reynolds & Smith, 2012), explores Māori concepts, views and practices in relation to fertility and infertility. Involving interviews with 74 people, it covers topics such as whāngai,[1] family formation, Māori experiences of fertility clinics, and tāne Māori perspectives on infertility.

Since the studies cited above, little research has been undertaken by Māori directly about Māori perspectives on and experiences of ARTs and fertility treatment,[2] and so taking a Kaupapa Māori approach to this review has not been possible. Kaupapa Māori research is by, for and with Māori (Katoa Ltd., n.d.; Smith, 1999). It is grounded in principles that position Māori paradigms as the norm and Western paradigms as 'other', thereby normalising the use of te reo Māori (often without English translation), and explicitly promoting Māori well-being (Rangahau, n.d.). As Kaupapa Māori research is produced specifically for Māori, it is therefore more likely than other research to meet the unique needs of Māori. However, suppression of mātauranga Māori over many decades, particularly within the academy, means that many research spaces are ill-equipped to produce this knowledge. This has led to a lack of Kaupapa Māori research in many areas, including the field of ARTs, fertility and family formation studies.

In an effort to prioritise Māori voices, our initial selection criterion for the literature search was that we would only include Māori authors. However, we soon realised we would need to expand our search to include non-Māori authors for two reasons: first, it is not always possible to know if an author is Māori; and second, our initial inclusion criterion meant that there were gaps in the literature that could be filled by non-Māori-led research (for example, see Righarts et al., 2021). Due to the lack of Kaupapa Māori research directly on this topic, it has been useful and necessary to cast a wider net in the literature search stage of the review. We have included research on related topics such as Māori perspectives on reproduction (Le Grice & Braun, 2016) and the determinants of Māori health (Reid et al., 2014, 2017, 2019), because these help to contextualise Māori perspectives on ARTs within the wider discourses of Māori health and family formation. This wider discourse recognises the importance of a holistic approach to Māori research. We have also included some non-academic sources (for example, parliamentary speeches and newspaper articles) in recognition that perspectives outside of academia also form knowledge production. The rationale here is that Kaupapa Māori research recognises the legitimacy of mātauranga Māori and does not specify that this needs to come from within the academy, where it has been marginalised.

The literature outlined above was located by searching various combinations of the following keywords in Google Scholar and Te Waharoa: 'Māori perspectives', 'assisted reproduction', 'assisted reproductive technologies', 'assisted human reproduction', 'infertility' and 'fertility'. These searches, conducted over several months in 2021, yielded a vast number of results and a broad inclusion/exclusion strategy was applied to select relevant literature. The authors began by including literature written by Māori directly on the topic of Māori perspectives on ARTs, and then branched out to related topics, non-Māori authors and non-academic literature. The overriding inclusion criterion was that the literature needed to focus on Māori perspectives and/or experiences. Many of the results yielded in the searches were excluded because they only made passing reference to Māori.

[1] Whāngai is popularly understood as a culturally informed practice, similar to adoption, in which a child is raised by people (usually close relatives) other than their biological parents (McRae & Nikora, 2006).
[2] The authors understand that new projects may be underway.

## Māori and infertility

The available research indicates that infertility affects one in five couples in Aotearoa New Zealand (Goodman et al., 2020). These figures refer to medical infertility, which is commonly defined as the incapacity "to achieve a pregnancy after 12 months or more of regular unprotected sexual intercourse" (WHO, n.d.). As Māori are an ageing population and given the strong correlation between age and fertility outcomes, it is expected that medical infertility may become a more significant issue for Māori in the future (Cormack, 2012). However, a recent study by Righarts et al. (2021) suggests that age-related infertility, in which childbearing is voluntarily or involuntarily delayed, is less of an issue for Māori than for other ethnic groups and that other factors are likely causes. It has been noted, for example, that Māori are disproportionately represented in demographic and health factors that contribute to infertility, such as smoking, 'obesity', and sexually transmitted infections like *Chlamydia trachomatis* (Cormack, 2012; Institute of Environmental Research, 2019; Righarts et al., 2021). This combination of factors, while evidence-based, must not be assumed as the primary determinant of infertility. Deficit health statistics for Māori should always be presented in the context of colonisation (that is, linked to race-based discrimination, structural inequality and acts of violence) because the solutions to such health issues often lie with how Māori are treated by institutions rather than in trying to change Māori behaviour. As Reid and her colleagues warn:

> If Māori data are different, do not assume that the 'difference' lies within Māori (bodies, culture or behaviours). This tendency to 'victim-blame' peoples is called 'deficit theorising' and shows superficial knowledge of the determinants of health and health inequities. (Reid et al., 2017, p. 100)

The impact that colonisation and intergenerational trauma has had on the determinants of Māori health is well documented (Paradies, 2016; Reid et. al., 2014, 2019). In short, inequitable fertility outcomes for Māori can be linked to a range of factors such as poor access to primary healthcare, health morbidities associated with low socio-economic status, lack of cultural familiarity with fertility service provision, and historical reasons that preclude the disclosure of sexual and reproductive health concerns.

## Māori perspectives on having children and family formation

Unique Māori perspectives on fertility, having children and family formation have significant bearing on how Māori conceptualise ARTs. For Māori, understandings of whānau include co-operative action and obligations between kin broadly speaking (Durie-Hall & Metge, 1992). These understandings, which permeate the whole of cultural and spiritual life, are linked to whakapapa (genealogical lineage). Literally meaning to "to place in layers" (Metge, 1995, p. 48), whakapapa refers to the basis for relationships in whānau with hapū and iwi, linking past generations to the present and the future. As Joseph Te Rito (2007) observes, whakapapa provides an important foundation for Māori social identity and is strongly linked to turangawaewae (rights of residence and belonging through kinship and whakapapa). Given the importance of whakapapa, Māori tend to approach reproduction holistically and collectively. A Māori approach to reproduction is influenced by mātauranga Māori as well as social structures of whānau, hapū and iwi. As such, researchers call for mātauranga Māori to be incorporated into theorisation and policy relating to Māori reproductive experiences (Le Grice & Braun, 2016; Simmonds, 2017).

Māori hold a positive view of fertility and reproduction, and tamariki Māori (children) are seen as taonga (treasures). Despite the prevalence of deficit perspectives on Māori parenting (Ware et al., 2017), the important place that children hold—and have always held—in te ao Māori (the Māori world view) is evident both in mātauranga Māori as well as the observations made by early European settlers. Citing oriori (lullabies), Kuni Jenkins and Helen Harte (2011) portray the high esteem in which children were held in Māori society pre-colonisation. Similarly, in an article rejecting the myth of inherent violence in Māori men,

Anne Salmond (2016) draws on historical accounts from European settlers of the respect and love held for young children. Salmond provides two quotations, the first from Joel Polac (a trader) and the second from missionary Richard Taylor:

> It is not uncommon to see young children of tender years, sitting next to their parents in the councils, apparently listening with the greatest attention... They ask questions, [and the chiefs] answer them with an air of respect, as if they were a corresponding age to themselves. (Salmond, 2016, para. 8)

> One of the finest traits I have noticed in the New Zealanders is that of parental love; the men appear chiefly to nurse their children and are generally to be seen with one on their back covered up under their mats, the little things appear likewise sensible of their fathers' love for they seem principally to cling to them. (Salmond, 2016, para. 7).

Salmond (2016) notes that these European observers had an air of surprise at the role children played in Māori society, pointing out that in Europe "the violent chastisement of women and children was commonplace" (para. 10).

Integral to this respect for children is the central role that whakapapa plays in connecting all things in te ao Māori. Children are not only seen as the manifestation of their ancestors, but also as the seeds of the future generations (Jenkins & Harte, 2011; Le Grice & Braun, 2016). For Māori, fertility and reproduction are associated with the passing on and succession of whakapapa to ensure survival of Māori as a unique people (Glover et al., 2007). Knowing one's whakapapa holds important political, social and economic significance, including rights to Treaty settlements and Māori land (Dyall, 1999; Glover et al., 2007; Glover & Rousseau, 2007). High fertility also serves the social function of providing practical support to an ageing population. Colonisation has put Māori survival at risk, and consequently, high fertility has become an important aspect of Māori cultural identity (Glover et al., 2007). Unsurprisingly, therefore, fertility, reproduction and the raising of children concerns not just the parents but the whānau and hapū, too (Glover, McCree, & Dyall, 2007; Smith, 2012).

The positive view of fertility held by Māori is contrasted to the negative way it is perceived and presented in colonial settings, such as parliament, in medical and public health research (Breheny & Stephens, 2009), and in the health sector. Jade Le Grice and Virginia Braun (2016) comment on how Māori are frequently portrayed in dominant discourse as "sexually promiscuous and incapable of taking responsibility in reproductive decision-making or mothering" (p. 152). In two separate parliamentary speeches, Tariana Turia and Te Ururoa Flavell—both members of the Māori Party—critiqued the government's failure to address Māori infertility due to a disproportionate focus on Māori teenage pregnancies (Flavell, 2009; Glover et al., 2007). Indeed, Felicity Ware, Mary Breheny and Margaret Foster (2017) suggest that the government disapproval of Māori teenage pregnancies is linked to a perceived risk of welfare dependency. However, because fertility is so closely tied to identity for Māori, teenage pregnancies are not viewed by Māori with the same level of disapproval as they are in Pākehā society (Glover et al., 2007). The portrayal of Māori as hyper-fertile, whether this is positively or negatively connotated, is attributed as one of the reasons for the lack of research into Māori infertility (Glover et al., 2007). The paradox of infertility among 'high-fertility' cultures, as Frank van Balen and Marcia Inhorn (2002) observe of many infertile people's suffering in non-Western contexts, means that the plight of Māori experiencing fertility issues goes unrecognised in population health and policy-making discourses.

## Māori attitudes and responses to infertility

Despite the importance of fertility and child-rearing, Glover et al. (2007) found in their study that, traditionally, Māori did not seem to have a negative attitude towards infertility. Participants in this study talked about the concept "whare Ngaro" (a whakapapa line that had ended) and the term "kāore he hua" (to bear no fruit), noting that these terms were "used in a very respectful way rather than in a derogatory way" (Glover et al., 2007, p. 24). That is not to say, however, that infertility was not lamented—the whakataukī "kāhore he uri, he tangi" at the beginning of this review indicates the grief that infertility brings. Participants also said that because concepts of whānau extend beyond a nuclear family model, there was a role for everyone in raising children, whether or not the children were your own. Indeed, Māori women who cannot, or choose not to, have their own children often take on prominent caring roles. Interestingly, both tāne Māori and wāhine Maōri who have experiences of infertility today often report feeling whakamā (shame, embarrassment) (Glover et al., 2007; Reynolds, 2012). While this may be influenced by the colonial Christian ideal of 'having one's own family', it has also been linked to the value placed on fertility by Māori (Glover et al., 2007).

As noted earlier, the assumption that Māori are 'naturally' fertile, will have children young, or will have big families, may contribute to the lack of awareness of Māori experiences of infertility. Glover et al. (2007) attribute a general lack of awareness among Māori to the dearth of research into the causes of Māori infertility, and a lack of information being disseminated on fertility issues and assisted reproduction in Māori communities. Furthermore, they note that even when people are aware of infertility, there is little accessible or culturally appropriate information available in dominant fora on how to address it.

Māori responses to infertility are contextualised within tikanga and mātauranga Māori. Some of the traditional responses include rongoa (traditional medicine), mirimiri (massage), seeing a tohunga (skilled person, healer), consuming certain foods, and wearing hei tiki (carved, human-shaped pendant work around the neck) (Glover et al., 2007; Flavell, 2009). The practice of puna rua was another solution to infertility, whereby an infertile partner would step aside, allowing another to have sexual relations with the fertile partner. It was understood that this was a practical response to infertility and had no bearing on the commitment of the original couple (Glover et al., 2008).

The most cited solution to infertility, however, is the practice of whāngai, which literally means to 'feed' or 'nourish'. The practice of whāngai, in which children are gifted by—and in some cases, taken from—the birth parents to another couple or person to raise, has been noted as a common response to infertility that continues to this day (Glover et al., 2007; Smith, 2012). Of course, with the increasing availability of ARTs, there is now a range of other potential solutions to infertility that Māori might choose, although whāngai remains a culturally preferred form of family building for some Māori.

## Māori attitudes to ARTs

Perhaps unsurprisingly, Māori perspectives on ARTs vary from person to person. While some participants in the Glover et al. (2007) study expressed reservations based on religious and spiritual views, or attitudes that preferred 'natural' conception over ARTs, these were the minority. Other participants pointed out that Māori have a history of embracing new technology and ARTs were no different. Takatāpui and rangatahi participants said it was vital that Māori access ARTs to ensure the survival of Māori identity:

> If a technology is available and it's going to help Māori continue to maintain a reasonable level of identity for itself, and fulfill all those things round keeping the communities together, making robust whakapapa, I don't think it's any different than it was sort of a hundred years ago... the concept is the same, the process for achieving it is slightly different. (Glover et al., 2007, p. 60)

Interestingly, Reynolds (2012) found that tāne Māori who experienced infertility would still prefer to "have their own children" rather than use ARTs. Pihama (2012) similarly said that accessing fertility clinics was a last resort for Māori who had tried for some time to conceive a child and that it challenged assumptions about the 'naturalness' of having a child. For example, one participant perceived IVF as potentially jeopardising the whakapapa and mauri (life force/vital essence) of the baby:

> It's not the way it's meant to be. I'd always envisaged that you have a family more naturally than this process, and that the family has a whakapapa, and that whakapapa is kept intact in all the senses around it. That the baby process doesn't get taken away from you and [put] in control of a third or fourth party—tampering. (Pihama, 2012, p. 210)

This participant said that IVF "felt un-Māori" but was eventually able to navigate the process using karakia (traditional prayer) as a cultural aid (Pihama, 2012, p. 210).

Some participants in Glover et al.'s (2007) study regarded ARTs as a right while others did not. Just over half the participants referred to rights when they talked about accessing ARTs. For some this was connected to the right to create a family (as set out in the Universal Declaration of Human Rights 1948 (United Nations, n.d.)), others talked about the right to equitable access to medical treatment, and some insisted that accessing ARTs was a Treaty right. Recounting an interview with a participant, Glover and colleagues write:

> As she explained, a Māori 'need' for AHR [assisted human reproduction] arises from a breach of those rights. That is, the Crown has failed to provide the protection assured in the Treaty and breaches of the Treaty have undermined Māori women's capacity to protect their fertility. For instance, breaches of the Treaty have led to "the imposition of all the things that give us the risk factors: the chlamydia… the low socio-economic, educational failure, low self-esteem, being caught, being labelled… having so many relationships… and long abuse, intergenerational abuse… and that leads to the needs." The 'needs' have come about "through an abuse of our rights as an indigenous [people], as tāngata whenua". (Glover et al., 2007, p. 53)

However, other participants problematised the rights-based argument. One participant wondered "how far down the track of intervention" fertility remained a human right (Glover et al., 2007 p. 53). Another argued that the right to "have your own children" perpetuated the idea that infertility was "strange" and was "a Western argument, rather than a Māori culturally based argument" (Glover et al., 2007, p. 53).

The guidance of tikanga in all things, including ARTs, is a central concern for Māori. Hirini Mead (2003) addressed this issue, suggesting that the development of tikanga informing practices such as in vitro fertilisation (IVF) and surrogacy should address issues such as the potential breach of tapu (sacredness), disruption of mauri, and determining if there is an historical precedent. Glover et al. (2007) found that participants in their study were concerned about the tikanga of ARTs. Some saw the need to develop tikanga while others argued that whāngai was similar enough to surrogacy (in terms of birthing or relinquishing a child for another person) and that the same tikanga could be followed for both practices. Le Grice and Braun (2017) argue that adapting contemporary fertility practices so that they are in line with existing tikanga enables Māori to contextualise these practices in relation to mātauranga Māori; this, they argue, makes the practices more meaningful to Māori.

Potentially the biggest concern for Māori in terms of the use of ARTs is the assurance that offspring will have access to their whakapapa. Whakapapa has implications beyond knowing where one is from: for Māori, it can also determine access to economic resources such as land and the benefits of Treaty settlements (Dyall, 1999; Glover et al., 2007; Glover & Rousseau 2007). The protection of whakapapa is of central concern particularly to those who recall the harm that the policy of closed adoption caused Māori

children (Glover et al., 2007; Smith, 2012). Interviews from both the Glover et al. (2007) and Reynolds and Smith (2012) studies with Māori participants talk about the care they put into considerations of the child's whakapapa. Takatāpui, for example, talked about the deep consideration that is taken when selecting sperm donors and birth mothers. Whakapapa, connection to whānau, and which names go on the birth certificate are all things that feature in decision making (Reynolds, 2012).

ARTs (including whāngai) are used by takatāpui who cannot have children 'naturally' (Glover et al., 2007; Glover et al., 2009; Smith, 2012). While takatāpui attitudes towards ARTs are similar to those of cisgender and heterosexual Māori, takatāpui may have different reasons for using ARTs and face different challenges. For example, takatāpui who use ARTs may not be medically infertile, a term commonly used to refer to people who are biologically unable to conceive or carry a pregnancy to term, as noted above; rather, their choice to use ARTs may be driven by the fact that they cannot have children naturally with same-sex sexual partners. Participants in Glover's research referred to this as 'social infertility' and noted that this affects the way takatāpui interact with fertility treatment services (Glover et al. 2007, p. 303).[3] A key concern for these participants is the prevalence of cis- and heteronormativity in clinic settings and the question of cultural competence when interacting with clinic staff. A takatāpui participant noted that even though they were fertile, it was not explained to them why they still had to go through the same series of invasive tests as people experiencing medical infertility, in order to access treatment. They commented:

> I never had a concept of myself as being infertile. I wasn't going there because I was infertile... and yet I had to go through the same hoops... a laparoscopy, for example, which is an exploratory operation, and I was like there's nothing wrong with me, I don't need it. (Glover et al., 2009, p. 303)

## Legislation and Ethics concerning Māori

Given the centrality of fertility to Māori identity, the rising concern of infertility, and the need to ensure a tikanga-informed practice, Māori are determined to be a part of developing policy around ARTs. As early as 1999, Dyall noted that in submissions to the then Ministerial Committee on Assisted Reproductive Technologies (MCART), Māori emphasised that any development should be informed by Te Tiriti o Waitangi and that Māori needed to be given time to discuss the important issues that might arise from any legislation (Dyall, 1999). In a speech at Parliament, Te Ururoa Flavell said:

> Such vital issues of survival should not be left to the realms of an ethics committee to decide… tikanga must be applied at all stages, from the decision to enter into the process of fertility treatment to the completion and return of āhua kahukahu, the unripened seed. Throughout these stages, Māori partnership in decisions and actions must be paramount. It is about investing in the cultural integrity of whakapapa and protecting knowledge and identity. (Flavell, 2009, para. 12)

Engagement with Māori about family formation and the importance of whakapapa and cultural identity has had a positive impact on legislation and ethics frameworks in relation to ARTs. For example, it has been noted that Māori concepts of whānau and guardianship played a major part in shaping the approach to new family formation (as opposed to the previous Eurocentric idea of the nuclear family) in the Human Assisted Reproductive Technology Act 2004 (HART Act) by emphasising the importance of information sharing and knowledge about genetic origins (Legge et al., 2007). The significance of whakapapa in te ao Māori has also influenced legislation—it is now a legal requirement that the donors of gametes are able to be identified by children born via ARTs (HART Act 2004). The Ethics Committee on Assisted Reproductive

[3] Social infertility is "an outcome of life chances and circumstance" (Shaw, 2011, p. 1).

Technology (ECART) also takes care to ensure cultural competency is upheld when deciding the outcome of applications for IVF. In a recent ECART application regarding a Māori couple wanting to donate embryos to their non-Māori friend, there was concern that any resulting children must have access to their Māori heritage (Eriksen, 2021). The decision to allow the donation was upheld on the basis that the mother take actions to show that she understood "what it means to raise a child that is Māori" (Eriksen, 2021). And in 2021, Māori consultation and input were extensively sought for the Issues Paper, Te Kōpū Whāngai: He Arotake / Review of Surrogacy, by Te Aka Matua o te Ture / Law Commission.

## Barriers to access to ARTS for Māori

Despite having influenced legislation and ethics procedures, Māori still face many barriers in accessing ARTs. Several studies show that while Māori infertility rates are similar to non-Māori, Māori are less likely—or less able—to access fertility treatment (Anderson et al., 2012; Cormack, 2012; Glover et al., 2007; Righarts et. al, 2021). While there is a general lack of information about Māori accessing and using ARTs, Māori researchers have identified some of the barriers that may be preventing Māori from accessing fertility treatment and affecting Māori fertility outcomes.

It is frequently noted that the cost of accessing ARTs is a significant barrier for many people. More than half the participants in Glover et al.'s (2007) study believed that cost would be a barrier to Māori accessing fertility treatment. They said that this was a particular concern as Māori are overrepresented in low socio-economic income brackets and there was little economic support from government or iwi. Notably, cost was cited as a barrier to Māori even entering a fertility clinic:

> Some people wouldn't even walk into that place because it's quite intimidating. It's foreign, but it's the money thing. If you don't know whether it's even gonna cost anything or not, who's gonna walk into a place like that to ask. (participant quoted in Pihama, 2012, pp. 224–225)

For those who did access fertility clinics, not knowing if a procedure or a meeting would cost anything (due to a lack of information beforehand) made the experience stressful. While public funding is available for some ARTs services, the eligibility criteria is a particular barrier to Māori. Glover et al. (2007) point out that exclusionary criteria, such as being a non-smoker and meeting a body mass index (BMI; $kg/m^2$) between 18 and 32 disproportionately affect Māori. The BMI criterion has been publicly criticised as structurally racist, since BMI (which is based on the body type of European males) is not a proven indicator of Māori health or their ability to carry a pregnancy to term (Williams, 2020).

Another barrier to Māori accessing fertility treatment is the sense of whakamā around infertility and the procedures required to address it. Tāne Māori, in particular, are hindered from accessing fertility treatment because they often do not want to acknowledge or talk about their infertility with partners, family or health professionals (Glover et.al., 2007, Reynolds, 2012). Māori experience whakamā at fertility clinics when they do not feel proper care is taken with their bodies or they feel exposed when various practices are not sufficiently discreet (Glover et. al, 2007; Reynolds, 2012). For example, in the Reynolds (2012, p. 311) study, tāne Māori reported feeling embarrassed or "icky" when having to produce sperm samples at a fertility clinic in a room right next to the waiting room. A sense of connection with specialists is essential for Māori when dealing with such important and personal issues as infertility. Participants in the Glover study had negative experiences of fertility clinics, saying they were too clinical and not enough support was provided for Māori. For instance, one interviewee remarked: "I didn't like the environment and [the] specialist didn't have a nice āhua about him. He looked at the notes and hardly looked up to talk to you" (Pihama, 2012, pp. 223–224).

There was concern and a sense of disappointment that there were no clinics run by Māori for Māori and very little awareness raising information targeting Māori specifically (Glover et al., 2007). Some of these concerns remain in 2022. Aotearoa's three fertility providers (Fertility Associates, Fertility Plus and Repromed) each reference commitment to Māori cultural and traditional practices, while two clinics include a link to a te reo Māori page on their websites. However, while several clinics employ doctors who speak Mandarin and Hindi, only Repromed employs a Māori fertility counsellor and Fertility Associates, which has 22 clinics across Aotearoa, is the only provider to employ a Māori fertility specialist.

Despite being identified as the most likely group amongst Māori to seek assisted reproduction and fertility treatment services (Reynolds, 2012), takatāpui face unique barriers when it comes to accessing ART. While discrimination based on sexual orientation is prohibited under the Human Rights Act (1993), the idea that fertility clinic professionals or donors may refuse access to gay or lesbian individuals or couples still affects takatāpui confidence accepting fertility provider services as a family-building option. For example, it is known that New Zealand's largest fertility clinic had, in the past, refused sperm donations from gay men and that some donors requested for their gametes to be given to heterosexual couples only (Glover et al., 2009). Clinic-recruited donors can still specify who receives their gametes, although fertility clinics encourage them to be inclusive. Takatāpui had also experienced homophobia from whānau who would not consider them as parents for tamariki whāngai (Glover et al., 2009). This is not consistent with mātauranga Māori around child-rearing, however, as traditionally takatāpui often filled nurturing roles in whānau or were seen as second mothers (Reynolds, 2012).

## Concluding reflection

After reviewing the available literature, we identify a need for further research, better policy and greater access to information around Māori and ARTs. While there exists a wealth of information in the studies by Glover, Reynolds, Smith and colleagues, these findings are under-utilised. For example, while the initial research into Māori attitudes regarding ARTs has illuminated where some of the barriers to access and uptake lie, inequitable access to ARTs by Māori remains an issue more than a decade later. Māori tend to have a positive attitude to fertility and the use of ARTs, yet there are many issues that continue to compromise fertility outcomes for Māori, particularly in relation to assisted reproduction. Equitable access is not the only concern, although it is important. More effort needs to go into ensuring good processes—whether that be writing legislation and policy, revising criteria for publicly funded fertility treatment, setting up clinics, or ensuring the cultural competency of staff—that involve Māori at every step of decision-making and practice.

Though conversation and public debate around ARTs does not keep a pace with research and innovation, there needs to be space to develop tikanga relating to ARTs so that they are appropriate and safe for Māori to access and utilise. Furthermore, increased effort needs to go into producing and disseminating awareness-raising information about ARTs that is culturally accessible and appropriate. Further research could investigate the question of whether fertility clinics are the most appropriate place for Māori to receive fertility treatment. The recent introduction of an independent Māori Health Authority indicates a shift away from a standardised approach to health—one that has largely failed Māori—towards a health system that better reflects Treaty partnership. Māori fertility outcomes need to come under the umbrella of the Māori Health Authority so that those who experience infertility (whether medical or social) can access treatment informed by Māori, for Māori.

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