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"It really puts women in charge of what they're seeking": Wāhine Māori experiences of using online technologies in pregnancy

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Abstract

Online technologies, including social media, mobile applications, portals and communication technologies are part of everyday life. Women are using different online technologies in order to inform themselves, keep track of and monitor their health, connect with friends, whānau (family) and health professionals, and to be part of the online world. The current reality for Māori today is that even after decades of research, policies and improvements, disparities in health care continue to be experienced, resulting in inequitable health outcomes. The COVID-19 pandemic forced health providers to use telehealth and other online technologies to keep people updated and provide health services. Continuing to integrate telehealth and technologies into post COVID-19 service delivery could enhance maternity care.

The aim of this research is to explore wāhine Māori (Māori women) experiences with online technologies during pregnancy and their potential to support maternity care engagement and provision. 10 wāhine, six mama (mothers) and four Māori midwives, shared their experiences and thoughts through semi-structured interviews and one focus group. Reflexive thematic analysis was used to analyse their kōrero (discussion). The findings show online technologies are able to provide avenues for support and connection. Tikanga (customary values and practices) such as whakawhanaungatanga (establishing relationships) and tino ranatiratanga (self-determination) could be enacted through online channels enabling, increased opportunities for whānau involvement and empowerment in decision-making. Wāhine were able to connect with mātauranga Māori (Māori knowledge) pertaining to traditional birthing practices and Māori maternities online, by following Māori social media influencers and being part of online communities.

This research illustrates the potential for online technologies to be integrated alongside kanohi ki te kanohi (face to face) maternity services, to support the provision of culturally responsive, equitable maternity care. The online environment provides multiple avenues in which wāhine can engage and interact to support the development of a secure cultural identity and to establish and maintain relationships that are vital for holistic health and wellbeing. It also further demonstrates the drive and desire hapū māmā (pregnant mothers) have to engage with maternity care information and services, if it is delivered in a way that is relatable, culturally enhancing and whānau-led.

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Glossary

This glossary provides a list of kupu Māori (Māori words) used throughout this thesis. In an effort to support normalising te reo Māori as an official language of Aotearoa, common every day kupu can be referred to here if needed. Concepts and other kupu will be translated in brackets on the first use and thereafter without translation. Translations are not definitive, as definitions may vary between iwi and in different contexts.

Aotearoa	Land of the long white cloud, New Zealand
Aroha ki te tāngata	Respect for people
Hapū	To be pregnant, subtribe
Hapūtanga	Pregnancy
Hapū Wānanga	Māori antenatal classes
Hauora	Health and wellbeing, spirit of life
Haurua	Double-hulled canoe
Hihi	Sun ray
Hinengaro	Mind, psychological
Iwi	Tribe, bones, strength
Ipu whenua	Purpose–made vessel to hold the placenta for burial
Kaimanaaki	Support person
Kainga	Home, village
Kaitiakitanga	Guardianship
Kanohi kitea, he	A seen face
Kanohi ki te kanohi	Face to face
Kaumātua	Elder
Kaupapa	Subject or topic
Kaupapa Māori	Māori approach
Kapa haka	Cultural performance
Karakia	Prayer
Kōrero	Discussion, talk, conversation
Kōrero tuku iho	Stories from the past
Kōhanga reo	Māori language preschool
Kupu Māori	Māori word
Mahi	Work

Māmā	Mother
Māmā hou	New mother
Mana	Prestige,
Manaakitanga	Hospitality
Manaaki ki te tāngata	Share and host people, be generous
Māori	Indigenous New Zealander
Māoritanga	Māori way of life, culture, and traditions
Marae	Ceremonial courtyard, but also commonly used to include the buildings around the marae
Māra kai	to garden, vegetable garden
Maramataka	Māori lunar calendar
Mātauranga	Knowledge
Mauri	Spark of life, life force, vital essence
Mihimihi	Greeting
Muka	Prepared flax fibre used to tie off umbilical cord
Ori ori	Lullaby
Oritetanga	Equal opportunity, Equity
Pākehā	New Zealander of European descent
Pēpi	Infant, baby
Pēpi ora	Infant wellness
Pūrākau	ancient legend, story
Rangatahi	Youth
Raranga	To weave, weaving
Ritenga Māori	Māori customary rituals
Rongoā	Māori traditional medicine, treatment
Taha	Side
Taiao	Natural world, environment
Tamariki	Children
Tāngata whenua	Māori people
Taonga	Treasures
Taonga pūoro	Musical instrument
Tauiwi	Non-Māori
Te ao Māori	The Māori world

Te reo Māori	The Māori language
Te Tiriti o Waitangi	The Māori text of the Treaty of Waitangi
Te whare tāngata	Womb
Tikanga	Customary values and practices
Tinana	Body, physical
Tino rangatiratanga	Self-determination, autonomy, sovereignty
Tohi	Dedication ritual or rite
Tuku Iho	A bilingual app that shares intergenerational knowledge in maternal and child wellbeing
Tupuna	Grandparents, ancestors
Uri	Descendants
Wahakura	Woven flax bassinet for infants
Wahine/Wāhine	Woman/women
Wāhine hapū	Pregnant women
Wāhine Māori	Māori women
Wairua	spirit of a person which exists beyond death, spiritual
Wānanga	To meet and discuss, forum
Whakapapa	Genealogy, lineage
Whānau	Family, extended family, to be born
Whanaunga	Relative
Whanaungatanga	Relationship, sense of family connection
Whakawhanaungatanga	The process of establishing relationships, relating well to others
Wharenui	Big house, main building of a marae
Whenua	Land, placenta
Whānau	Family
Whiro	Moon on the first night of the lunar month
Waiata	Song, to sing
Wero	Challenge

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Chapter One: Introduction

This research explores wāhine Māori experiences of using online technologies during pregnancy and considers the potential for these technologies to support and improve engagement and access to maternity care services and social support networks. 'Online technologies' has been used as a term to encompass social media, social networking sites, communication technologies, websites, portals, mobile applications (apps) and other digital or virtual technologies accessed over the Internet. The terms 'online', 'digital' and 'virtual' are often used synonymously however 'online' reflected the language most commonly used by the participants and researcher throughout this research. My original proposal was to explore experiences with social media as these platforms have changed the way people communicate, access information and experience life. However, the focus was changed to reflect the growing reliance on all online technologies to fully engage and participate in everyday life, as a result of the COVID-19 pandemic, at the time of the research. The online environment became a crucial part of everyday life during the COVID-19 pandemic. It provided a readily accessible way of staying up to date with the frequent changes to COVID-19 restrictions and guidelines, current events and topical issues. There was also an increased reliance on online technologies for communication, socialising, education and accessing health and other services.

Motherhood and pregnancy is a time of significant change for women, physically, psychologically, socially and spiritually. The first 1000 days of a child's life, from conception up until 2 years of age, are highlighted as a crucial time to ensure every child has the best possible start to life and provide a foundation for lifelong health and wellbeing (Te Hiringa Hauora, 2018). It is well recognised that maternal health and wellbeing and experiences during the antenatal period, including labour and birth, can have significant effects on babies in utero and during the early postnatal period (Barnes et al., 2013; HQSC, 2019). Maternity care, including clinical care and social support services, is consequently an area of the health care system that can have a lifelong influence on health and wellbeing outcomes for māmā and pēpi (Barnes et al., 2013; Edmonds et al., 2022). Therefore it is important that women are able to access the services and support they need to ensure the best health outcomes for themselves and their pēpi.

Unfortunately in Aotearoa New Zealand, Māori continue to experience significant health inequities across most health conditions (Health Quality & Safety Commission (HQSC), 2019) including maternal health inequities. The most recent Perinatal and Maternal Morbidity annual report emphasises the persistent, unacceptable and inequitable outcomes that the health system continues to perpetuate. Wāhine Māori, along with women from Pacific and Indian populations, those under 20 years of age, and those living in high deprivation areas are continuing to experience worse perinatal outcomes and maternal mortality than New Zealand European women (HQSC, 2022). Māori health models and frameworks continue to be developed, implemented and utilised in order to provide more culturally responsive and safe services, however systems changes are also needed across all levels, to address racism and discrimination that is embedded and pervasive in the health system today (Graham & Masters-Awatere, 2022; HQ&SC, 2022; Talamaivao et al., 2020; Thayer et al., 2019; Salek et al., 2020).

Graham and Masters (2022) conducted a review of 20 years of research into Māori experiences of the public health system which found that Māori patients and their whānau continue to encounter hostility and cultural alienation. Discriminatory practices, inadequate and inappropriate relational connections with staff and practical barriers all contribute towards creating a negative, culturally unsafe environment that perpetuates negative stereotypes, and deficit narratives. Practical barriers included financial costs, transportation and logistical challenges in relation to managing childcare, work, and other commitments. This review emphasises the pervasiveness of the issues faced by Māori, when engaging in mainstream services, and the need to create positive, culturally appropriate, equitable services and interventions. To further meet the needs of whānau these need to be consistent and delivered by culturally safe and respectful health professionals.

The health system and health consumers now utilise and rely on the online environment, to access services, find information, communicate and support their navigation through the system. Online technologies like websites, software programs and online portals have made engaging with health and maternity care providers easier, more convenient and efficient. The COVID-19 pandemic changed the way society functioned, services were forced to rely on online technologies to ensure they could provide services to their communities (Gurney et al., 2021). During times of restriction maternity care services like other health services quickly

had to rely on online technologies, like social media to keep wāhine hapū (pregnant women) informed and updated. The COVID-19 pandemic provided an opportunity to showcase the benefits of telehealth in particular as an option for service delivery (Westwood, 2021). In a review of studies on the use of telehealth or technology enabled health during the 2020 lockdown, Westwood (2021) found that telehealth was able to provide effective and appropriate maternity care. Other benefits included increased compliance and patient satisfaction and the ability to remove some barriers to access; such as the need to take time off for work or other commitments, organise childcare, travel and parking. Continuing to integrate telehealth into post COVID-19 service delivery could enhance maternity care and service utilisation. It has the potential to improve access to maternity care services, bridge cultural gaps and create a culture of patient-led care, according to Westwood (2021). If utilised with an equity lens, telehealth can be a useful tool in enabling and ensuring equitable maternity care outcomes for wāhine, their pēpi and whānau (Gurney et al., 2021).

When applying an equity lens it is important to consider digital inclusion and digital poverty, to ensure inequities are not exacerbated by technical barriers like internet or data connectivity, device availability and digital literacy (Gurney et al., 2021; Department of Internal Affairs (DIA), 2020). While smartphone ownership in New Zealand is estimated to be 92% in 2022 (Statista Research Department, 2022), there is a digital divide in Aotearoa. With Māori, Pacific peoples, disabled individuals and older members of society among those less likely to have internet access (DIA, 2022). Fast speed internet access is not universal across the country. There are still rural areas with no or limited access. Public wifi hotspot areas, more often available in urban areas, are more common and are adequate for general online activity. However they may not always be appropriate for telehealth or health care activities (Westwood, 2021). Cost is still a barrier for some families when considering data plans and the need to have up to date devices (Gasteiger et al., 2019).

In addition to face to face and telehealth clinical appointments, wāhine hapū go online, to research health information and pregnancy related topics, and to share, empower and provide support and advice to other mothers (Oviatt & Reich, 2019). Social media in particular provides avenues to connect with other mothers with shared experiences in online communities (Heaperman & Andrews, 2020; Oviatt & Reich, 2019; Sherman & Greenfield,

2013) and is a key communication tool to connect and maintain relationships with whānau and friends to receive critical social support and advice.

It is also important to understand other potential challenges to online engagement. Most notably the overwhelming amount of information available at all times and on every possible topic. Also information on many websites can be unregulated, so there is potential for fast, wide spreading of misinformation (Moorhead, 2013), which can cause anxiety and stress (McCarthy et al., 2020). Cyber bullying, harassment and privacy concerns can also impact on mental health (Sciascia, 2016).

So with the rapid growth in online technologies and online services, there is a growing need to understand any issues associated with their use. Including the positive and negative implications of online activity and the impact this may have on relationships and service engagement and delivery. Understanding how these behaviours co-exist alongside face-to-face relationships and services is important in improving service delivery and ensuring it is culturally responsive, equitable, sustainable and pandemic resistant. The flexible nature of the online environment allows for the development of solutions that can meet the changing needs of wāhine (Westwood, 2021). This is essential to be able to best meet the needs, provide support and empower Māori māmā on their journey to motherhood in today's technological society.

This research offers an insight into the experiences of wāhine Māori navigating the online space during pregnancy. In particular how social media, portals, apps and other technologies are used to engage with maternity care services, find maternity care advice, connect with support systems and provide maternity care. The following research aims were developed:

1. To explore how, why and when wāhine Māori are engaging with online technologies during their hapūtanga/pregnancy.
2. To gain a deeper understanding of wāhine Māori engagement with these online sites and online communities and the impact it has on the level of engagement with maternity care services and their relationship with their Lead Maternity Carer (LMC)/midwife.

In order to understand the perspectives of both users and providers, the experiences of Māori māmā, and Māori midwives were captured and are presented. It is hoped that findings will be used to inform maternity care service providers of the needs and aspirations of Māori māmā when navigating the online space. In order to support the creation of positive spaces online that will meet the needs of māmā in New Zealand. This includes improving engagement and satisfaction in maternity care through technological enablement of pathways to care, improved access to quality, culturally appropriate information and services and empowering women to find or participate in positive social and cultural support networks online

Thesis Structure and Outline

This research takes a Kaupapa Māori approach, guided by phenomenological perspectives to highlight Māori voices, perspectives and experiences. In an effort to support normalising te reo Māori as an official language of Aotearoa, familiar every day kupu (words) can be referred to in the glossary, if needed. Māori concepts and less familiar kupu will be translated in brackets on the first use and thereafter without translation.

This thesis is made up of five chapters. Starting with this Introduction chapter, which has provided the rationale for the research. This is followed by the literature review in Chapter two, which outlines the current literature around the impact of colonisation on Māori health and Māori maternities, the current maternity care system in New Zealand and the need for equity focused, decolonising and Indigenising approaches. This includes a description of Māori health models and frameworks and the various online technologies in health and maternity care that are being utilised to support the facilitation of quality health and maternity care. Chapter three explains the Kaupapa Māori approach, principles and ethical considerations that guided the research, before detailing the research process including the thematic analysis process used to analyse the data collected from the kōrero with the wāhine. Findings are presented as six key themes in Chapter four. Finally chapter five provides a discussion of the findings in relation to the current literature, before concluding with a reflection of the research process and consideration of the limitations of the research and recommendations for future research and practice.

Chapter Two: Literature Review

The aim of this literature review is to firstly discuss key concepts within current literature that are relevant to wāhine Māori and maternity care in New Zealand. The ongoing impact of colonisation on Māori health is outlined before Māori health frameworks and models are described to reframe and reconceptualise health and health care. The impact of colonising strategies and historical acts, are then considered in terms of Māori maternal knowledge and practices. How institutional racism is perpetuated by the health system and interactions with health professionals provides context to the historical, social and cultural factors specific to inequitable health outcomes as they continue to be experienced by wāhine and their whānau today.

The next section explores the ways Māori are working to actively decolonise and Indigenise health practice and narratives. How Māori are utilising online technologies as tools for decolonisation across various kaupapa is discussed. Finally online technologies in maternity care are explored and consideration is given to the potential for online technologies to be used as tools to support the provision of culturally responsive, mana enhancing care and support.

Colonisation and Māori Health Equity

The current reality for Māori today is that even after decades of research, policies and improvements, disparities in health continue to be experienced. Not only in gaining access to health services, but also in the quality of services and treatment, with Māori more likely to receive sub-optimal or inadequate treatment (HQSC, 2019). Health and wellbeing services in Aotearoa fail to consistently provide equitable, racism free, culturally responsive, holistic care to meet the needs of Māori and other priority populations in Aotearoa (HQSC, 2021). This is evident in the health inequities still experienced by Māori across most health conditions, compared to non-Māori (HQSC, 2019), as mentioned in the introduction. When examining factors specific to the New Zealand context, Dawson et al. (2019) identified six interconnected factors that underpin maternal health equity. These included geographic access, colonialism, political context, maternity care system, acceptability and cultural factors. Emphasis was put on the interconnectedness of the factors, demonstrating the complex nature and cumulative effect that goes beyond what each factor can represent on its own. To address health inequities a shared understanding of equity is necessary. The Ministry of Health (MOH)

defines equity as, “In Aotearoa New Zealand people have differences in health that are not only avoidable but unfair and unjust. Equity recognises different people with different levels of advantage require different approaches and resources to get equitable health outcomes” (MOH, 2019).

The failure of the New Zealand health system to provide quality health care for Māori, is replicated across the education, justice, and economic sectors in Aotearoa. Highlighting the need to consider the wider determinants of health (Durie, 2011: MOH, 2018), and the accumulative effect of inequities experienced over the course of a lifetime in order to address inequity (HQSC, 2019). So to ensure equitable access to quality maternity care for wāhine Māori we need to first understand the factors which continue to impact on Māori accessing and receiving quality health care in New Zealand.

It is well recognised internationally that colonisation has had a devastating impact on the health outcomes of Indigenous peoples, with the effects still evident and continuing today (Durie, 2012; Hobbs et al., 2019; Reid et al., 2019; Selak et al., 2020). Colonisation is an ongoing process, not just a historical event that has created a ‘colonising environment’ (Reid et al., 2017). They describe how Māori experience intergenerational trauma as a result of colonisation and the compounding effect of cultural and land alienation. Combined with the ongoing exposure of living in a colonising environment dominated by colonial led systems, structures and institutions, Reid et al., (2017) state that:

> The wider legal, economic, political and educational institutional structures of the settler state cumulatively combined to create, perpetuate and disseminate a colonising environment that traumatised and continue to traumatise Māori by generating economic insecurity, denying access to justice, removing autonomy, and extending racism and denigrating culture. (p143 -144)

The compounding effects of colonisation, racism and discriminatory bias and practices evident across the wider determinants of health; education, income, employment and housing on inequitable health outcomes are highlighted by Graham and Masters- Awatere (2022). They described the intergenerational impact of discrimination and negative health experiences as a result of “collective memory of multiple decades of second rate treatment,

active discrimination and patronising interactions" (p.199). These layered experiences and the environment in which Māori live today, require a deeper understanding of historical, systemic and cultural issues (Hobbs et al., 2019). The complexity of factors that impact Māori, need to be considered to ensure equitable access to quality maternity care for wāhine Māori and whānau.

One of the most significant events in the history of Aotearoa was the signing of Te Tiriti o Waitangi in 1840. Te Tiriti o Waitangi (te Tiriti) is a foundational, constitutional agreement, articulating rights and responsibilities between Māori and the Crown (Berghan et al., 2017). Article two of te Tiriti, provides for tino rangatiratanga, often translated as self-determination, autonomy or sovereignty. This ensured Māori control and authority over their whenua (land), kainga (village) and taonga katoa (treasures). Hauora Māori (Māori Health) is considered a taonga and therefore is protected, with Māori also guaranteed the right to deliver their own health services (MOH, 2018). Article three provides for Oritetanga (equity), guaranteeing Māori the same rights and treatment. In essence this extends to equity in health or "enjoying the same levels of health and wellbeing as tauiwi (non-Māori)" (Berghan et al., 2017, p. 32). Also the fourth article or oral clause that has since been acknowledged as the Ritenga Māori (Māori customary rituals) declaration, provides for the protection of tikanga Māori (Māori customary practices) and mātauranga Māori (Māori knowledge) (MOH. 2020).

However, despite the guarantees of protection of Māori health provisioned for in the te Tiriti, it did not take long for breaches to occur. These breaches and deliberate colonising practices like assimilation strategies, and the active suppression of people and cultural practices through legislation and policies has resulted in the justice, legal, welfare, education and health care systems we have today. All of which have a contributing if not compounding impact on the inequitable health outcomes for Māori, as can be seen in the negative statistics across most measures of the social determinants of health. (Dawson et al., 2022)

Reconceptualising and Prioritising Māori Health

In Aotearoa, government funded health providers have an obligation to honour te Tiriti and ensure their services enable Māori to exercise tino rangatiratanga over their own health and wellbeing. Māori health strategies, action plans, models and frameworks, have been developed to reconceptualise and prioritise Māori Health. They are being used, within

mainstream New Zealand health services, to Indigenise and tailor services to better meet the needs of Māori. Providing practical tools and approaches to align health policies, procedures and initiatives to ensure service commitments to te Tiriti and to address Māori health inequities.

Māori Models of Health

Māori Health models in particular, facilitate a deeper understanding of what hauora means to Māori. Māori health models have been developed to demonstrate the different aspects that need to be nurtured, to ensure positive health and wellbeing and to enable whānau to flourish. In 1984 Mason Durie developed Te Whare Tapa Whā (Durie, 1998). This influential model is symbolic of a wharenui or a four-sided house, which emphasises Tinana (physical body), Hinengaro (mental wellbeing), Whānau (family connections) and Wairua, (spirituality) as key components that need to be attended to in order for the house to stand tall. He later added the foundation of whenua, emphasising the connection to the land and the environment as essential to health from a Māori and holistic worldview. Another seminal model is Rose Pere's Te Wheke, which uses the metaphor of an octopus (Love, 2004). This model highlights the importance of whānau, as the head, with the eyes symbolising Waiora (total wellbeing for the individual and whānau). The eight tentacles representing, Wairuatanga (spirituality), Mana ake (unique identity of individuals and family), Mauri (life force in people and objects), Whanaungatanga (extended family), Tinana (physical wellbeing), Hinengaro (the mind), Whatumanawa (the open and healthy expression of emotion), Hā a koro mā a kuia mā (breathe of life from forbearers). The tentacles and suckers also symbolise the interconnected and overlapping nature of the different dimensions. These two models emphasise the connectedness of the dimensions, and the need to actively work on or sustain all dimensions of health in order for the house to be solid or the octopus to thrive.

Te Whare Tapa Whā has also been used to develop frameworks to support clinical practice, health promotion and community development. The Meihana model (Pitama et al., 2007, Pitama et al., 2017) was developed as a Māori mental health practice framework, using the components of a waka hourua (double-hulled canoe) to symbolise the connection and importance of the relationship between the client and their whānau support networks. It incorporates the four components of Te Whare Tapa Wha and two additional components; Taiao (physical environment) and Ratonga hauora (access to quality health services). This

model acknowledges the environmental, cultural and social contexts that the client and their whānau are living in and have access to and the need to value the whānau as an equal part of the waka.

These three models identified whānau as a key component of health for Māori. Māori whānau includes multigenerational extended family networks and even connects into the wider community, further emphasising the collective nature of whānau Māori (Mead, 2016). Whānau can play a critical role in health care, not only providing emotional and practical support but also helping to navigate the health system itself. Graham and Masters-Awatere, (2020) found that for Māori navigating the public health system "having a trusted whānau member who can source and interpret information, as well as advocate for their needs, made a positive difference" (p. 198). Demonstrating the potential benefits of considering whānau as a unit and a move to whānau-centred care.

The Meihana model also extends on the symbolism of the waka hourua, identifying other influencing factors. It also includes colonisation, racism, migration and marginalisation as Ngā Hau e Whā (the four winds of Tawhirimatea) recognising the influence of historical and present-day societal contexts. Ngā Roma Moana (the ocean currents) are also included to highlight four components of Te Ao Māori that depending on the person may also play a role; āhua (personalised indicators), tikanga (Māori cultural principles), whānau (relationships, roles and responsibilities of the patient within Te Ao Māori, including whānau, hapū, iwi and other organisations) and whenua (specific genealogical or spiritual connection between client/whānau and the land). Considering all these components is important to enable a more complete picture of whānau circumstances to be considered as part of the assessment process (Pitama et al., 2007; Pitama et al., 2017).

The Meihana model also recognises that valuing the person as a cultural being, helps to facilitate engagement, build trust and a positive therapeutic relationship. This practice-focused framework requires that clinicians have a good understanding of cultural safety and that systemic processes are in place to support its full implementation (Pitama et al., 2007, Pitama et al., 2017).

Mason Durie (1999) later developed Te Pae Mahutonga (The Southern Cross) as a health promotion model using the star constellation to represent Mauriora (cultural identity), Toiora (healthy lifestyles), Te Oranga (participation in society) and Waiora (physical environment). They are guided by the two pointer starts Ngā Manukura (community leadership) and Te Mana Whakahaere (autonomy) emphasising the importance of leadership and control coming from the community at all times. When utilising this model communities can exercise tino rangatiratanga and prioritise goals and aspirations that are relevant to whānau and their community as a whole.

Another wellbeing model developed recently as a response to the need to extend cultural understandings of wellbeing concepts, is Whiti te Rā (McLachlan et al., 2021; Waitoki & McLachlan, 2022). It uses Tama-nui-te rā (the sun) as a symbol of Māuri ora (flourishing essence, or vitality) with the hihi (sun rays) representing six pathways to wellbeing or mauri ora. These being Ngā ara reo Māori (Pathways to Māori language), Ngā ara Taiao (Pathways to connection with the environment), Ngā ara wairua (Pathways to Māori spiritual beliefs and practices), Ngā ara mahi-a-toi (Pathways to Māori creative arts), Ngā ara take pū whānau (Pathways to Māori relational values) and Ngā ara whakapapa (Pathways to intergenerational relationships). In addition the hihi are divided down the middle to represent that wellbeing can increase through learning or engagement in activities, this is called Hono (engagement) and Mahuru (Comfort and knowledge). This model recognises that mauri ora and a secure cultural identity are key indicators of wellbeing for Māori. Mauri (essence of life) flows through all living things, individually and collectively, and "has connotations of internal balance and wellbeing, and connectivity between people and the natural elements" (McLachlan et al., 2021, p.79). These pathways to wellness or mauri ora support the development of a secure cultural identity.

Whiti te Rā encourages discussion and planning through the use of the five poutama (ascension lines) on the hihi, to represent a journey to wellness. Whānau can identify where they feel they are along each side of the hihi in terms of engagement, participation or comfort in each pathway, and consider how they could work to move forward to improve wellbeing (McLachlan et al., 2021). These poutama recognise that everyone is at a different stage in their wellbeing and cultural journey. As highlighted in the Meihana model considering the historical and present day social contexts and current levels of engagement in te ao Māori is

equally as important as the other dimensions (Pitama et al., 2017). Māori are not a homogenous group, they live in diverse social and cultural realities that can change over the course of a lifetime, depending on experiences, attitudes and situations (Durie, 1995). Māori have different levels of knowledge and connection to tikanga practices, their whakapapa and te ao Māori, so McLachlan et al. (2021) advise caution when working with whānau to ensure mana is not diminished. For some being able to express their cultural identity may be through kapa haka, waiata or supporting on the marae, for others it might be learning te reo Māori, a karakia, researching their whakapapa or learning about, reclaiming and incorporating traditional birthing practices into their birth plans.

Māori Maternities

Māori and other Indigenous peoples have had settler-colonial philosophies, principles and practices of maternity, motherhood and family structure deliberately imposed upon them. Devaluing and undermining the position of wāhine within the whānau and the physical and spiritual significance of the maternal body (Gable, 2019). "Colonisation has had a major impact on the position of women. Ideologies of gender and race have interacted in complex ways to corrupt many stories, values, beliefs and practices that are linked to Māori women" (Pihama, 1994, p. 34, as cited in Gabel, 2019).

Arguably the most significant piece of legislation to have a detrimental impact on Māori maternal knowledge in particular, was the introduction of the Tohunga Suppression Act (1907), which prohibited traditional healing practitioners and practices, actively suppressing tikanga (Mead, 2016). Tohunga were learned 'experts' and holders of cultural knowledge, which also meant that "Māori ways of teaching, learning and transmitting knowledge were heavily restricted, including knowledge about pregnancy, birth and parenting" (Ware, 2014, p. 3). Māori maternities and child-rearing practices were further disrupted by the introduction of Christianity, urbanisation and education policies like the Natives Schools Act, 1867, which further worked to displace and marginalise Māori language, belief systems and whānau and tribal structures (Simmonds, 2017; Ware, 2014).

Within traditional mātauranga Māori pertaining to reproduction, connections between human and spiritual domains and the natural environment (Le Grice & Braun, 2016) strengthen whānau and hapū structures (Ware et al, 2018). These relationships can be seen in the

significance of kupu Māori with whānau meaning both family and birth, hapū; meaning subtribe and pregnant, iwi; tribe, bones and strength; te whare tāngata, literally 'the house of humanity', is also womb; whenua, land and placenta (Le Grice & Braun, 2016; Le Grice et al., 2017; Mead, 2016). Both whenua (land) and whenua (placenta) serve to give life to the pēpi and nurture its development. The Pā Harakeke (grouping of native flax plants) is often used as a metaphor for whānāu structure, and a model of protection for pēpi and tamariki. The rito or centre shoot represents the tamariki, who are protected by the surrounding awhi rito, the parents. The outer leaves represent the tūpuna (grandparents), who provide further protection. The roots of the harakeke (whānau) provide the foundation and connect it with nearby plants that further support it to grow (Wilson et al., 2021). Tikanga surrounds planting and harvesting the harakeke which safeguards the integrity of the plant, to ensure the harakeke (whānau) can flourish as part of a wider hapū and iwi (Watson, 2020).

The tikanga of returning the whenua (placenta) to the whenua (land) allows the connection back to the land and therefore a link to ancestors and atua, (Mead, 2016). This practice was not accommodated for many years, until the 1980's due to the medicalisation and institutionalisation of birth. Wāhine were forced to birth in hospitals which eroded mātauranga Māori and tikanga relating to hapūtanga, birthing and parenting practices (Simmonds. 2017). The majority of women, 85.7%, gave birth in a secondary or tertiary maternity facility, in 2020 (Te Whatu Ora, 2022). Current inequitable birth outcomes indicate that these facilities and services are still not catering for the needs of wāhine Māori. However, changes have occurred over time, including more inclusion of whānau and fathers, during antenatal care and birth. Public birthing units and whānau rooms in hospitals are available and whenua are being returned (Mead, 2016). However, further work is needed to ensure Māori birthing practices and values are embedded into maternity care.

The health system and hospital care in Aotearoa is founded on Western biomedical models of care. These models privilege Western values and individualistic, mono-cultural approaches, which devalue, silence and ignore Māori concepts of health and wellbeing, cultural values and practices. The deficit focus of these biomedical models of care also works to reinforce deficit narratives that perpetuate negative stereotypes and labels, victim blaming and racism (Wilson 2008). Racial discrimination is associated with poorer health outcomes, lower healthcare utilisation, negative primary care experiences (Talamaivao et al., 2020) and

adverse birth outcomes for Māori, such as lower birth weight and shorter gestation length (Thayer, 2019). Maternal mental health can also suffer, as experiences of racial discrimination and unfair treatment are associated with increased perceived stress and pre and postnatal depression (Bécares & Atatoa-Carr, 2016). This signifies the need to address all forms of racism, at all levels, as the consequences can be dire for hapū māmā, pēpi and whānau.

Unfortunately teen or young Maori māmā in particular still experience stigma and discrimination in Aotearoa today (Adcock et al., 2016; Breheny & Stephens, 2010; Stevenson et al., 2016). Medical professionals often frame teen pregnancy negatively, as undesirable and a cause for concern (Breheny & Stephens, 2010). The E Hine research into the lived realities of young Māori māmā under 20, found the young māmā also faced negative stereotypes from Government agencies, being referred to in terms like 'vulnerable', 'hard to reach', and 'high need'. These terms work to remove their identity as Māori and replace it with implications of low socioeconomic status, which ignore the potential for racism and discrimination to be acknowledged and addressed (Adcock et al., 2016).

Despite the negative stereotypes, the young Māori māmā, in the E Hine project, were decisive and engaged with services once they found out they were pregnant. However, system barriers along the maternity care pathway including poor communication, lack of information and support led to avoidable delays in registering with a midwife. Youth specific health services and whānau were key facilitators in early confirmation of pregnancy and engaging with a midwife (Makowharemahihi et al., 2014), further demonstrating the ability for whānau support to improve health experiences. Similar experiences were described at the other end of the pathway, with positive birth experiences also linked to whānau and partner support. Māmā also reported positive experiences when tikanga practices were followed, for the māmā who chose to incorporate it into their birth journey. However birth experiences were commonly tainted with discrimination, bias and poor communication through negative interactions with health professionals (Stevenson et al., 2016). Ensuring care is culturally responsive, provides a safe space in which miscommunication issues can be avoided, and wāhine can access the information they need to make informed decisions related to their care, is key to engagement and satisfaction (Ratima & Crengle, 2013).

Maternity Care in New Zealand

In Aotearoa women have access to free maternity care with the vast majority of women receiving care from a community-based midwife as their LMC. Women can also choose to see an obstetrician or general practitioner with a diploma in obstetrics (New Zealand College of Midwives (NZCOM), 2019). New Zealand's Midwifery Partnership model is a professional framework that prioritises a reciprocal relationship between the woman and her midwife, and is based on the principles of equity, informed choice, reciprocity and shared decision-making responsibility. Continuity of care is provided from 14 weeks gestation to six weeks post birth, allowing time for mutually effective partnerships to develop and evolve as information and care is shared and received (NZCOM, 2019). Midwives also work with core midwives (based in hospitals and birthing units) to ensure continuity of care across community and hospital based services (NZCOM, 2019).

This partnership model should work to reduce inequities with its focus on relationships, and integrated continuity of care, however we know this is not the case. Despite access to free maternity care, wāhine Māori and pēpi continue to be over represented in negative maternal and infant health statistics, health inequities, and also experience more risk factors across the social determinants of health (Tupara & Tahere, 2020). Kenny (2011) claims that although well intended, this partnership model is a mono-cultural model that fails to uphold te Tiriti principles, as they were described at the time, of participation, protection and partnership. It was developed with minimal consultation with Māori, and it does not include Māori world views, tikanga practices or mātauranga Māori. Kenny also describes the NZCM standards of practice as working to further marginalise Māori perspectives by situating Māori as other in the way they are written, and including Māori definitions as footnotes rather than central concepts. The euro-centric perspective is also clear in the focus of the individual, with the woman at the centre of care rather than seeing the woman as part of a whānau unit and ensuring whānau-centred care as set out in Ministry of Health's He Korowai Oranga: Māori Health Strategy (2002, 2014).

Cultural Safety

For wāhine Māori lack of culturally responsive care has been identified as a barrier to maternity care, including antenatal, labour and delivery (Stevenson, et al., 2016). Recognising and honouring one's culture and cultural practices at all times, through engagement,

communication and interaction, providing opportunities for expression and creating safe culturally responsive spaces is a vital part of ensuring health equity (Wilson et al., 2021). Cultural safety is required as part of the competence criteria for the NZCOM Midwifery Standards of Practice. In order to support this Ngā Māia (the national professional body of Māori midwives) developed Tūranga Kaupapa, a set of 10 Māori principles and values, to guide practice, and assist midwives to provide culturally appropriate care (Tupara & Tahere, 2020) and demonstrate cultural competency (Burne-Vaughn, 2022). However, Tupara & Tahere, (2020) note that an evaluation of the application and impact of Tūranga Kaupapa is yet to take place, so it is unclear how effective they are in ensuring cultural needs are met. Kenny (2011) also asserts that there is no way of evaluating or validating if these standards are applied appropriately as they rely solely on each individual midwife's own process of self-reflection.

Self-reflection is a critical part of cultural safety. Reflecting on how your own personal beliefs and values impact your practice and engagement with people from different cultures is a key component of culturally safe practice (Wilson, 2008). Curtis et al. (2019) propose that health practitioners, health care organisations and health systems need to focus more on cultural safety rather than cultural competency. Cultural safe practice requires challenging your own cultural behaviours and beliefs, and acknowledging interpersonal power differences in interactions. Personal privilege, biases, assumptions and behaviours also need to be questioned and continually reflected upon. Cultural safety is considered an ongoing process that moves away from the sense that you need to achieve competency or be competent in the culture of the other person in order to establish an effective relationship.

In New Zealand nearly all pregnant women are seen at some stage by a midwife. The vast majority choose a midwife as their LMC but even for those that do not they will more than likely see a core midwife if birthing in a hospital or receiving care in a hospital setting (NZCOM, 2019). Māori make up an estimated 17% of the population and in 2017, 25% of women who gave birth were Māori, yet Māori midwives made up only 9.83% of the midwifery workforce in 2019. There has been no significant change in numbers over the previous five years (Tupara & Tahere, 2020). Tupara and Tahere (2020) report that these low numbers mean that Māori midwives are exhausted, attrition rates are high in midwifery education, and "inequities for Māori women are also likely to be present amongst Māori midwives. Māori

midwives are at risk of burnout and could leave the midwifery profession if it remains ill-equipped to properly support them" (p. 3). This is problematic as wāhine Māori often prefer to have a Māori midwife who they can relate to, but low numbers limit their choice (Ratima & Crengle, 2013; Burne-Vaughn, 2022) and therefore access to equitable care.

Decolonising Practice

Māori along with wider Indigenous communities are actively looking and developing ways to decolonise and Indigenise practice. The aim is to challenge the principles of colonisation, re-write the deficit narratives and promote strength based, holistic approaches, in an attempt to undo some of the harm that colonisation has on the health and wellbeing of Indigenous people (Geia et al., 2017). Smith (2012) describes decolonising practice as the "long term process involving bureaucratic, cultural, linguistic, and psychological divesting in colonial power" (p. 101). This includes consciously and unapologetically prioritising indigenous world views, perspectives and knowledge, creating spaces where Māori can be authentically Māori and exercise tino rangatiratanga.

Childbirth education classes are another part of the maternity system where the impact of the euro-centric, medicalised focus of maternity and birthing knowledge can be seen. Content, teacher-learner dynamics, facilitation style and setting, impact on the acceptability and cultural relatability of these classes for Māori. There is also the way the system funds and resources these childbirth education classes can create a barrier that impacts on equitable access. A kaupapa Māori antenatal programme in Te Tai Tokerau, Northland was able to positively engage with wāhine and whānau to deliver meaningful, culturally affirming, whānau-centred care. However despite its success, systematic barriers hinder the progress they are making in the community and threaten the sustainability of the programme (Pipi et al., 2022).

Pipi et al., (2022) found that inefficient funding models that are based on mainstream service provision, do not account for the different resources needed to create culturally appropriate spaces. These resources include material used to support cultural practices like weaving and people who have mātauranga around pregnancy and birthing with local knowledge and connections. These people provide "the relational resource or whanaungatanga and tikanga that allows connection between wānanga participants, to awaken what they already hold

inside, for learning and growth to occur" (p. 5). Wānanga rely not only on midwives and kaimanaaki to facilitate but also, tohunga with special knowledge, such as rongoā, raranga, taonga pūoro, and kaumātua and kuia. Lack of funding processes often requires people to volunteer their time not only during the time of the wānanga but also in preparation, for example accessing and preparing the harakeke for wahakura and muka. Lack of funding threatens the sustainability of the programme and also the ability to fully express kaitiakitanga, to protect and continue to revitalise mātauranga and tikanga associated with pregnancy and childbirth and infant care. "There is deep commitment to maintaining the standing of the mātauranga and tikanga of the wānanga. It is about reclamation, normalising and celebrating what it means to be Māori" (p.7). Adequate funding models need to be considered that look beyond Westernised one-way, teacher-learner approaches and look more to what is needed to ensure culturally responsive whānau-centred care. Models that value mātauranga Māori and adequately resource and remunerate tohunga, kaimanaaki rather than rely on cultural practices of manaakitanga, kaitiakitanga and collective action or volunteerism.

Kaupapa Māori antenatal classes or Hapū Wānanga like the one delivered in Te Tai Tokerau, Northland are becoming more readily available in parts of New Zealand but are not consistently available nationally, making them inaccessible to many wāhine. They often rely heavily on the inadequate funding model already highlighted as well as the availability of local staff, facilitators, tohunga, and other cultural kaimanaaki and resources. Hapū Wānanga have increased attendance rates in childbirth education classes and improved levels of satisfaction (Barrett et al., 2022). Barrett et al., (2022) research into the experiences of wāhine demonstrated that they had a willingness to engage with these maternity care services and reported an increase in maternity knowledge, challenging the negative stereotype of wāhine hapū not wanting to engage with services or being hard to reach. More importantly these wānanga were also able to support wāhine and whānau to not only connect with and (re)claim Māori birthing practices but also reconceptualise what maternity care meant for them. They provided learnings that helped to improve their confidence in their own bodies and empowered them to advocate for themselves and what they wanted for their birth and their whānau.

With the aim of supporting the maternal-infant health care system to better provide accessible and culturally responsive care, Stevenson et al. (2020) developed Te Hā o Whānau. The significance of the name Te Hā o Whānau, is itself powerful, meaning whānau voices leading maternity care in Aotearoa. Using a Kaupapa Māori approach and focusing on three articles of te Tiriti to structure the framework, they combined mātauranga Māori with the lived experiences of whānau to identify specific practice points and examples for three tikanga Māori values; Tikanga manaakitanga, Tikanga tino rangatiratanga and Tikanga whakawhanaungatanga. The specific practice points and examples not only help to provide a deeper understanding of each concept but also offer some tangible examples of actions that can be taken, making implementation easier. This innovative model is just one example of how Māori are actively working to decolonise and Indigenise practice and systems, by embedding cultural values and practices, not only in the design but also in the design process.

Māori and Social Media

Globally, Indigenous people are using the online environment to connect and support each other. Geia et al. (2017) found that Twitter was an invaluable tool in which to connect with other Indigenous and non-Indigenous people from various backgrounds and professions in order to discuss concerns and aspirations and share and express their culture. They found being able to hear the voices and different perspectives of others in their community and wider global community was invaluable and provided a supportive community and a safe place to be themselves and feel connected.

Māori are also actively using social media and other online technologies to decolonise systems and public narratives. Creating positive public and private spaces to discuss Māori issues, share knowledge and experiences and make connections. For example, Green's (2020) thesis looked at how rangatahi Māori took to "Māori Instagram" during the occupation of Ihumātao to come together, connect, share, discuss and debate current issues. Green equated "Māori Instagram" to a digital marae. Similar to a marae this digital space had the ability to bring people together and create a sense of belonging and community, through sharing stories, which also had the potential for collective learning and healing:

> Both of these spaces operate similarly with regard to acting as a significant site of cultural knowledge production and affirmation. Through sharing our collective

> experiences in narrative form, we can negotiate and validate cultural meaning. We can centre Māoritanga in our experiences, understandings, and identity. Furthermore, through the relational practices of telling stories, (as described above) we can create safe spaces for voicing vulnerability and recontextualising histories of colonialism, which in itself, may constitute healing (Green, 2020, p.121).

Green also found that trusted meaningful relationships were able to be established and maintained online, through the reciprocal sharing of personal stories and narratives. "Māori Instagram" provided a safe space where vulnerabilities could be shared, historical trauma could be discussed and reconnections could be made with historical knowledge, whakapapa and te ao Māori, all through the sharing of artwork, quotes, images, memes, fashion and narratives. In essence it is a decolonising space with the ability for rangatahi to continue to uphold Māori tikanga in terms of whakawhānaungatanga and manaakitanga.

This was also evident during the COVID-19 lockdown. Whānau Māori were active online, utilising various online platforms to express Māori cultural values and practices and promote activities that would support wellbeing (Waitoki & McLachlan, 2022). Using Whiti te Ra, the health and wellbeing model described earlier, Waitoki and McLachlan (2022) demonstrated how Māori were able to connect online and across the six identified pathways in the model. Māori language was evident across all digital platforms, and all spheres of wellbeing. Online news stories, cultural performances, karakia and waiata, live streams and lessons in te reo Māori, cooking, māra kai (gardening) provided connections to language and the environment.

Previously social media has also been described as a tool for language revitalisation (Keegan & Sciascia, 2018), political engagement and activism (Waitoa, 2013; Green, 2020) and cultural revitalisation and self-determination (Sciascia, 2016). Iwi, hapū and marae Facebook pages also facilitate access to whakapapa and tribal knowledge and provide an interactive way for uri (descendents) to connect and maintain whānau, hapū and iwi connections (O'Carroll, 2013, Sciascia, 2016). Demonstrating how Māori can uphold tikanga Māori practices and values online.

Wāhine Māori activists and wāhine Māori researchers are recovering and revitalising matauranga and tikanga Māori, surrounding hapūtanga, and parenting. Shining a light on practices and narratives that have been hidden or unavailable to a lot of wāhine Māori for too long. There are multiple social media pages and groups dedicated to sharing this knowledge online, readily available to everyone. However there is limited, if any, research into how these pages are influencing hapū māmā during pregnancy and this research looks to provide some insight into how māmā are utilising these avenues and the impact it is having.

Telehealth and Social Media - Tools for Equity in Maternity Care

These examples demonstrate the versatility of the online environment in promoting, facilitating and supporting empowerment and self-determination, across many areas of life, health and wellbeing. Even prior to the COVID-19 pandemic, maternity care services had begun to embrace online technologies or telehealth options in an effort to improve accessible and equitable care (Westwood, 2021). Technological enablement of information and services includes improving access to high quality information around pregnancy, birth, breastfeeding, immunisation, cultural birthing practices and other parenting and child care topics. With smartphones, information from around the world is readily available in the palm of your hand, making access even easier. The majority of women are regularly engaging online, connecting with people, seeking information, products and services, and joining special interest groups (McCarthy et al., 2020).

Telehealth can also reduce barriers to accessing midwifery services, general practitioners, antenatal services (Westwood, 2021). Benefits include reducing travel and wait times and the impact this can have on the busy lives of hapū māmā, many of whom may still be working during their pregnancy or live a distance from their midwife's location. It can be especially beneficial for geographically isolated or housebound women who otherwise may not have access to regular contact with maternity services.

A New Zealand example of telehealth in action is İMOKO. Lance O'Sullivan a clinician and digital health entrepreneur developed İMOKO to increase access to health services to children in Te Tai Tokerau, Northland. Children and whānau who might otherwise have to travel long distances to see a general practitioner. Although healthcare is free in Aotearoa until 14 years of age, these trips added time and financial barriers to an otherwise free visit. Staff in schools,

early childhood centres and kōhanga reo, are trained to use an ipad to take photos and ask questions about the child's health and these are sent to a central digital health team who review the cases and make plans for treatment. Prescriptions can be sent via the İMOKO app to the parents or caregivers (Health Informatics New Zealand, 2019). This is an example of how clinical care can be facilitated or supported through digital platforms, enabling equable care to communities.

When looking for information, in addition to website searches and social media, pregnancy and reproductive mobile health apps are also utilised as a way of receiving and recording information. Apps have been found to increase health knowledge and engagement in various health services (Ford et al., 2020). There are apps that track fertility, fetal movement, feeding, sleep and nappy times, pregnancy and baby development, contractions, even baby gifts to name but a few. Apps can also be used for planning and presenting information on maternity care topics such as, safe food during pregnancy, prenatal yoga, breastfeeding and working out post baby. In Aotearoa, Hapai te Hauora (Māori Public Health) have recently developed Tuku Iho, a free bilingual pregnancy app, dedicated to providing maternal and tamariki wellbeing information from a te ao Māori perspective. The app was co-designed with whānau and Māori midwives after recognising the need to have "somewhere whānau hapū, māmā hapū and māmā hou can go to find trusted information about hauora hapūtanga, pēpi ora and SUDI prevention embedded from the world view of Māori" (Hapai te Haoura. 2022). Apps like Tuku Iho are able to present information in a way that is culturally relevant and specific to the health context in Aotearoa.

Studies have shown that women tend to seek maternity related information from trusted sources or health professionals when seeking specific clinical information but also like to hear and seek advice and reassurance from mothers who have had similar experiences (McCarthy et al., 2020; Gasteiger et al., 2019). McCarthy et al., (2017, 2020) found that, in the United Kingdom, midwife moderated Facebook groups are able to create communities of care and establish strong reciprocal relationships that are beneficial for the women and the midwives involved. Having ready access to a midwife and a safe space to gain reliable information from a trusted source was very reassuring. Being able to ask questions in their own time and knowing the response would be reliable, even if not instantaneous, was valued by the women. In this study the moderating midwife in the group was not the women's actual midwife, so

women also felt reassured in that they were not being a burden or over-demanding of their own midwife. This provides an approach that could reduce misunderstanding, confusion, information overload and even emotional distress as a result of the sheer amount of information available online (McCarthy et al., 2017). While also enabling a high level of relational satisfaction to be developed and maintained (McCarthy et al., 2020).

Being able to access and build a trusting relationship with your midwife is key to engagement and satisfaction. Recent studies conducted in New Zealand highlight the importance of kanohi ki te kanohi interactions and a preference for personalised interactions (Gasteiger et al., 2019; McAra-Couper et al., 2020). Gasteiger et al. (2019) conducted focus groups with participants of a kaupapa Māori antenatal programme. Participants in the study commented on the different connection they felt when meeting kanohi ki te kanohi, being able to "hug" their LMC and there being a "natural flow of energy" when physically together (p. 24). McAra-Couper et al. (2020) investigated the acceptability of adding eHealth tools to pregnancy tests to improve access to timely maternity care information and support early engagement with maternity services. The preference was for free, private, confidential eHealth tools that enabled personal interaction, with a freephone number preferred over Quick Response (QR) codes, free text and apps. Perhaps the increased use of QR codes in particular during the COVID-19 pandemic has increased the acceptability of the use of eHealth tools for tailored health messages. However, in person care is an essential part of maternity care, as regular physical assessments are needed, but they also provide opportunities for building rapport and trust, and creating meaningful relationships and safe, nurturing environments.

In conclusion, when looking to address health inequities, the literature clearly shows the importance of culture; tikanga and mātauranga Māori, cultural values and practices, when considering equity across all levels. In terms of ensuring equitable access, culturally responsive delivery and adequate resourcing and funding of maternal health services. Online technologies have the potential to extend the delivery of mātauranga embedded services beyond kanohi ki te kanohi interactions. Women are already engaging with the different online technologies in order to inform themselves, keep track of and monitor their health, connect with friends, whānau and health professionals, and to be part of the online world. Wāhine Māori are also contributing to the growing movement to create indigenous spaces online that seek to revitalise Māori maternities and parenthood. A deeper understanding of

how hapū māmā and whānau are engaging online and within these spaces in needed. Also moving on from COVID-19, we need to take what we have learned in regards to what worked and what is considered acceptable, what aspects are helpful, as well as potential gaps or concerns, to improve engagement and acceptability of maternity care services, both online and in person.

I accept the wero (challenge) put down by leading Māori researchers (Edmonds et al., 2022). A call for action – "to all non-indigenous and indigenous health practitioners, decision makers, and researchers, to transform our current system to improve wellbeing for whānau" (p. 330). They highlight the fact that there are already frameworks, evidence and solutions available to inform transformational change and influence policies. Following the principles of Kaupapa Māori research and developing meaningful relationships through collaborating with iwi, kaumātua, community and other Indigenous researchers, while privileging a Māori world view, enables more rapid action for change.

The following methodology chapter lays out the Kaupapa Māori approach used to prioritise Māori perspectives, elevate wāhine Māori voices and focus on benefits for Māori whānau, when talking to Māori māmā and Māori midwives about their experiences of online technologies during pregnancy.

Chapter Three: Methodology

The aim of this research is to explore how, why and when wāhine Māori are engaging with online technologies and communities during their hapūtanga/pregnancy when considering the following two aspects of their care.

1. When seeking and engaging with maternity care services and maternal health information and advice.
2. When connecting and maintaining social support networks

A deeper understanding of wāhine hapū engagement with online sites and online communities will be explored. Considering the impact on their level of engagement with maternity services and their relationship with their midwife or LMC. Ultimately with the aim of providing insight to midwives, health care professionals, maternity care service providers and support workers on the benefits and types of issues that wāhine Māori may be facing online. In order to better support and meet the needs of wāhine hapū and improve access to quality pregnancy care information and services utilising the online environment.

In this chapter the choice of methodology and methods for the research are explained, with a focus on ensuring that the outcomes benefit Māori. It includes a discussion on ensuring an appropriate approach for research with Māori participants and then the methods used in this research to ensure that cultural processes were followed when recruiting participants and collecting data. It then highlights ethical considerations before a discussion on the role of researcher positionality within this research.

Ensuring the methodology that would guide the research was reflective of Māori theoretical frameworks was important, as the aim of the research was to explore and gain a deeper understanding of wāhine Māori experiences. The researcher, the participants and the supervisor were all wāhine Māori so cultural integrity was paramount. Ensuring the best approach possible within the bounds of the researcher's current ability and tikanga Māori knowledge base was important. After careful consideration I believe that this research combines aspects of both Kaupapa Māori and Māori-centred approaches to research, with insights from phenomenology. Kaupapa Māori and Māori-centred research is orientated to benefit Māori, placing Māori whānau, Māori world-views and health models, and Māori

participation at the centre. However it is also recognised that this research project is governed by the processes of completing a Master's thesis through a mainstream university.

Kaupapa Māori, Māori-centred and Phenomenological research

Kaupapa Māori theory and methodology prioritises mātauranga Māori, tikanga Māori values and practices and tino rangtiratanga. Bringing the issues of self-determination, protection of Maori knowledge and materials, alternative Māori health perspectives and practices, collective wellbeing and the recognition of diversity and power relationships to the foreground, to be used to guide Māori research (National Ethics Advisory Committee/ Kāhui Matatika o te Motu, 2012).

A phenomenological perspective will also guide the research process, as this will allow for the exploration of 'the lived experiences' of wāhine Māori and their engagement with social media and the online environment. Phenomenology is in line with social constructionism, which emphasises the value of multiple realities, rather than a single objective, universal truth. It proposes that people's realities are socially constructed through language and social interactions, which are influenced by social and cultural normative systems (Moghaddam, 2005). It is recognised that wāhine experiences will be socially constructed representations of their experiences, influenced by social, cultural, economic and historical contexts. Their explanations will also be influenced by the context of the research, the setting, their social situation and relationship with the researcher and their desire to represent themselves in a certain way (Chamberlain, 2014). It is therefore expected that accounts will vary but it is through the multiplicity of accounts that knowledge is gained. Phenomenology, Kaupapa Māori and Māori centred approaches highlight the importance of relationships and people's interactions with each other in the formation of knowledge and recognise the principle of whakatuia (integration). Whakatuia "recognises holistic Māori views and the links which exist between wellbeing, culture, economics and social standing as well as the pattern of colonisation and its aftermath" (Durie, 1997, p. 10). These methodological approaches therefore emphasise the importance of allowing the experiences to be expressed and understood from the perspective of the participant.

Durie's (1997) two other principles for Māori centred research, mana Māori (Māori control) and whakapiki tangata (enablement or empowerment) are also used to guide the research.

Smith (2012) also highlights the need for the researcher to share control. So, a key focus throughout the entire research process, from design to dissemination, is ensuring it is mana enhancing for the participants and the wider community.

Ethics Process and Considerations

The Treaty of Waitangi, Indigenous rights, Māori health models, health inequalities and cultural safety are considered to be key influencing factors in the development of Maori research ethics. The Massey University Code of Ethical Conduct for Research and Evaluations Involving Human Participants (2017) and Te Ara Tika (Hudson et al., 2010) were used to identify key considerations applicable to this research, which were then explored and reviewed with the research supervisor. The research was considered low risk but for the purposes of student learning a full application was submitted and accepted by the Massey University Ethics Committee. Key considerations discussed were;

Confidentiality and their Right to Anonymity

Rules/etiquette were established at the start of the focus groups to explain the importance of respecting each other's privacy and confidentiality. Names were coded on transcripts and were secured separately to consent forms and other identifying personal information.

Mitigating Risk of Harm

Focus groups and interviews involved discussing everyday activities, so the risk of harm to participants was minimal. Sessions were conducted with manaakitanga, which included being non-judgemental and showing respect for differing cultural and religious beliefs, experiences and personal circumstances. It was considered that there was a small chance that participants may have become concerned with how they were engaging with social media, or be reminded of a negative experience as a result of the discussions. Time was taken to ensure participants left the session in a positive frame of mind and additional information around cyber safety or support services was available if needed.

Harm to whānau relationships and people in their communities was considered, for the focus group participants, as participants may also share the experiences of others. Harm was therefore minimised for participants, through the confidentiality and anonymity process discussed above.

Cultural Safety

Consultation took place with local maternity care professionals, Māori midwives and Māori health researchers to ensure the research was relevant, appropriate and desired by the community. It was anticipated that although participants would identify as Māori they may have varying levels of cultural knowledge and experiences of te ao Māori. Also due to New Zealand's cultural diversity, they may even identify with another cultural group. In my role as a researcher, I have a range of life experiences to inform the research. These include being wāhine Māori, and a māmā who has experienced pregnancy and maternity care in New Zealand. I have lived in various countries overseas since childhood, and my own personal cultural journey has enabled me to be culturally responsive and sensitive to cultural issues and misunderstandings. I did not have the competencies in te reo Māori to conduct the interviews and focus groups in te reo Māori. However, I felt that my understanding of te reo Māori and tikanga Māori enabled me to communicate and follow tikanga practices to create a safe space where participants could express themselves in te reo Māori if they chose to. Questions and potential issues were discussed with my supervisor and other experienced Māori researchers working in the field of hauora Māori.

To also ensure cultural and personal integrity, the seven ethical guidelines for Kaupapa Māori research described by Smith (2012) and Cram, (2001, 2017) were used to guide the research process.

1. Aroha ki te tangata - a respect for people – allowing people to define their own space and to meet on their own terms.
2. He kanohi kitea – the seen face – the importance of meeting people face to face and being seen and known in the community
3. Titiro, whakarongo...korero – look, listen…speak – the importance of looking and listening so that you develop understandings and find a place from which to speak.
4. Manaaki ki te tangata – share and host people, be generous, including collaborative approach to research, research training and reciprocity.
5. Kia tupato – be cautious – being politically astute, culturally safe and reflective about our insider/outsider status.

6. Kaua e takahia te mana o te tangata – do not trample on the mana of people – sounding out ideas with people, disseminating research findings, community feedback that keeps people informed about the research process and findings.
7. Kia mahaki – don't flaunt your knowledge – sharing knowledge and using your qualifications to benefit the community.

These are described here and are highlighted throughout the next section to demonstrate how they were applied to ensure appropriate methods were undertaken throughout the research process, when designing the approach, recruiting participants, collecting the data, and through to disseminating the findings.

Positionality

Being reflective and reflexive, and acknowledging your positionality is an important aspect of Kaupapa Māori research and thematic analysis. This recognises that the lived experiences, personal perspectives and motivations I bring to the research may influence the research process. I am a wahine Māori of Ngāruahine, Taranaki and Pākehā descent. My father is Māori and my mother is Pākehā. I have three sisters and we have 15 tamariki between us. I am a māmā to four tamariki, who I had here in Aotearoa after spending many years living and working overseas. Currently in my personal and professional life, I regularly use social media and other technologies as a source of information. However, I had my children before I was actively engaging with social media, so I have no practical experience of the wide range of online avenues and options currently available to hapū māmā. Most of my experience with social media comes through my children. I am a postgraduate university student having studied extramurally for many years while I raised my children. I am also currently employed by a government health organisation, where I have worked as a Health Improvement Advisor working with Māori and Pacific communities and more recently as a research assistant in a Māori research team. I feel my worldview is heavy influenced by my experiences of living and working overseas and experiencing other cultures first hand. But my passion for improving Māori maternal and infant health and wellbeing outcomes is what motivated me to start and continue on this research journey.

Focus Groups and Interview Design

This research was cross-sectional and involved qualitative, small focus groups and face-to-face, in depth interviews. Kaupapa Māori principles, tikanga Maori values and practices

guided the development of the data collection process and were followed in terms of kanohi kitea, maanakitanga and aroha.

Focus groups were the initial focus of recruitment for both groups of participants, Māmā and Māori midwives which allowed for kanohi kitea. It was recognised that due to work commitments and availability the Māori midwives group may need to be interviewed individually. Being physically present allowed for participants to get a better sense of who I am, my background and intentions and be accountable. It enabled me to show aroha ki te tangata and manaaki ki te tangata.

The location of the focus groups and interviews was considered each time, with the participant's time, travel and comfort considered. It was also important to consider and ensure space was available for any pēpi or older children who might accompany their māmā to the session. Assurances were given that this was okay and support could be provided to assist the māmā if they needed or to make her feel comfortable with the pēpi staying with her. Sufficient time was allocated to prioritise mihimihi, whakawhanaungatanga, and karakia. Participants were also ensured as much time as necessary to share their knowledge and stories. Kai was shared or provided at kanohi ki te kanohi focus groups and interviews.

Semi structured question guides were developed for each group and included prompts to ensure the different topics of the study were included (see Appendix A & B). After initial introductions and whakawhanaungatanga, focus groups and interviews followed a semi-structured format, using open-ended questions. With a potential opening question being "How have you used social media during your pregnancy?" Subsequent prompts were guided by the two identified areas of interest; online social support behaviour and seeking maternity care services.

It was anticipated that the participants could have different backgrounds and cultural experiences from each other and the researcher, it was therefore important to be respectful and ensure they understood there was no right or wrong answer. Emphasis was put on them being the ones with the knowledge and their perspectives being valued and prioritised.

Due to my level of proficiency in te reo Māori all sessions were conducted in English. Also as the initial approach was for focus groups it could not be assumed that all participants in the group would be proficient either, so in order to not alienate participants, English was considered appropriate. Alternative arrangements, using a research assistant who was proficient in te reo Māori, would have been arranged if a participant preferred to be interviewed in te reo Māori. All participants were happy to kōrero in English. Through the use of kupu Māori and Māori cultural processes such as, karakia, mihimihi and whakawhānaungatanga participants were made to feel comfortable to express any thoughts in te reo Māori if they wanted to during the session. It was anticipated that if this occurred beyond the researcher's ability that translation would have been conducted after the interview, if not provided during the interview by the participant. Discussions around ensuring correct interpretation would have taken place with the research supervisor who is proficient in te reo Māori, however this was not needed.

In order to gain a range of perspectives and experiences, it was decided to include two different groups of participants.

Participants recruited were either

1. New or expectant Māori māmā
2. Māori Midwives, or other Māori maternity care and education practitioners

Recruitment

Wāhine 18 years and older, who were pregnant or who had recently been pregnant, and who identified as Māori were eligible to participate. Māmā post birth were included, as support and engagement does not stop at the birth of the baby. It ensures experiences of childbirth and early childcare topics could be included, as well as any social and support needs at this stage of the motherhood journey. This is also a relevant time frame as in New Zealand women stay under midwifery care until the baby is six weeks old and then need to transfer to a Well Child provider and/or general practitioner for health care needs. It was considered important to capture all stages along the maternal care pathway including transitioning and accessing infant and child health services.

Another aspect of kanohi kitea is being known in the community or organisation, being a familiar face in the space you are engaging in. It was anticipated that a person known to the individual or group would introduce the researcher if possible, and a mihimihi would be given as part of the recruitment and/or introduction to the research. A recruitment flyer was developed (see Appendix C) and visits to local Birthing Centres, hospital birthing units, Hapū Wānanga providers and Young Parent Units were arranged. Initial meetings were arranged via, telephone, email and social media with service managers to explain the research, provide the Participant Information Sheet (see Appendix D & E) and discuss possibilities for recruitment of participants. Birth Centres posted the notice on their notice board and some actively handed out the flyers to wāhine who fit the criteria. One Birth Centre shared the flyer on their Facebook page, while also inviting the researcher to attend on a day that there was a hearing check clinic taking place. Emails were also sent to Māori midwives from a list of local midwives given from one of the Birth Centres as well as those recommended by colleagues and friends in order to see if they were interested in participating or sharing the flyer in order to recruit hapū or new māmā. The researcher's personal networks were also used. Recruiting through the various avenues helped to ensure a more diverse sample pool. However snowballing did occur, which was considered appropriate, as the goal was not to have a representative sample in order to generalise findings, rather enough participants to capture a variety of experiences.

Recruitment was interrupted by the COVID-19. Delays in the initial phase of the research, which will be discussed in more detail in Chapter five, meant recruitment started in March 2021 and although this was not a time of Level four lockdown, restrictions were a part of day to day activities. Recurring changes to restriction rules had an impact on planning and coming together face to face. It was intended that there would be three to five small focus groups of at least three participants. However, while there were guidelines around how the focus groups could run during these times, societal attitudes at the time had changed and people in the community were having to consider the safety and protection of not only themselves but of their whānau and wider community when going out. Social distancing, vaccination, mask wearing undoubtedly had an impact on people's willingness to come together especially when meeting with people outside their usual social group. The COVID-19 pandemic also had a big impact on the work environment and for many this resulted in changes to work priorities, status, and responsibilities. For parents there was also the added responsibility of considering

the uncertainty of school closures, children needing to study at home at different times or when isolating as close contacts. All these added considerations, ongoing restrictions and uncertainty potentially impacted on people's reluctance and/or availability to take part. For this reason, as it became evident that there were extra unanticipated pressures on wāhine, it was considered more appropriate to focus on conducting one on one interviews with māmā. Rather than continuing to focus on recruiting for focus groups unless a group of participants who were known to each other and could be recruited as a group were found, as was the case for the first and only focus group.

The first focus group was recruited through snowballing sampling as the initial māmā who was interested in participating recruited other māmā through her own social connections and supported in the organisation of them coming together for the session. Although she was unable to attend herself on the day, as was one other māmā, three māmā did attend. After this focus group, three additional māmā were interviewed individually. One focus group was organised with midwives from the same birth centre, with two participants available on the day. Two other Māori midwives were interviewed individually, resulting in 10 participants.

Participants

All 10 participants identified as Māori and resided in the Waikato region, with one participant residing in the Hauraki region, however they identified with different iwi across the North Island of New Zealand.

Table 1: Participant Demographic Information

Name	Age	Description
Aio	26-35	Hapū māmā, 2nd pregnancy
Amaia	26-35	Hapū māmā, 4th pregnancy
Tia	26-35	Māmā of 2, pēpi 4 months
Riana	26-35	Hapū māmā, 2nd pregnancy
Maraea	18-25	Māmā, pēpi 6 weeks
Anahera	unknown	Hapū māmā, 2nd pregnancy
Kiri	36-45	Midwife LMC, 5 years
Marama	45-55	Core midwife, 17 years
Pania	36-45	Midwife LMC, 11 yrs
Hana	36-45	Midwife & childbirth educator, 14 years

Data Collection

The focus group took place in a community room at the local hospital, as this was a familiar, central place for the wāhine. Interviews were conducted in their own home, place of work, mother's place of work and two were conducted via Zoom. Zoom was considered to be appropriate as it still allowed for a face to face connection and both participants were familiar and comfortable with this mode of communication given its increased use for study and work purposes during the COVID -19 pandemic. The Participant Information Sheet and Consent form were reviewed and key points reiterated. The Demographic Information Sheet (see Appendix F & G) was also completed.

Interviews and focus groups were audio recorded with permission and notes were also taken of any additional observations as soon as possible after the session. Participants often showed the researcher on their phones the different social media sites or apps they frequented, these were also noted if not caught on the recording. Recordings were then transcribed verbatim by the researcher. Otter Ai (transcription software) was used for four of the recordings and then reviewed and refined to ensure an accurate transcript. Transcripts were then sent to interviewees to approve or make amendments, however no amendments were requested.

Keeping participants informed of progress and findings is important within Kaupapa Māori research so participants were also asked if they wanted to be kept up to date with the research and/or receive a summary or presentation of the research findings. Progress emails were sent and a summary report will be sent to all participants on completion of the project. The findings will also be presented to midwives, and other maternity care service providers and other interested parties.

Thematic Analysis

A reflexive thematic analysis approach was used to analyse the data from the transcripts. Braun & Clark (2021 & 2022) describe the reflexive approach to thematic analysis as one that emphasises and respects the role of the researcher in the analysis process, making it an appropriate approach for Kaupapa Māori research. Themes are developed from codes identified in the data and organised into themes that reflect a shared meaning or concept. It is recognised that the process is subjective and is influenced by the researchers, background, experience, training and values. It requires the researcher to be reflexive throughout the

entire process and acknowledges that as the researcher considers the influence of their own positionality on the data and at all stages of the research, codes can "evolve to capture the researcher's deepening understanding of the data (2021, p.39).

Braun & Clark (2006, 2012, 2021 & 2022) specify six phases for reflexive thematic analysis: familiarisation; coding; generating initial themes; developing and reviewing themes; refining, defining and naming themes; and writing up. These phases are considered to be guidelines for a recursive process allowing for a flexible non-linear approach when engaging with and working with the data. This supports the researcher's ability to actively construct and create themes as they go through the phases (Braun & Clark, 2020).

Analysis Process

Following the six phases of reflexive thematic analysis, time was spent rereading the transcripts and listening to the audio recordings in order to become more familiar with the data and initial reflections and notes were made. This phase was particularly important, as there were time delays between interviews and analysis. Initial codes were assigned and reviewed looking for shared meaning and considering the coordinating concepts. Post it notes and thematic maps were used to generate initial themes. Microsoft Excel was then used to support the development and refining of themes. This was a reflexive and iterative process, which involved constant re-evaluation and moving of codes and themes as the themes were constructed. Potential themes were also discussed with the research supervisor and an experienced thematic analysis researcher to support the refining and defining of the themes. Six themes were created to represent distinct concepts that are used to address the research questions. These themes are interconnected and are presented in the following chapter.

Chapter Four: Findings

This chapter presents the findings from the participant focus group and interviews. Six themes were constructed from the kōrero with the participants to address the research questions. When describing the participants the terms māmā and Māori midwife are used to describe the experiences of each specific group of participants. Wāhine is used to describe experiences shared between both groups. Each theme will be presented along with the subthemes as described in Table 1. Quotes are used to illustrate the key points of each theme.

The first theme will start with an overview of the online technologies that wāhine participants (hereafter referred to as wāhine) used to access health related information, engage with maternity care services and communicate with providers and their support networks. It is important to acknowledge that social media platforms and apps are constantly changing and growing so while these platforms and examples were discussed the platforms are not the specific focus of the research. Themes were constructed to highlight participant understandings and motivations of the benefits and value placed on decisions to engage with specific types of online technologies and how they felt it has helped them gain knowledge and take control, connect with their culture, feel reassured, share their pregnancy journey and stay connected with their support networks.

Table 2: Themes and Subthemes

Theme	Subthemes
"It really puts women in charge…"- Wāhine- led learning	
" You're not alone" – Fostering a sense of security and reassurance	Ready access to information Ready access to trusted relationships
Available all hours - Can it wait?	
Reconnecting and reclaiming Māori birthing practices	
Whanaungatanga - The importance of a sense of community	
Facilitating relationships with maternity care providers	

“It really puts women in charge” Wahine-led Learning

All wāhine had a smartphone, which they used daily to go online, as Anahera explained “My phone's always in my hand all the time. So it's the easiest way to get around social media”. Tablets and laptops were also used, particularly by Māori midwives, for work purposes. Wāhine discussed predominantly Google, Instagram, Facebook and Facebook Messenger being used daily, sometimes hourly to stay connected with family and friends, seeing and commenting on posts, private messaging, group chatting, video-calling or shopping online for products or services. Snapchat, Whatsapp and Tik tok were also mentioned although, Instagram and Facebook were the main platforms used when looking specifically for baby related products or maternity services, as well as following people’s vlogs and influencers pages. Māmā used apps that supported their ability to monitor their pregnancy progress or baby’s development such as those by the Birth centre NZ, Pregnancy Plus and FLO. They also used apps that support during the newborn period through to the early years such as Breast fed NZ, Māmā Aroha and nappy trackers.

Wāhine were sometimes surprised with the amount of activity they were doing online, after initially stating that they did not really use any. To have a smartphone in your hand is now such an integrated part of day to day, to google, shop, communicate or just scroll for entertainment that it did not seem to stand out. “I guess that's just because it's [social media] now such common practice, it's kind of like a TV” (Hana, midwife).

This theme looks at how wāhine were actively engaging online and making deliberate choices, using the openness and accessibility of the online environment to enhance their learning. The various different platforms provided opportunities for new learning and exposure to information and experiences they may not have come across in their everyday lives.

By seeking out material and people that were relatable and inspiring, māmā were able to find information that was relevant and useful. All māmā mentioned following other women’s pregnancy and motherhood journeys on social media platforms. They often mentioned learning about the possibilities of home birth, traditional Māori birthing practices and tips, products and information supporting breastfeeding. Being able to see and hear other people’s

stories, their struggles, challenges and successes were noted by Riana and Anahera in particular as being very inspiring and powerful:

> A lot of them choose to have their babies at home. So I'm like wow, that's just so amazing … I just love that. I love that site. Yeah, there's just a lot of tips for when you're going through births. And … they share a lot of actual births. Just so powerful. I'm like [pause] what the hell! (Riana)

> They just share their own experiences about their pregnancy and how they carry and then a few of them have shared their birth stories. And how some are like they go and do home births and things like that and or natural births without pain relief ... it's more so their own experiences. But it's still cool information for me to hear about as well. (Anahera)

> I follow different ladies that have just had their babies and they share links, yeah like you need to look into this, or websites and stuff like that. (Amaia)

Anahera also commented that she liked that the stories posted on a page she followed were unfiltered and seeing how natural and comfortable the women felt in sharing. This was able to bring a sense of reality and bonding, helping them to prepare and gain confidence through others experiences:

> It's really cool to see those sort of things because sometimes social media can filter out photos that show a bit too much. But this Instagram page that I've seen recently they just show it all, everything, and all the māmās that share it are all comfortable with their photos being shown and the stories being told. But yeah, it's just cool to hear everybody else's experiences and … the things that they've done to, I guess get through their pregnancy and their labour. (Anahera)

In Riana's case she had been following and engaging with a vlogger, as part of a weight loss story, prior to them both becoming pregnant. Being able to then follow her through pregnancy and parenting offered an opportunity to learn about an approach to natural birthing and also pēpi care that she had never considered before. She developed a connection and had grown to

respect this vlogger, demonstrating the ability of online interactions to provide support, inspiration and motivation to consider alternative possibilities, in Riana's case if home birth was something she wanted:

> I hadn't seen anything like that before. Yeah so that was like an eye opener. I was like, there's a whole community out there, you know, just hard out doing it for themselves at home … they're just so amazing … I think to myself far would I be able to? (Riana)

Women birthing in hospitals and medicalised birth stories were more commonly shared in Riana's own social circle and what she had experienced for herself, with the birth of her first pēpi. So stories like these provided a positive contrast. Being exposed to different realities and possibilities through having access to other people's stories was very positive for Riana opening her up to new learning, attitudes and approaches:

> You know we just hear about so many, I've heard so many young girls lately have been going into the hospital and having C sections, not because they want to, but because it's the had to. And I'm just like wow far how do you get from this spectrum to that spectrum you know? So yeah, that page is cool. That page is really cool! And I never would have found that if I didn't watch her stuff. (Riana)

Being able to follow and learn from other women they could relate to, those in similar situations to them, similar age, marital status, location or cultural background provided opportunities to connect with people and information that related to them. Wāhine found, learnt from and were inspired by different people depending on what was happening for them at different stages of their pregnancy. Tia described how she found following a New Zealand based Childbirth Educators page helpful with tips and information when preparing for pēpi. She was also able to find a page that was relevant to her lifestyle, interests and goals of returning to her pre baby fitness, as sport and fitness was important to her:

> There's heaps of stuff always on their page about just prepping for your baby and then afterwards I started following these ladies, that postpartum coach for helping

> you get into training after like having a baby, so like in your first week they just like teach you breathing. (Tia)

Māori and Pacific Island social media influencers in particular were favoured by most māmā as they reflected similar realities, values and beliefs and often provided insight and inspiration around traditional birthing and parenting practices. Māma often mentioned Māori specific pages, influencers, businesses that they followed and consciously made an effort to find online:

> The people that I follow on Instagram most of them are Māori. So I feel like I can relate to them more than I would with the Pākehā page I guess. But yeah most of the people that talk about pregnancy and things like that I follow are either Pacific Island or Māori. So I think that's why I'm drawn to them. (Anahera)

Online mums groups were described as being valuable sources of information, even if they themselves were not actively engaging in discussions or posting questions. Māmā appreciated reading responses to other people's questions, as the answers provided useful knowledge that they needed at the time or provided insight into something they may need in the future. Māmā treated these forums as spaces to learn as well as providing support to other mothers:

> I haven't really asked any questions on there, but lots of other hapū māmā they ask their questions and I'm kinda like, Oh yeah that's actually useful to know like now that they've, it's not something that I've thought about but now that I've seen it and read it I'm like okay, that's cool. It's nice to know, yeah. But I know that when I do have a question and I can't get to my midwife for some reason, then I would ask on those pages. (Anahera)

Comments and responses also provided a space to learn different approaches and practices like home remedies, and traditional Māori practices like rongoā and using muka (harakeke/flax fibre) as a traditional and natural alternative to plastic umbilical cord clamps:

> Sometimes there's tips in those comments too or home remedies, or like Māori traditional stuff, yeah that's another thing I look at. I've never done that before, like with the muka, I usually had the plastic thing, because that's all I knew. (Amaia)

With so many platforms and apps available for wāhine to choose from every day, this daily choice around where they go to enhance their learning enables a real wāhine-led approach. Hana (midwife) spoke about how the online environment, social media in particular:

> It really puts women in charge of what they're seeking. So when they private message us [to the Facebook page] they decide what the conversation is about and we kind of refer to it as the Mana Wāhine model of care … What we like to think of it as, is that we're putting the experts in front of the woman. (Hana, midwife)

This approach recognises that the women decide what information or support they need, at any given stage or time, in the context of their own personal situation. Direct access is then provided to an expert, who will work to tailor a response and resolve the query according to their needs and situation, scaffolding the support.

Māori midwives considered māmā to be active consumers of information and maternity services, able to decide what, how and when they got the information they desired. It was often recognised that they no longer had to spend time giving hapū māmā information up front or front-loading them, time was better spent ensuring they understood what they had consumed, answer any specific questions and support them to apply the information they already had or received to their individual situation or scaffolding their learning, as Hana (midwife) so clearly stated:

> We've got to recognize that this generation has access to so much, you know at any point they can ask what material is my device made out of, you know the smallest level of detail to the bigger conversations. They can access that information right now. So they don't need to be front-loaded because they just need you to discuss what they've asked about. That's what they do now, that's what contemporary learners do now they scaffold subjects. (Hana, midwife)

Pania (midwife) also agreed that there has been a change in the way information is shared now with the use of technology, with many hapū māmā in her experience preferring information in snippets:

> Snippets are great because you can screenshot something and send it to them. There's definitely a change and I'm struggling with it. But there was definitely a change in how people think and act and behave from a younger generation and their expectations of how to communicate, or yeah it's just different … Their information comes from friends and family and Instagram, Facebook, online stuff, Tik Tok now. (Pania, midwife)

After discussing snippets and other ways hapū māmā are accessing information and support, Pania also described recognising different patterns of behaviour emerging, potentially due to this increased online activity. She noted that she doesn't get as many texts querying concerns like fetal movements, in the evenings as she used to. Concerned it may be something she had changed or if it was more to do with changing attitudes of hapū māmā. She wondered if it was "because there's people I'm missing an opportunity to check in with or is it that they're actually calling when it's real" (Pania, midwife). Possibly suggesting that hapū māmā are finding reassurance online, at times of uncertainty rather than reaching out to their midwife with every question or concern. Some hapū māmā are at times able to utilise online resources. Whether that be through the links the midwives provide for information or are reaching out to other māmā, family or friends online, during these times.

Summary

This theme demonstrates how being exposed online to the stories and journeys of other wāhine, provided opportunities for māmā to be inspired and feel empowered to consider their own desires and aspirations when it came to labour and birth. Of significance was the ability to actively seek social media pages, vlogs and online groups that included other wāhine with shared similar cultural backgrounds, stages, and interests. Viewing videos, photos and relatable content enabled māmā to connect more with the information and advice they viewed, as it was more applicable to the context of their own lives. Increased awareness of birthing options, techniques and traditions also provided inspiration and starting points for discussions that could impact on their own birth plan.

“You're not alone”- Fostering a Sense of Security and Reassurance

This theme explains how the constant availability of the online environment provided the wāhine with ready access to information and support people. Being able to quickly access advice through the various different platforms whether that was quick generic answers on Google, tracking and monitoring development with apps or reaching out and asking friends and family in a group chat on Messenger, fostered a sense of security and reassurance. This theme is divided into two subthemes, the first focusing on ready access to information and advice and secondly ready access to support people, especially trusted friends, family and health professionals.

Ready Access to Information and Advice

Apps that enabled māmā to track and monitor their pregnancy and the development of their pēpi helped to remove some of the doubt and feelings of the unknown. Being able to track or monitor the different stages of development was not only educational but also provided regular updates that for some wāhine provided them with the reassurance they needed in terms of what they were experiencing and what was to come:

> It’s good to help you keep track of how many weeks you are and stuff ... I think it was um like getting notifications every day and like remind yourself that you’re pregnant [laughter] um and just seeing your baby like grow and it’s just like through an app. And just gets bigger and bigger. (Maraea)

> It's just got heaps of cool little things, like it's got a kick tracker. So you can check when baby does movements and things like that. It's also got videos so it shows me videos that are relevant to whatever week I’m in. So I’m at twenty eight weeks now, and it's got like inside pregnancy weeks 28 to 37. And they'll have video, like that fast stats and labour and delivery preparation is the videos that they've got on my forum for this week. (Anahera)

Most māmā used or had used apps that tracked baby’s physical development, these apps provided a visual representation of the changes they couldn’t see. Apps which provided information around the physical growth of the baby by comparing it to the size of different fruit were mentioned. Also apps that had a representation of the baby in a 3D model. Being

able to see these representations provided a sense of self-assurance and connection with what they could feel but not see. Hana, one of the Māori midwives supported this saying "We use apps because some of them hold quite a lot of information really succinct, with good images as well … they all like the visuals … So apps are a great free, usually free way to do that." (Hana, midwife)

Apps were popular with most māmā. Some māmā tried or were recommended different apps at different stages by friends, family members or their midwives. They recognised the benefit of the information, but sometimes the need to maintain a log and keep a record was not considered relevant or worth the effort. However, having the ability to try different apps at different stages even if you just used them for a month and then discontinued was still considered valuable. It was recognised that some mums just like to know how their baby is progressing or they could be helpful in picking up on patterns of behaviour. Riana considered using an app recommended by a friend:

> She did suggest monitoring your feeding, like there's this feeding app that she uses for feeding, like just tracking when baby feeds, when baby poops but you obviously have to log it. I just thought, oh probably won't be able to do that you know. But it's good, it's what she recommended. So she did it for a month and what she saw when baby first arrived was the nights he had a really long sleep and then the cluster feed nights. So that looked pretty cool ... But I thought I don't need an app. And then to work out how much he needs to be fully content on both sides to have a better sleep. So she did it yeah, there was some logic behind it but I just thought neh … I might give it a go, I don't know. At the moment I'm not fussed. (Riana)

> When I had my first daughter I had another app but it was more so to keep track of like, when do I change your nappy, when she'd fed things like that … I think I only used it for like four weeks, while she was a newborn and then stopped using [the app]. (Anahera)

There was a shared belief that anything could be found on Google, māmā often googled questions about their pregnancy as Maraea, a first time māmā, explained:

> I was always on Google just researching like, it would be like a question like what does it feel like to be pregnant? Or like what are the symptoms? ... What it would feel like to have a baby [laughter]. How sore I would be, like just all those dumb questions"

Being able to ask questions in a non-judgemental environment provided a sense of reassurance. It was particularly helpful to be able to Google a question if they had doubts or concerns rather than waiting for the next midwife appointment or constantly asking family and friends. Even though māmā were aware they would just get a generic response, being able to ask the question sometimes provided enough relief in the moment:

> If you wanted to get like real stuff ... I'd go to that Facebook group, the mums group but you'd have to find it, but if you want it then and there it would be Google. Google would say it's different for every woman and that would be the only thing it would say to me ... I researched so much. Like I just went to Google all the time, and like what does it mean if my feet are getting swollen, just all those type of questions. (Maraea)

> If I did like have a question or something, sometimes I would just type it into Google and see what comes up. But so much different information can come up on Google … I don't really rely on that source. (Anahera)

Having access to other mothers through different forums or social media groups online was also a way that all māmā used to learn and gain knowledge. They often discovered tips and advice that was helpful at the stage they were at, but also for future use as pēpi developed or situations changed. Even if they did not use the space to share information about themselves it was considered a valuable space for learning as Maraea commented "I would just read everything...I wouldn't put a question there I'd just read". Even if they were not posting in forums, groups or in response to other peoples' questions, the responses other mothers shared were mentioned by all māmā as valuable sources of maternity information and gave them a sense that they were not alone.

Anahera described how having access to other mother's stories made her feel not alone. While her midwife and other sources provided information, being able to hear, read or see other women's experiences and journeys resonated with her as she might have been experiencing something similar. She was able to relate to the other women's experience making the information more real and relevant to her own situation, which offered a sense of reassurance:

> It's just more so the things that they go through, like could be something that I'm feeling at the time. And I guess it's just like you know you're not alone. When you see other people sharing their experiences and their journeys. (Anahera)

Māmā were aware of the potential to be overloaded with information especially when googling and using social media. They were resigned to accepting the negatives, such as targeted marketing as Aio explains about social media:

> You can't actually control it… but the best you can do is actually just scroll or there is actually a button where you say I want to see less. But it will just be replaced by another type of ad or product. (Aio)

The ability to be able to constantly check when uncertain while often leading to feeling reassured could also have the opposite effect; with Google providing every possible scenario, at times the information goes beyond what is needed and can create doubt or a loss in confidence in their own instincts or knowledge. As part of the focus group, Tia and Aio discussed the example of how initial concerns over things like a snotty nose can lead to feeling more concerned, and wondering if it's something more serious even though their own instincts know it's just a cold:

> Even now like "what does it mean if your kid has a snotty nose? Tia

> Cause then you think oh my gosh, meningitis [laughs] and it's just like a cold … when really I think sometimes in a way it can take away your own instincts though aye? (Aio, responding to Tia)

Māmā were aware that the amount of information available on Google could lead to more confusion and concern. This led to them reaching out to seek clarification and advice from trusted whānau and friends when they had a specific question and wanted practical, relevant advice.

Ready Access to Trusted Relationships

Even with all the available online sources of information wāhine often preferred advice from trusted whānau and friends over that which they found through other sources. Information from whānau and friends was often seen as more relevant to their situation especially when seeking culturally relevant or localised information. Group chats with mum, sisters, cousins, Aunties and friends were used to have ready access to trusted people.

Tia and Māraea reflected on seeking advice and reassurance from a family group chats. Being able to reach out to multiple people at the same time, or just those with specific knowledge or experience, was made easier and quicker through social media communication features. Tia felt instant relief after reaching out, when she was concerned her daughter was sleeping too much, after sleeping for 11 hours:

> I called my aunty, I messaged her on Insta, oh no on messenger and my mother in law was like she's sleeping too much, and they were like just wake her up next time, feed her, don't worry. I was like do we need to go to the doctor, [group laughter] she's sleeping way too much, they're like relax. (Tia)

> I have a group chat that's just with me and my like few cousins. That would be the go to page to ask, so I'd ask my cousin cause she's had a c section too, ask her heaps of questions about c sections and stuff. (Maraea)

The ease with which information can be found could lead to difficulty in knowing which source to trust. Wāhine developed strategies to counteract this and did not rely on what they read without checking the credibility of the source through health professionals, government sites or friends and whānau:

> Friends in common is a good thing, I can see when say if [name] liked a post from someone else, I'd be like cool, then it must be something relevant. (Aio)

> I think … the comments, cause sometimes in the comments are midwives. That's what I've read lately, and that gives a good indication of whether it's good or not. (Amaia)

> If it's suggested by somebody that I know, or by somebody that I already follow. And if they've got high likes, if they've talked about regularly, then I'll check them out. (Riana)

Summary

This ready access to information and support people online meant that māmā would feel reassured by what they read, being able to track and monitor their pregnancy, helped to reduce concerns and worries around common pregnancy symptoms and stages as they arose. These reflections highlight that mātauranga from whānau is valued and made easier and quicker via online platforms like social media. Māmā were able to stay connected with their support networks and regularly sought advice from experienced wāhine in the whānau. Which meant they did not need to feel alone with their doubts or alone in their experiences.

"People they want like now, now, now" - Available All Hours

This theme looks at the flipside of the online environments ability to provide access to a constant stream of information and easy access to support people. Most wāhine reflected on how challenging it was to disengage from online platforms such as social media, and it could put pressure on people, midwives in particular, to be available at all hours. This made maintaining personal and professional boundaries difficult at times. Most wāhine commented that they felt they were online too much and some māmā noted that their usage increased when they became pregnant. "I think I probably use it more frequently now…I don't know how long I would spend online, but I feel like I should cut down" (Anahera).

Being able to maintain personal boundaries was a struggle for some wāhine. As smartphones were always present with ready access to various avenues of information, people and entertainment, most wāhine felt that they experienced some level of over reliance and recognising how easy it is to spend too much time scrolling social media:

> Even with like texting and stuff, people are texting or private messaging, I'd rather say just ring me and have a talk so I don't have to keep going back to my phone, cause then I think once you're on there texting or you're on Messenger and you're waiting for the reply, then you're like I'll just go on Facebook. And then you end up sitting there and you're like holy shit it's an hour [group laughter] whoops. (Aio)

Māmā with other children could often see the impact this could be having on their life and time with their family, as Amaia explained "cause it's taking time away from your kids and what you should be doing." So while all wāhine valued the convenience and accessibility a smartphone provides, most wāhine were also actively trying to use it less as they felt they spent too much time as a family on screens. COVID-19 lockdowns and other restrictions no doubt had an impact on online behaviour, as people were forced to stay home, for unprecedented lengths of time and day to day life went online including schooling and work.

> We turn the tv off, I turn it off all the time now, nah you're not watching that, let's play a game. It was an overload in the last what so many years, now it's kind of like let's be real people and talk to each other. (Amaia)

All wāhine, both māmā and Māori midwives felt online activity did not impact on their building a trusting relationship and getting the information and care they needed. However all Māori midwives reflected on the importance of maintaining professional boundaries especially now that more communication and service delivery is going online. Expectations need to be formally managed, as etiquette and social norms change alongside the online environment. And "sometimes the expectations of what a midwife is, is really through the roof" (Hana, midwife).

Professional boundaries can be hard to maintain as people become used to going online at all hours, normal work hours can sometimes be overlooked. Most māmā mentioned that they usually texted or called their midwife if they needed to contact them as this was their preferred method of communication. However Māori midwives sometimes experienced late-night messages or messages when they were off duty or on days off and felt obligated to respond due to professional responsibility and their commitment to the māmā and safe

practice. Māori midwife Kiri, explained how she found it difficult when māmā used her personal Facebook Messenger account to contact her, as she would feel obliged to respond:

> Then I'll feel obliged that I have to reply if they're asking me a question about care, about midwifery related care. Like if it's on a normal text then it comes up with my auto reply saying actually I'll reply to you between the hours of nine to five, where as they don't see that on [Facebook Messenger] so you know what I mean so I feel obliged that I have to, cause you know they can see if when you've seen it. (Kiri, midwife)

Pania also described feelings of professional responsibility and "doing it because I know if I don't … that's our future. You know those people, those babies are our future." But she also felt it was important to have work-life balance so she could continue to be a midwife for years to come:

> Yeah absolutely, if it's urgent, call, and if it's not urgent we can talk about it later you wouldn't expect to text your doctor at home at 10 o'clock to ask if it's okay if you dye your hair. Well I'm a human being myself you know. I have a family of my own and … I've been doing this a long time and I want to be doing it for a long time. (Pania, midwife)

Pania also touched on how with the ever growing and changing social media space, people use and prefer different platforms, so it would be a near impossible job trying to maintain them all. Māmā also mentioned other platforms like Snapchat and Tik Tok, which also have messaging capabilities, making it difficult for midwives to be able to cover all platforms.

> In some ways that's really limiting for people and that I don't like that it's limiting for them but at the same time I'm a human being and I'm not willing to be checking Facebook Messenger, Viber, WhatsApp, emails, text messages, phone calls. You know it's just, it's too much. Although I get from their perspective it'd be beneficial if they could just Facebook Messenger you. (Pania, midwife)

Because it's so commonplace people can forget there is a person at the end of the message, and not a machine, that needs sleep or has other things going on in their life.

> Like when it works well it works really well, it's when you don't have boundaries in place. But it can be a problem when you've put a boundary in place but nobody else can understand it. People they want like now, now, now, now, [snapping fingers] now. Right now, right now. It's this really hard thing where they want you to be a real human being so that you give them real human care and compassion. But they want you to do it as though you are a plugged-in robot and it's just like, you can't have both. You know? (Pania, midwife)

Also, tikanga Māori adds another aspect. Whakawhanaungatanga and connections are important, as is prioritising cultural practices that are in conflict with organizational or 'western professionalism' rules, so differentiating boundaries can be challenging for some Māori midwives.

> There's that taha Māori side where you know everything we do within te ao Māori when we think about tikanga Māori is about creating connections, whether it's karakia, tohi or even just whakawhanaunga, every single thing at the core of its intention is about connection. I think we have a philosophical understanding that those ties are there regardless and so with social media, oh you know you think about ethical professional boundaries within a Western system, say if I was working for an organization and I went over to that house next door and caught up with that whānau and found out that our nans were third cousins or whatever, you know that connection was there before I became employed by the organization. It is the same with social media. So if you're having a conversation or kōrero and you've got, you know, pre-existing links, those professional boundaries don't really determine how you engage with each other. (Hana, midwife)

For Kiri professional boundaries were hard to maintain "because a lot of clients that I have I know outside like or they're either family, friends' kids or ya know what I mean". These whānau connections are often the way māmā found their midwife. Only one māmā who was living away from her hometown went online to find a midwife.

Riana and Anahera shared experiences that highlighted how family connections enabled them to find their midwives. Riana's cousin recommended a Māori midwife:

> So when I rung [midwife name] and I told her that [cousin's name] told me to contact you … She said oh yes I always look after [cousin's name] whānaunga so yeah, she was just automatically all good with being my midwife. (Riana)

> So my sister had her, my cousin had her, my Aunties had her and I just wanted to go with someone that I was familiar with, because of my whānau going with her. And they all had really good experiences with her. (Anahera)

Whakawhānaungatanga is an integral part of Māori engagement and connection. Social media is just another form of connection as Hana reiterates, highlighting the interconnectedness and obligation between māmā, whānau and Māori midwife:

> As an Indigenous practitioner when I'm looking after a whānau, I understand that she has a whakapapa and that whakapapa you know is interconnected probably with mine, but at some point. And so my obligation isn't just to her, it's to them too. And so what does that got to do with social media? I think it's just another form of connection. (Hana, midwife)

Summary

For most wāhine the constant accessibility to the online environment had an impact on different areas of their lives. Wāhine however were aware of this and made a conscious effort to manage the time they spent on their phones, developing strategies, boundaries or rules in an attempt to be more present in their lives. Tension was experienced by the Māori midwives who were aware that to be sustainable they needed to maintain professional boundaries for their own self-care and wellbeing, while still being accessible and providing care in a way that did not contradict tikanga Māori and cultural practices like whanaungatanga and manaakitanga.

Reconnecting and Reclaiming Māori Birthing Practices

This theme looks at how the Māori cultural identity of the wāhine was embraced, sustained, supported and honoured throughout their pregnancy journey. This was something that was vital to all māmā and they actively engaged with various platforms to support and nurture themselves in this space. Attending Hapū Wānanga, having a Māori midwife, following Māori vloggers and influencers, and supporting Māori businesses were identified as ways māmā were able to learn and connect to te ao Māori.

Most māmā attended a Hapū Wānanga and found these wānanga to be highly valuable. Although māmā attended these wānanga in person rather than online they are included as they were promoted online, the enrolment process was available online and links were promoted and shared by family or friends. Some also included online content and they also had associated Facebook pages that māmā found valuable after the course. All māmā who attended a wānanga found it to be a crucial part of their maternity care and learning and it also emphasised that their culture was respected and valued.

There was a shared agreement that having access to te ao Māori and culturally relevant practices was important to their pregnancy journeys. Māmā had different levels of understanding, knowledge and experience of te ao Māori. Amaia, who was having her fourth pēpi, and was involved in Kōhanga Reo, felt she gained so much from attending a hapū wānanga especially in regards to traditional practices and rongoā:

> Yeah I like all the traditional stuff. Yeah that was mean … I knew harakeke was good but I didn't know it was like that… that's what I'm looking forward to and even making the clay thing for the whenua…We made our own muka and then they were going to give us wahakura, so I thought that was cool cause I've never had that before… And then we had pūoro Maori, [taonga pūoro practitioner's name] she took us through all the stuff, and what they use when baby was born, and yeah that was cool. And that [taonga pūoro] it helps like if you've got a headache and it just and for baby, it's meant to calm you down. (Amaia)

All māmā who attended Hapū Wānanga had had children before and like Amaia they found the wānanga valuable and recognised that no matter your experience there was always something new to learn:

> Some women who have had two, three kids and then they went and they said they learned heaps. Like you think you know cause you've had heaps of kids [laughs] and then there's heaps of other stuff you can still learn. (Aio)

> There was older mums there that shared too and they said, you know this is my fourth kid but they've got a bit of a gap. But it feels like I'm starting all over again. So that was cool to see too. (Riana)

Tia shared her experience with the group of using pounamu and muka. The experience was made extra special by the fact her partner was able to use pounamu sharpened by his māmā to cut pēpi's umbilical cord. The whānau now have that pounamu as a precious whānau taonga. Amaia also reflected on how she was inspired to integrate this practice into not only her own birth plan but hoped it would be something she could share and pass on to her children. "I'm going to find some [pounamu] and then keep it and then they can just pass it down" (Amaia).

Riana also reflected on how she was able to connect knowledge and understanding she had previously learned through following other inspirational people. Attending the wānanga allowed her to reflect and apply it to pregnancy, which created new learning and awareness for her:

> I've heard this kōrero before with some of these other inspirational people that I know and I attended their wānanga. Their wānanga was about taonga pūoro and rongoā, so they did a bit of a definition about eating the mamaku to soften the cervix and stuff like that. About how tūpuna used to make a whare especially for when pēpi is born and go up in the bush and once pēpi is born a chief or somebody who witnessed it would play a certain tune on the taonga pūoro and it'll let the village know ko tai mai te pēpi, he kotiro, you know. So I did hear that prior, but I

> had forgotten when she mentioned stuff like that I thought…yes, yes I know … now I remember. (Riana)

All women who attended these classes spoke positively of them and how they had impacted on their decisions when it came to feeling more confident in asking for what they wanted. Riana commented, "Hapū Wānanga helped me … just knowing that I have rights to my birth, like where I want to birth and how I want to birth and what I want to happen like with my son".

The Facebook pages associated with the various hāpu wānanga were highly valued by the māmā who attended these programmes. The information shared on the platforms was highly regarded, as it was relatable, relevant and trusted. The Midwives/Childbirth Educators who run the courses were often actively engaged in the page. Connections were made with the people in the online groups as some were known to the māmā and their whānau from when they attended the wānanga or through the common ground of attending the hapū wānanga course and a shared desire to incorporate cultural practices and te ao Māori into their pregnancy:

> Going to that wānanga I've kind of just stayed on their Facebook group, and kept updated and things like that. They have heaps of information on there about pregnancy and labour and birth and breastfeeding and things like that … that's probably the only organisation that I feel connected to through social media ... and there's just lots of support on there, different Māmā going through the same things or advice and the Māori midwives that we met, who took us through the whole wānanga they keep in close contact with everyone as well... But I loved everything about that, those two days that was it was such a cool experience. (Anahera)

During the focus group Tia, Amaia and Aio also reflected on how they really valued having a Māori midwife this time. Having all had children previously, being able to have a Māori midwife who was able to support them culturally as well as clinically, and locally was a positive experience:

> Yeah it was cool having [name] and them too, cause we never had really like (Tia)

Like Māori ones, midwife (Aio)

Especially here aye (Amaia)

Being supported to incorporate traditional practices like muka, karakia, ori ori, ipu whenua, into their birth plan enabled the māmā to put into practice what they were learning through Hapū Wānanga and online. Honouring cultural practices also deepened their connection with te ao Māori. Amaia explained how after learning about muka she asked her midwife if she was able to facilitate using muka at her birth. “When I went to the Hapū Hānanga, just going through all the traditional stuff, like the muka, so I went back and asked them to do that, so yeah, that was something that I did”

Supporting local or Māori businesses and brands was important to some of the wāhine. Online shopping and marketing allowed them access to baby products that showcased and highlighted Māori design and culture, as Amaia explained “I just like they’ve got um the Maori designs and what they mean per wrap, yeah that’s what draws me to them”. Riana also mentioned different Māori brands that she had found and supported through Instagram in particular. Being able to search these products is made easier by the way social media works as Tia points out “when you like one, other businesses pop up too”. Highlighting how social media is used strategically for shopping.

When asked about any pregnancy apps she was using, Riana spoke about how she uses a moon app and maramataka app and her own knowledge of the maramataka to support her understanding of her energy levels and what might be the best way to approach her day. This is just another example of how māmā are incorporating mātauranga Māori into their pregnancy enabling them to connect with te ao Māori.

> So we're at the time of Whiro now, so I've just been following my energy levels … on the maramataka because of the moon…Anyway because I know some parts of the maramataka I can relate to when I’m feeling really high and really low and really down or if I'm really snappy or really growly, they'll be like what's going on with the moon. (Riana)

Summary

Being able to connect with te ao Māori and reclaim some of these traditional practices not only led to positive learning but was empowering for the māmā and often led to creating new family traditions and learning for the whole whānau. Having a Māori midwife and having a midwife who was able to support them to incorporate these practices into their own birth plans ensured their cultural practices, beliefs and values were honoured.

Whanaungatanga – The Importance of a Sense of Community

This theme focuses on the importance of whānau and other support networks during pregnancy. Social media facilitated whanaungatanga and enabled relationships to be maintained, creating a sense of community online. Wāhine described sharing their journey with whānau and friends, through video calling, group chats, posting announcements, and sharing pregnancy information. Anahera described how she send information to her whānau, "if I did see something I just usually screenshot it and send it to my mom and we have like a group chat kind of thing".

Apps were also helpful when used to support the involvement and learning of partners, with one māmā explaining that she had the app especially for her partner as it was his first pēpi. She had an older child so did not feel it was necessary to monitor her pregnancy quite so closely. However, her partner was keen to learn so she was able to share with him and he was better able to provide support and be more involved in each stage of the pregnancy:

> I downloaded one cause it was, she's my partner's first baby and he was interested, and like what's happening every stage, so every month he's like, oh she's the size of an apple or something [group laughter] And he's like but why is your stomach so big if an apple is [demonstrates with hands]. (Tia)

Being able to see whānau on video calls was especially beneficial during COVID-19 lockdowns and at times of COVID-19 restrictions. Whānau were able to stay connected and feel a little like they were visiting each other physically:

> Especially over the lockdowns and things like that. My family we've got like a small group for like me and my sisters and my mom and then we've got like a big group

with my grandparents, and all their children and then all us grandchildren and that, and through that messenger we have like video calls, well we had them in the lockdown, in the level four lockdown when we couldn't visit our family so that was really cool, to stay connected with everyone. It felt like we were still visiting each other. (Anahera)

Wāhine were also able to find and engage with various different groups online. And for some there was a real sense of community provided by these groups. "It makes it a community place because there's other real people on there, commenting as well." (Aio)

Anahera joined the Hāpu Wānanga page after she attended their wānanga for her first baby. She found it so valuable that she stayed connected demonstrating the sense of community and continued supports that can happen online:

> There is like a Facebook page that I usually go to. They've got lots of information and stuff on their page. I went to their Hapū Wānanga when I was pregnant with my first daughter and that's how I've kind of stayed in the group. Through their Facebook page…It's open to anyone. So um there's heaps, there's been heaps of new people added to it… but all the people that I did the wānanga with at the time, they're all still on there as well and engaged in heaps of conversations through that page. (Anahera)

The ability to be part of multiple different chat groups or online pages or forums enabled not only the ability to connect with established close relationships but also meet and join online groups of people or forums around a shared kaupapa. This was true for both māmā and Māori midwives:

> It's got like a forum on there, where other women who are hapū can go on and ask questions or you can like join a group with people who are due around the same time as you. (Anahera)

"Māori midwives are like unicorns" (Hana, midwife) so they come together online to provide support to each other. It also provided a space to problem solve, connect wāhine seeking a

Māori midwife, organise social catch ups and to kōrero. These closed Facebook, Whatsapp and other social media midwifery groups also provided the Māori midwives with a supportive community they could access for professional support when face with new situations or concerns. All midwives mentioned being part of various online groups, from groups of colleagues to localised groups, regional and national Māori midwifery collectives and national midwifery groups:

> If I've got a question or concern that I can't answer for my māmā, I will take it to that chat because it's just full of midwives. Then [finger snapping] and its easy access for me to get information, love it.... there's just a wealth of knowledge. So I feel really well supported through that because you'll never not get an answer. (Kiri, midwife)

Kiri also highlighted their use in terms of professional development and learning. "It's good for my learning as well because some things you just don't see and you may never see during practice and you go wow, ok that's cool you know so yeah it's helpful with my learning"

Social media was also recognised as being able to generate and stimulate engagement and support for kaupapa orientated issues. Different forums were used to be able to reach a wider audience and stimulate engagement and involvement at a national level. "What social media does is it allows us to broaden our reach for conversations" (Hana, midwife). Conversations like pay parity and the resulting Dear David campaign was a demonstration of how groups could come together to highlight an issue and empower women nationally to have their say and be involved, making it a great tool for bringing a community together and stimulating engagement in political issues:

> One of the midwives created Dear David. So Dear David was, she goes send me your experience as a midwife, as in the work you do compared to the value of what you've just done. So what you got paid to do that work … so everyone started sharing and so she did them anonymously on Dear David memes and so she just started filling up social media with this Dear David campaign…so Dear David caught three babies this weekend slept two hours … whatever the hard part was,

> can you review section 88? Which is what we're trying to get pay parity on. And so that generated … marches, so then each town did a march. (Hana)

Considering there are so few Māori midwives, social media platforms allowed them to be connected and support one another and to come together online to discuss and work collectively on issues and submissions and pieces of work, presenting a united front.

While a wide reach can have positive benefits, some wāhine also had privacy concerns. Riana had recently changed her privacy settings to reflect her growing concern around who would be able to see her children and the permanence of online posts and the uncertainty of not knowing all her followers:

> Just about posting our kids on there … if you've got a public page, once it's on the Internet it's on the Internet and you know, people could, weirdo people you know, that stuff has been of recent, has been concerning. So I'm more wary now, where I post, where I'm gonna post this one [pēpi]. Or if I will post her … I changed my settings so but still. I've got a lot of followers like there's three and a half k. that follow me and I don't know if they're creeps. You know I don't know if they've got bad intentions or anything. I've definitely had those, ones that send you weirdo messages. (Riana)

While having these "weirdo messages" sent to her was not particularly concerning for her, as she was able to block them and laugh at them with her partner, it made her acutely aware of how you never know other peoples' intentions and you cannot control their actions online.

When talking about her own professional website Pania (midwife) also mentioned wanting to maintain some sense of privacy and protection for her family. Stating "I put childhood photos of my kids because I don't want my kids identifiable if something goes wrong, as it has, not for me but in the past". She was mindful about what information and images she put on her website in order to respect the privacy of her children while still presenting an honest representation of herself.

Summary

The wāhine all had varying experiences of the types of social media platforms they used but a key desire they all shared was being able to share and connect with their support networks. For māmā being able to connect with whānau via instant messaging or video calling was crucial for emotional and practical support. Social media groups were also able to provide a sense of community, both personally and professionally. The wide variety of online technologies available enabled options that allowed engagement at the level wāhine desired, while also attempting to protect the privacy of their whānau. Whānau involvement was key to their health and wellbeing, especially during this time.

Facilitating Relationships with Maternity Care Providers

This theme describes how the convenience and technological enablement of handheld devices not only improves access to information and care but also encourages and supports wāhine to engage with their maternity care providers. Online portals connect hapū māmā with their clinical notes as well as recommended links and advice, providing a convenient, easily accessible repository of maternity care information.

Māori midwives reflected on how online technologies support them to work and self-manage their time more efficiently. As Kiri exclaimed "I couldn't do mahi without it … Now I'm like, I can do it wherever I am. Yeah I've done it [work related activities] when I'm even out walking and exercising". Phones and tablets are portable offices, essential for practice. As midwives are often on the road or on call the ability to engage when it suited them was valued.

> I've got a small app on the phone, which is really good if somebody just calls up, I can pull over in the car but I don't have to pull over, open up something, wait for it to load I can just see it straightaway for highlighted kind of stuff, helps me to see like how many people have I got booked for then. It's just a very easy way of looking at it. (Pania, midwife)

Pania also described using her website as a digital space where everything her māmā needed in terms of resources and information was always available. "It's actually for me it's more of a place to store my own information like pregnancy info for them. To have a space that's digital that's us". She even recognised that most mums are using their phones to access information

on her website so it was “set up so that you can do it on the [mobile] telephone because that's where most people will be”.

The two midwives who worked as LMCs both used the patient portal platform Expect Maternity, which enabled them to work more efficiently remotely and on the move. This platform was also valued by the four wāhine who used the platform as it allowed them to have access to all their records including medical notes, scans and test results, links to recommended websites or health information all in one place, making it easier for both māmā and Māori midwife to manage and organise their records and appointments:

> That midwife app thing that’s pretty good. Yeah it’s all your information and then they post when your scans are or your results from your bloods, your conversation at your last appointment, when your next one is … like that’s how I keep track of my pregnancy stages at the moment. (Aio)

Anahera also highlights the importance for her of having discussions with her midwife first:

> Yeah, so she adds all of that on too and all my results from tests, adds it all [onto] that portal so that I'm able to view it, but she doesn't upload anything without talking to me about it first. (Anahera)

One wahine, Amaia did not engage with the platform even thought it was available, and although she did not remember receiving the link for her to access the portal she commented “I don’t use anything, because it’s my fourth [pēpi] I’m just like whatever, like they even asked me do you want a scan and I’m like nah, maybe that’s why.” (Amaia). However after hearing from the other wāhine in the group she thought it sounded “cool” and was interested in how they were using it and how all her information would be there saved in the same place, if she just logged in and accessed it.

In addition to portals such as these facilitating and easing record keeping and engagement with LMCs and medical practitioners, Māori midwife Pania noted that knowing you are able to access your information, essentially carrying it with you at all times can be useful when travelling for example:

> Expect Maternity … allows my clients to be able to log in and see their own notes in real time, at any time. So say for example if somebody gets on a plane and hops down to Nelson and something's happened they can access all of their notes right there. (Pania, midwife)

The online portal also provided care plans for māmā, including reminders for appointments, scan images and access to trusted information and websites that their midwife recommended. Therefore was a ready source of trusted information, which facilitated learning outside of appointments by providing key information and education for māmā to check before reaching out to their midwife:

> I always say go into your care plan, have a look if … you need more info, these are the ones to have a look at, you know, then I don't tend to get bombarded by, 'is this normal? What's going on?' I think that's actually been really helpful. (Kiri, midwife)

In addition to the online portal 'Expect Maternity' and professional midwifery websites, all the services the Māori midwives were linked to have Facebook pages. Some of these pages were used mainly as a noticeboard or to share information, on local services or health promotion topics. The need to consider safety alongside engagement was recognised by some of the Māori midwives. The comments on these pages were sometimes turned off to ensure the information on there was within the control of the midwife. While it was recognised that this was not how social media was designed and doing this reduces engagement it was considered important to provide a level of protection and attempt to control the quality of information as Hana (midwife) mentioned "with the social media, with the online platforms you can't control the quality":

> We have a Facebook page where I can put up info for mums, but the one issue I have with that is that I've had to make it so that people can't make comments on there…So that's not the best way to use social media, the best way to get people to engage is to be able to interact. But I can't do that because I can't moderate what they'll say….if things go sour and things go bad people will say whatever they want. It's already seen, it's already out there before you've had a chance to take it down.

> So in that regard it's made that tool for communication less effective. (Pania, midwife)

However, if pages were moderated they were an effective engagement tool. Some maternity providers were able to have a moderator assigned to the page that could actively manage the information but this was considered something that not all midwives are able to do.

As this research was conducted during the COVID-19 pandemic in New Zealand it is important to recognise the impact of the COVID-19 environment at the time. The restrictions associated with lockdowns and isolation in particular not only had an impact on people's lives but also the online environment. It forced people to find different ways to engage and provide services to people, maternity care included. Many midwives and maternity care providers, who were not so active online, embraced technology and learnt new ways to engage with wāhine, including developing online Hapū Wānanga content, virtual lactation consultants and midwife appointments:

> So what COVID did was it made certain ones step out of their comfort zone and go hey, because it was such a long period of no contact, how can we use these tools? And so some people did this really well and have gained new skills and so there [was] a massive attitude shift to the benefits of … [social] media for whatever their core business is (Hana, midwife)

COVID-19 created panic initially, but midwives were able to provide a sense of security, showing māmā that someone cared and provide reassurance by sending out emails with general information and Facebook updates. These platforms were vital to being able to keep their clients informed of the changes, especially around visitation and appointment restrictions and changes to procedures. Being able to provide this information during such a time of change and disruption helped to reduce and moderate confusion and frustration:

> So I think that gave people an instant sense of not control… is not the right word to articulate it but a sense of something immediate, like somebody's thinking [of them]. Like even when we didn't know what we were going to do first, I let them [māmā] know, we're working on it. Watch this space, it'll be coming. Rather than

> having people be anxious and jump to the conclusion that they're out of service, no midwife, I'm on my own, I'm pregnant what if something happens, my baby's due next week. Yeah all that kind of stuff. (Pania)

This was especially difficult during and after the birth of the baby when whānau would usually be able to visit and share in the joy of the new arrival. This was a difficult time for the midwives having to enforce rules and for the māmā not being able to have her support network around her.

> That was tough, cause no one likes that, it's not nice you know, they want to celebrate but they can't. And it's just we have to follow through with our rules and regulations. (Marama, midwife)

As people became more familiar with using online platforms to maintain contact during COVID-19 lockdowns, these options could then be applied to other situations once restrictions were lifted. Ensuring hapū māmā who were unable to attend appointments could still see their midwife, and maintain connection during these changing times and moving forward:

> During COVID we used the video chat like through Messenger … so we'd still keep in contact that way, so I could actually still visually see them…sometimes I may still do that. Well I've had one mum that kind of continued that, cause she had hyperemesis so she was very sick, she couldn't even come in the car, so I'd just face to face [video call], but now she's over it, well not over it, but feeling a bit better, so she comes into clinic. (Kiri, midwife)

Some Māori midwives also found it helpful to receive short video clips or photos, through direct messaging on social media platforms. These images were able to provide a clear visual representation of the situation of concern, reducing the risk of misinterpretation. This helped to reassure both the māmā and the Māori midwife, who could then assess the situation accurately:

> They'll send me pictures through Messenger, 'Ahhh is this my show?' or 'Is this my waters broken'. Sometimes it's helpful like I don't mind those situations,

> sometimes I'll actually text them and say can you send me a photo? So that I can visualise it, and like don't freak out, this is ok, or actually like no I need to come see you something's going on. (Kiri, midwife)

Summary

Midwives were a trusted source of information and an integral part of maternity care. Having access to so much information and support online did not seem to have an impact on the māmā-midwife relationship, as this was a respected relationship built on trust, professionalism and for most of the māmā one also with whānau or personal connections. Online platforms have opened up new ways to engage, share and store information, and communicate. Māmā embraced these tools to help them actively participate in their maternity care and stay connected with whānau and their support networks, including their midwife. The Māori midwives in this research made good use of the online environment to facilitate and improve engagement with their services, work more efficiently and manage their workload. The COVID-19 pandemic sped up the inclusion of online technologies into general practice, but it's the passion and desire to provide the best possible care to māmā that continues to drive the development and utilisation of these tools into maternity care. As Pania asserts:

> There's so many pros, like technology is a fantastic thing. If you use it as a tool, there's so [many] possibilities. (Pania, midwife)

This chapter has presented a comprehensive representation of the research findings. Demonstrating some of the relational, cultural, social and clinical benefits that online technologies can provide. Enabling hapū māmā and their whānau to have all the information and support they need to ensure a safe, healthy, positive pregnancy, birth and continued family life.

Chapter five will draw on these themes, and existing literature, to discuss how maternity care services and professionals could benefit from integrating online technologies into their service or practice, to ensure equitable, culturally responsive, whānau-led care provision. Furthermore, it will discuss how wāhine could benefit from accessing certain supports and information online throughout their maternity journey, providing opportunities for

whanaungatanga and tino rangatiratanga, while also strengthening cultural identity. This will be followed by a reflection on the impact of COVID-19 on the research process, and concluding thoughts and recommendations.

Chapter 5: Discussion

The intent of this research was to identify the aspects of online technology that wāhine prefer, and the benefits they equate to engaging and interacting online. Understanding the effect of online activity on engagement with maternity care services, maternal health information and on the māmā-midwife relationship was explored, from the perspectives of both māmā and Māori midwives. An additional focus was to gain a deeper understanding of how online technologies are being used as an avenue and source of social, emotional, informational and cultural support throughout pregnancy.

This chapter will discuss and reflect on the findings constructed in the previous chapter in relation to existing literature, taking a strength-based, pro-equity approach. A reflection of the impact the COVID-19 pandemic had on the research process will be provided, before outlining the research limitations. Finally, it will put forward potential areas for future research and the implications for health psychology and health promotion. The overall intention is to contribute to the growing body of knowledge in the health and Indigenous psychology fields, to support and advocate for pro-equity, Indigenising and decolonising approaches and initiatives in maternity care. In particular, filling the gap in the literature focusing on the use of online technologies to support whānau-led, culturally safe practice.

As anticipated from recent literature all wāhine were already engaging online and active across multiple social media sites and utilising different apps, prior to becoming pregnant. The extent to which wāhine described their interactions and behaviours emphasises that they are active consumers of health information online. Utilising the features of the different online technologies to inform themselves, access maternity care services and support people, who are most appropriate and relevant to them and their whānau. Wāhine are able to connect with uplifting material, content and support in culturally recognisable, meaningful ways to enrich their maternity journey and beyond.

Whakawhanaungatanga and Relational Care

Relationships are a fundamental component of healthcare, with Māori health models emphasising the importance in terms of whanaungatanga and whakawhanaungatanga (McLachlan et al., 2021; Pitama et al., 2017; Stevenson et al., 2020; Wilson et al., 2021). Whanaungatanga conceptualises the connections and relationships important to Māori.

These can be whakapapa connections, unifying whānau with hapū, iwi, tūpuna and land, through genealogy or with people united by a particular kaupapa, experience or interest (Mead, 2016; Wilson 2021). Social media sites like Facebook facilitate whanaungatanga, through providing communication capabilities and group forums that connect whānau, hapū and iwi, maintaining and strengthening whānau ties (Sciascia, 2016).

Whānau play an important role in improving health care experiences, by providing advocacy, navigational and emotional support (Graham & Masters-Awatere, 2020; Wepa & Wilson, 2019). Both groups of wāhine, māmā and Māori midwives described utilising several different social media platforms to connect with their social and professional networks on a daily basis. These sites allowed professional, familial and personal support networks to be created, categorised and managed. Wāhine were able to draw on those perceived to be most able to provide the advice, information or support needed in the moment. Thus, demonstrating how these platforms if integrated into maternity care provision can support whānau involvement in maternity care, which is critical to improve health equity (Durie, 2011; Wepa & Wilson, 2019).

Online technologies enable whānau to be involved, even if they are unable to be present. Māma valued video calling, sharing photos, videos and links to maternity related information with their whānau. Māmā who did not post directly to social media pages were able to use privacy settings to establish private groups or share and ask questions via private messaging. Video calls in particular were highly valued as Anahera remembered from COVID-19 lockdown periods "it felt like we were still visiting each other". This highlights the sense of emotional connection that is reinforced when meeting face to face, even if not physically in person. Midwives also found receiving photos and videos useful in ensuring good clinical advice when responding to queries from hapū māmā. These technologies could be integrated into maternity care practice, if desired by the māmā and whānau, to ensure they were adequately supported.

Online groups can also facilitate whakawhananagatanga and have been shown to create a sense of community for mothers online (McCarthy et al., 2020). These online communities are seen as a resource of information and support, providing opportunities to learn from other mothers. If groups are created around a particular kaupapa, new and lasting connections can

be established and maintained through this shared connection. Being part of local groups enabled information to be tailored to current, location specific contexts, which also helped Māmā to minimise information overload. While groups focusing on cultural kaupapa or fitness were also mentioned and utilised to connect with people with similar ideologies and interests.

These groups, whether personally initiated groups or public groups also had challenges, often associated with conflicting views of correct etiquette and feeling bad when not engaging or wanting to leave a group. Sciascia (2016) raised concerns of online bullying and harassment, and although māmā did not mention experiencing this themselves, they were aware that it happens and had witnessed negative conversations online. Some of the midwives were aware of the potential for bullying to occur and were concerned enough to turn off the comments function on their Facebook pages. Midwifery or maternity care pages with a dedicated moderator or administrator were considered more effective in promoting maternity care topics and engaging with māmā. Suggesting that digital literacy can play a key role in how positive experiences are online. Skills and strategies could be taught, or support given if needed to enhance online components of childbirth education. Specific online midwife-moderated group initiatives like those explored in the United Kingdom (McCarty et al., 2017, 2020), could provide a safe, New Zealand specific space for māmā to access a midwife and trustworthy, quality information and advice. Whether initiatives like these could potentially reduce the workload of LMC midwives, along with any impact on continuity of care, would need to be researched further in the New Zealand cultural content, to ensure they work to enable equitable care provision.

Tino rangatiratanga- Autonomy in Decision Making

Valuing the whānau voice and providing opportunities for participation are key practice points towards tino rangatiratanga in the Te Hā o Whānau framework (Stevenson et al., 2020). Te Pae Mahutonga also identifies participation in society as one of its stars- or key points in the model, which includes being able to confidently access good health services and have ownership in decision making (Durie 1999). Online technologies provided opportunities for hapū māmā to gain confidence in their knowledge and abilities, enabling them to participate more confidently and to exercise tino rangatiratanga in their choices and decisions over their maternity care.

When wāhine were actively using the different online technologies as tools, they could be in control of what they accessed and engaged with. Māmā felt more connected, informed, and empowered as a result of being exposed to new learnings, ideologies, and approaches to child birthing and parenting online from other wāhine Māori. Some māmā spoke of feeling empowered or inspired, which lead them to advocate for themselves with their midwives. This aligns with wāhine experiences of Hapū Wānanga programmes, with improved self-confidence and feelings of empowerment being reported by participants (Barrett et al., 2020).

Presenting childbirth education material in a format that is not only appealing but honest, real, and relatable is essential to enhancing informational, emotional and relational engagement, and is critical for satisfaction and learning (Barrett et al., 2020). Approaches need to recognise the diverse realities and health literacy levels of participants (Barrett et al., 2020) and be presented by "somebody that'll engage and talk truthfully and straight up" (Riana, māmā). Suggesting that relational approaches, online and in person, will enhance the experience and therefore learning.

The Māori midwives in this study, recognised the changing way that māmā are consuming maternity care information, and actively sought to integrate new approaches into their practice. One midwife referred to the Mana Wāhine approach they utilised with childbirth education. Mana Wāhine approaches take for granted the mana and tapu of wāhine and enables them to understand and experience life "from a position of power" (Simmonds, 2019, p.160). Embedding Mana Wāhine values and practices, can minimise power imbalances between wāhine and maternity care professionals (Barrett et al., 2022) and support them to express tino rangatiranga in their own maternity journeys.

Cultural Identity – Reclaiming Knowledge and Practice

The online environment provides a space were Māori can experience tino rangatiratanga, creating spaces that contribute to cultural vitality and cultural revitalisation (Sciascia, 2016), and the processes of decolonisation (Green, 2020). The wāhine in this research proactively sought and accessed these spaces. Most significantly, all wāhine were able to find services and information that were relatable and relevant to their own situation. Following and connecting

with other wāhine, health services and maternity information that offered Māori and Pacific perspectives, celebrated cultural practices and provided lived experiences that wāhine could connect with and be informed. It is important to remember the diverse realities of Māori, as a result of ongoing impacts of colonisation, when considering cultural identity and its impact on health and wellbeing (Durie, 1995; McLachlan et al., 2021). The māmā in this research had varying levels of understanding of tikanga and mātauranga Māori, especially pertaining to Māori maternities, but all appreciated learning mātauranga and kōrero tuku iho around Māori birthing practices, hapūtanga and childcare.

Wāhine Māori social media influencers are actively revitalising cultural birth practices and knowledge online in an effort to Indigenise the maternity space and support māmā to be able to incorporate traditional practices into their birth plans. These positive spaces and online communities, such as those described in Green, (2020) as 'Māori Instagram' or digital marae, can potentially work to bridge the cultural gaps and inadequacies of the maternity care system. Non-Māori midwives may be unable to directly provide cultural knowledge, however, similar to recommending Hapū Wānanga, recognising and recommending cultural vlogs or social media pages, groups and online communities that can support hapū māmā culturally, is an example of culturally safe practice. Non-Māori midwives do not necessarily need to be competent in mātauranga Māori relating to maternity, but need to be able to recognise when it may be desired or needed and support the māmā to access what she needs.

In support of Barrett et al. (2022) the māmā, who were able to attend a Hapū Wānanga programme, found it a very valuable empowering experience, not only for the content but also the sense of pride and strength it elicited through being able to connect with te ao Māori. Māmā enjoyed hearing and learning about Māori cultural practices like making muka, wahakura, and ipu whenua, and learning oriori and pūrākau and the significance of taonga pūoro and karakia in childbirth. Being able to access this knowledge in a safe space, from other wāhine Māori and seeing their culture valued and accepted by non-Maori attendees also elicited a sense of pride in their Māori identity.

On deeper reflection, it could be considered that for some whānau the online environment provided an extension of Hapū Wānanga. They could access related content to further extend on the knowledge received over the programme. Some māmā stayed connected to Hapū

Wānanga Facebook pages, keeping themselves updated and connected with the online community, and often continued in the group after their pēpi was born. Anahera (māmā) explained how she continued to engage with the Hapū Wānanga page she joined with her first pēpi, which was then a ready, valuable connection and source of information for her second pregnancy.

Tools for Equity in Maternity Care

The COVID-19 pandemic raised the profile of telehealth options, as health services were forced to rely on them to provide effective maternity care (Westwood, 2021). Even though no māmā in this research described experiences with utilising telehealth for clinical purposes, all māmā were confident in using online technologies. Embracing the technologies available, including the Expect Maternity platform. Midwives described acquiring new skills over lockdown, like video conferencing with hapu māmā. One midwife described continuing to use this function to maintain contact with a hapū māmā unable to leave her home due to hyperemesis. Highlighting the value of video conferencing in situations beyond the COVID-19 lockdown, providing support to other housebound māmā who could benefit from a video conferencing appointment. These telehealth options could also enable wider whānau involvement in consultations, providing support to the māmā and also reducing financial and logistical barriers (Gurney et al., 2021). It has become normalised to communicate in this way, potentially making it a more acceptable practice.

When reflecting on how technologies could be utilised in their practice, Midwives in this research were accepting, and felt that being able to support māmā at specialist appointments, either through direct video calling with the māmā or being present when utilising telehealth options would be beneficial. This could also help to ensure continuity of care if all parties delivering care where involved. However, in the essence of ensuring whānau can exercise tino rangatiratanga, this needs to be a decision made by māmā and whānau, to support their right to owning their own health care decisions.

When considering telehealth and the use of online technologies it is important to address digital inclusion, digital poverty and digital literacy (Gurney et al., 2021: Westwood, 2021). Digital inclusion requires that a person understands how the internet and technology can help them, then has access to devices and connectivity, and the necessary skills and confidence to

navigate the internet safely (DIA, 2021). Digital literacy relates to having the required skills to navigate digital platforms and be able to communicate effectively, protect yourself and find and evaluate information. Targeted approaches and initiatives that ensure māmā are engaging in quality sites, that enable access to a New Zealand based maternity care professionals could benefit māmā by reducing time and distractions from wider searches and provide reassuring New Zealand specific content and advice as mentioned earlier. To ensure online initiatives are equitable requires that everyone has what they need to access them including devices, data and digital literacy skills.

Reflections and the Impact of COVID-19 on the Research Process

On reflection the COVID-19 pandemic had a significant impact on multiple aspects of this research. At the time the focus of the research was being considered, there was limited published research available on the use of online technologies in maternity care in New Zealand, especially from a Māori perspective. It was hoped that the research process would be conducted in 2020, however this was not to be the case. The start of the research process coincided with the beginning of the COVID-19 pandemic, with the country going into lockdown on March 26, 2020. Like other families in New Zealand this was an unprecedented event that had a significant impact on my personal circumstances, and subsequent ability to conduct the research in the original timeframe. This was largely due to additional work hours and responsibilities working in a Public Health Unit on COVID-19 focused work for the next two years.

While continuing to work through the research process, challenges were faced, and adaptations and changes needed to be considered. The first challenge arose during the recruitment process. While the region where recruitment was to take place was not in a lockdown situation, there was still the ever-present concern that COVID-19 alert levels could change. The region was also now experiencing community transmission and there was also the new threat of the Delta variant during the recruitment period of April to September 2021. Restrictions and precautions were in place when coming together face to face particularly in groups, and people were still cautious when out in public. The original strategy was to try and recruit people from different towns across the Waikato region, utilising local birth centres and Hapū Wānanga to recruit for focus groups, as mentioned earlier. However due to public attitudes, changes in Hapū Wānanga delivery schedules and the need to be cautious, as hapū

māmā were considered a vulnerable group at the time, recruitment was slow. Also, when considering Aroha ki te tāngata, I felt that coming together as a group of strangers was no longer the safest option and I did not want to put extra pressure on people at that time. Therefore, I shifted my focus to individual interviews with the option of video conferencing, using Zoom as an option or back up plan. Considering the research focus of online technologies, wāhine who were interested in participating were active users, so this method of interviewing was considered acceptable. Wāhine who chose to be interviewed via Zoom were comfortable using this technology.

In addition to logistical challenges the entire online environment changed including societal and professional attitudes to utilising it. Services were making changes and trying new ways of engaging and providing care to their clients online. There was a rapid growth in telehealth services, people were more accepting of communicating online, due to the restrictions and concerns around being face to face. They were even becoming more comfortable receiving health information via social media as the need to stay updated around COVID-19 related information got people used to following Health organisations over social media, using the COVID tracker app and even scanning QR codes.

While the online environment has always been a constantly changing environment, I feel that the past three years has really highlighted the benefits of online technologies, not just in health care, and health promotion. Perhaps it is more a personal realisation as I wouldn't have considered myself an active user of social media prior to the COVID-19 pandemic and if I am honest, I probably focused more on the negative aspects of it, being the mother to four children, including three teenagers. I was however interested in looking at it in a strength-based way in the hopes of being able to provide insights that would encourage maternity services and midwives to utilise it more, if and when applicable. And while the findings were predominantly positive, the main struggle that wāhine experienced was difficulty disengaging with their smartphone, which I was also struggling to do myself. It was challenging to stay positive and strength-based when analysing the data and discussing findings, when you are faced with the daily impact of how much day to day interactions and communications have gone online, and how dependent you are becoming on your smartphone and the online environment. This highlighted the struggle that participants also found of trying to disengage not only for yourself but also ensuring your children are disengaging as well, at a time where

everything was online, including schooling and a significant amount of social connections and interactions.

Research Limitations

One limitation of this research was the small sample size. As mentioned, the COVID-19 pandemic impacted the recruitment process, potentially influencing participation levels. It is also possible my inability to enact kanohi kitea and privilege in person recruitment could also have been a factor. Spending time in the community or with potential participants building connections and trust could have been beneficial and reassuring. I had hoped to attend the various Hapū Wānanga in the region as this had been found in previous research with whānau to be a positive method of recruitment (Gasteiger et al., 201). However, sessions were not running face to face as frequently or in the usual way and due to my own increased workload in the Public Health unit I was unable to attend any sessions.

Another limitation relates to the demographic of the group. Potentially a wider demographic might have resulted in different findings. Some of the participants commented that younger hapū māmā may have different perspectives, as they have grown up immersed in the online environment. It was also noted that only one māmā was a first time māmā and she was also the youngest participant. The other māmā all had older children and some had a ten year gap, so while this allowed for a comparison of what it had been like before the popularity of social media and the Internet, it was unable to capture more experiences of the first time or younger māmā, or even the older first time māmā.

Future Research Recommendations

While this research provides initial insights into wāhine experiences online in the maternity space, with the nature of online technologies developing at pace, further research is needed to focus on the different aspects identified in this research. Specifically, the role of online Māori communities and Māori social media influencers in cultural identity development and the revitalisation of Māori maternities.

Green's (2020) research with popular Māori influencers on Instagram highlighted the online communities and various spaces Māori are creating online to celebrate, discuss and share Māoritanga. Research with wāhine Māori influencers who are active in the Māori maternities

and parenting space could look deeper into cultural identity, interpersonal relationships and how spaces like these impact on maternal mental health and wellbeing.

Some of the māmā in this research identified two areas of interest for them, younger māmā and māmā who actively post or comment in public forums or on their own personal pages. They felt these māmā could offer different perspectives and experiences, so following the kaupapa Māori principle of research questions coming from Māori communities, further research could be needed to capture the voices of these wāhine. Possibly recruiting online as a means to find wāhine who actively contribute and interact in a particular space or forum. Further research could also potentially include co-design research with young māmā, this could not only provide a deeper understanding but also provide an opportunity to honour their voices and insights through co-creating an initiative to provide support for young māmā.

Implications

The findings of this research illustrate the potential for online technologies to be integrated alongside kanohi ki te kanohi maternity services, to support the provision of culturally responsive, equitable maternity care. The online environment provides multiple avenues in which wāhine can engage and interact to support the development of a secure cultural identity and to establish and maintain relationships that are vital for holistic health and wellbeing. It also further demonstrates the drive and desire hapū māmā have to engage with maternity care information and services, if it is delivered in a way that is relatable, culturally enhancing and whānau-led.

It also supports the wero put out calling for action, and advocating for transformational change (Edmonds et al., 2022). Māori health models and frameworks are available, and the online space is providing opportunities to support decolonising and Indigenising efforts in the Māori maternities space. My wish is that the findings of this research can in some way add to the growing body of knowledge in this area and provide insight and support to health practitioners to take advantage of these existing frameworks and embed cultural values and practices into maternity care delivery and engagement.

Conclusion

This research explored experiences with online technologies and their potential to support maternity care engagement and provision. The findings provide further evidence of the

importance of culture and cultural practices in engagement, service provision, relationship building and overall satisfaction in maternity care.

Online technologies were able to provide avenues for support and connection. Tikanga practices and values like whakawhanaungatanga and tino ranatiratanga could be enacted through online channels, enabling increased opportunities for whānau involvement and empowerment in decision making. Wāhine were able to connect with mātauranga Māori pertaining to traditional birthing practices and Māori maternities online, by following Māori social media influencers and being part of online communities, including Hapū Wānanga Facebook pages. These resources could potentially fill the cultural gap that can be present for some hapū māmā and their whānau in Aotearoa's maternity care system.

It is important to acknowledge the efforts the Māori midwives in this research are going to, to meet the needs of the whānau in their care, in today's technological society. They are embracing it, in ways that support their mahi, while working through the challenges it can create, and learning alongside the māmā how best to incorporate it into their practice. When taking a strength-based approach, as Pania said

> "There's so many pros, like technology is a fantastic thing. If you use it as a tool, there's so [many] possibilities." (Pania, midwife)

If used as a tool in the maternity care kete, it can support the provision of equitable, culturally responsive, whānau-led maternity care.

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Appendices

Appendix A: Topics and questions for discussion in focus groups – Māmā

These topics and questions will be discussed during the focus group. Apart from the demographic information collected by questionnaire, the questions simply provide a framework for discussion and may lead to other relevant information being offered and collected.

Quick survey around device and data
Do you have a smart phone?
What kind of mobile phone or mobile device do you currently use, if any? For example, tablet, smart phone etc.
If you use a mobile device what features would you use every day? E.g. phone calls, texting, the internet, smartphone apps, social media sites etc.
How do you access the internet? E.g data plan, pre pay, home wifi, public wifi
If you use the internet on a mobile device, do you usually have enough data to do everything you would like to? E.g. search the internet, use apps etc.
Do you know how much time you spend online each day? Estimate?

Focus Group Questions/Prompts – Maternity health & service access & knowledge acquisition
How have you been using the online environment (apps, websites, social media) since you found out you were pregnant?
Do you use any pregnancy-related apps? Which ones? What do you use them for?
What drives/attracts you to 'download' or 'follow' and what drives/attracts you to keep using them?
What features of mobile technology do you think are the most helpful or unhelpful to you when looking for pregnancy and infant health information or services?
What features do think there should be more of?

Focus Group Questions – Social connection
What makes you go online? How do you communicate online?
Do you use social media or online forums to connect with your support networks? Who? How?
Has this changed since you became pregnant? How?

Notes

Focus group sessions will be informal. They will start with whakawhanaungatanga and will follow a semi-structured format, using open-ended questions. Tikanga Maori values and practices will be followed in terms of maanakitanga, kanohi kitea, and aroha*.*

The main purpose of the focus groups is to hear from the participants their experiences of using the online environments to help them while they are pregnant, and what aspects or functions of mobile technology and social media they find useful.

Appendix B: Topics and questions for interviews- Māori Midwives

These questions will be used to guide the interviews. Apart from the demographic information collected by questionnaire, the questions simply provide a framework for discussion and may lead to other relevant information being offered and collected.

Quick survey around device and data
Do you have a smart phone?
What kind of mobile phone or mobile device do you currently use, if any? For example, tablet, smart phone etc.
If you use a mobile device what features would you use every day? E.g. phone calls, texting, the internet, smartphone apps, social media sites etc.
How do you access the internet? E.g data plan, pre pay, home wifi, public wifi
If you use the internet on a mobile device, do you usually have enough data to do everything you would like to? E.g. search the internet, use apps etc.
Do you know how much time you spend online each day? Estimate?

Interview Questions/Prompts
How are you using the online environment (apps, websites, social media) to engage with wāhine?
Has this changed since Covid-19, the lockdown? How?
How do you feel social media and the online environments are impacting on wāhine hapū?
How do you feel this impacts on your relationship with wāhine hapū?
What features of mobile technology do you think are the most helpful or unhelpful to you and your mahi?
What features do think there should be more of?

Notes

Interviews will be informal. They will start with whakawhanaungatanga and will follow a semi-structured format, using open-ended questions and prompts. Tikanga Māori values and practices will be followed in terms of manaakitanga, kanohi kitea, and aroha*.*

The main purpose of the interviews is to hear from LMC about their experiences of using the online environment when supporting wāhine hapū, and what aspects or functions of mobile technology and social media they find useful and how this might be impacting on their relationships with wāhine.

Appendix C: Recruitment Flyer

Wāhine Hapū

Do you use social media or other online platforms?

I would love to hear from you

Kia ora,

I'm doing research on how social media and online platform are being used during pregnancy by wāhine Māori; to find ways to best meet the needs and support wāhine hapū.

If you're interested in participating or would like more information on what this research involves please contac Deanne King.

Deanne.King.2@uni.massey.ac.nz

Or text/call XXXXXXXXX

Appendix D: Participant Information Sheet and Consent Form – Māmā

NGĀ KUPU WHAKAMĀRAMA / PARTICIPANT INFORMATION SHEET

Study Title: Wāhine Māori perspectives on social media use during pregnancy

Researcher: Deanne King

Contact phone number: XXX XXXXXXX

You are invited to take part in this rangahau/research on the use of social media during pregnancy and early motherhood.

This Participant Information Sheet will help you decide if you'd like to take part.
It tells you:

- What the research is about and why I am doing the research
- Who can take part and what taking part will involve
- What your rights are and what will happen with your information

Whether or not you take part is your choice. If you don't want to take part, you don't have to give a reason, and it won't affect the care you receive from any maternity or child care service. If you do want to take part now, but change your mind later, you can pull out of the research at any time and there is no need for an explanation. We can go through this information with you and answer any questions you may have. Before you decide you may want to talk about the study with other people, such as family, whānau, friends, midwife, or healthcare providers. Feel free to do this.

If you agree to take part, you will be asked to sign the Consent Form on the last page of this document. You will be given a copy of both the Participant Information Sheet and the Consent Form to keep.

He aha te kaupapa o tēnei rangahau? What is this research about?

This rangahau/research seeks to explore wāhine Māori experiences with social media and online communities during pregnancy. Social media has grown in popularity and is regularly used when looking for health information or keeping in touch socially. However, there is

limited published research on the impact of social media use during pregnancy in regards to how wāhine find and connect with maternity services and maintain social connections when pregnant. By talking with wāhine Māori we hope to be able to better understand how they are using it, to better support and meet the needs of wāhine hapū and improve access to quality pregnancy care information and services by looking at the best ways to utilise the online environment.

Mā wai e mahi tēnei rangahau? Who is doing this research?

Ko Deanne King tōku ingoa. Ko Taranaki me Ngāruahine ngā iwi. I am a mother of four tamariki and a Master of Science Health Psychology student at Massey University. I am also currently working for the Waikato DHB Public Health Unit as the Senior Health Improvement Advisor of the Community team working with Māori and Pacific communities. This research is part of my personal study and is not in conjunction with my employment.

Mā wai ngā tāngata e whai wāhi ana ki tēnei rangahau? Who can take part in this research?

If you are 18 years and older, pregnant or have recently been pregnant, and who identify as Māori you are more than welcome to take part in this research.

He aha āku mahi mā ngā kairangahau? What will I be asked to do?

If you decide to take part, your participation will involve attending one focus group session. The session will take place at a convenient community venue during April-Aug 2021. The length of the focus group session may vary from 60-90 minutes, depending of the number of attendees. Each session will be facilitated in a way that allows everyone involved to share their experiences, and aspirations for service improvements. There may be a range of activities at each session including discussions and activities designed to facilitate involvement. The kōrero will be audio recorded to make sure we do not miss any information that is shared. At the conclusion of the kōrero, we'd like to show our appreciation for the time you've given us by offering a koha of a $30 voucher.

He aha ōku mōtika? What are my rights as a participant?

Your participation is completely voluntary. Whether or not you take part in this study is your choice. You are free to withdraw at any time without giving a reason, even if you have already

taken part in some of the discussion. However, any information you have already given in the group discussion, which has been recorded may not be able to be deleted because other members' information will be contained on the same recording, however it will be withdrawn and not included as part of the research.

He aha te mea ka pā ki āku kōrero kua whakaratohia? What happens to my information provided?

All information will only be used for the purpose of this research. Recorded discussions will be written out, from the digital recording and will remain in a secure and confidential storage. For participation to remain anonymous, all participants used within the project will be given pseudo names unless you request that your real name is used, any identifying data will remain separate from the interviewing data.

However, as other members in the discussions will know what you have said, confidentiality of information cannot be completely guaranteed. No material that could personally identify you will be used in any report on this research.

Nā wai i whakaae tēnei rangahau? Who has approved this research?

This project has been reviewed and approved by the Massey University Human Ethics Committee: Northern, Application NOR 20/53. If you have any concerns about the conduct of this research, please contact Dr Fiona Te Momo, Chair, Massey University Human Ethics Committee: Northern, telephone 09 414 0800, x 43347, email humanethicsnorth@massey.ac.nz

Mēnā he pātai āku, mā wai aku pātai e whakautu? Who can I contact about the research?

Now is a great opportunity, if you have any further pātai, queries, or concerns? If you wish to receive a summary of the project once it is completed, there is an option to provide your contact details so the summary can be emailed or posted to you.

Project Contacts:

Please feel free to contact Deanne King if you have any questions about this study.

Ngā Kai-rangahau/Researchers:

Deanne King

Taranaki, Ngāruahine

Student Researcher

Email: Deanne.King.2@uni.massey.ac.nz

Ph: [redacted]

Dr Pikihuia Pomare

Te Rarawa, Ngāi Te Rangi, Ngāpuhi, Ngāti Pūkenga

Kaupapa Māori Lecturer and Research Supervisor

Email: P.Pomare@massey.ac.nz

FOCUS GROUP PARTICIPANT CONSENT FORM

- I have read the information sheet provided and understand the material given to me.
- A forum to ask questions and clarification was offered, and the answers were provided to my satisfaction.
- I am aware that my participation in this research project is voluntary and withdrawing is available to me at any time, with no need to provide an explanation. I
- I understand that I have an obligation to respect the privacy of the other members of the group by not disclosing any personal information that they share during our discussion.
- I understand that all the information I provide will be kept confidential. Any data that will be used from the focus group(s) will be given pseudo names and any will remain separate from identifying data, to remain anonymous.

I agree to participate in the focus group under the conditions set out in the Information Sheet above.

Declaration by Participant:

I ______________________________[print full name] agree and would like to take part in this research project.

Signature: ______________________ Date: _______________

Address for research project summary____

Appendix E: Participant Information Sheet and Consent Form – Midwives

NGĀ KUPU WHAKAMĀRAMA / PARTICIPANT INFORMATION SHEET

Study Title: Wāhine Māori perspectives on social media use during pregnancy

Researcher: Deanne King

Contact phone number: XXX XXXXXXX

You are invited to take part in this rangahau/research on the use of social media during pregnancy and early motherhood.

This Participant Information Sheet will help you decide if you'd like to take part.
It tells you:

- What the research is about and why I am doing the research
- Who can take part and what taking part will involve
- What your rights are and what will happen with your information

Whether or not you take part is your choice. If you don't want to take part, you don't have to give a reason. If you do want to take part now, but change your mind later, you can pull out of the research at any time and there is no need for an explanation. We can go through this information with you and answer any questions you may have. Before you decide you may want to talk about the study with other people, such as family, whānau, friends, other midwives, or healthcare providers. Feel free to do this.

If you agree to take part, you will be asked to sign the Consent Form on the last page of this document. You will be given a copy of both the Participant Information Sheet and the Consent Form to keep.

He aha te kaupapa o tēnei rangahau? What is this research about?

This rangahau/research seeks to explore wāhine Māori experiences with social media and online communities during pregnancy. Social media has grown in popularity and is regularly used when looking for health information or keeping in touch socially. However, there is limited published research on the impact of social media use during pregnancy in regards to how wāhine find and connect with maternity services and maintain social connections when

pregnant. By talking with wāhine Māori we hope to be able to better understand how they are using it, to better support and meet the needs of wāhine hapū and improve access to quality pregnancy care information and services by looking at the best ways to utilise the online environment.

Mā wai e mahi tēnei rangahau? Who is doing this research?

Ko Deanne King tōku ingoa. Ko Taranaki me Ngāruahine ngā iwi. I am a mother of four tamariki and a Master of Science Health Psychology student at Massey University. I am also currently working for the Waikato DHB Public Health Unit as the Senior Health Improvement Advisor of the Community team working with Māori and Pacific communities. This research is part of my personal study and is not in conjunction with my employment.

Mā wai ngā tāngata e whai wāhi ana ki tēnei rangahau? Who can take part in this research?

If you are a midwife, childbirth educator or lead maternity carer who is currently working with wāhine hapū and you identify as Māori you are more than welcome to take part in this research.

He aha āku mahi mā ngā kairangahau? What will I be asked to do?

If you decide to take part, your participation will involve a face to face interview/korero session. The korero will take place at a convenient location and time during April and May 2021. It is expected that it will take 60-90 minutes. The korero will be audio recorded to make sure we do not miss any information that is shared. At the conclusion of the kōrero, we'd like to show our appreciation for the time you've given us by offering a koha of a $30 voucher.

He aha ōku mōtika? What are my rights as a participant?

Your participation is completely voluntary. Whether or not you take part in this study is your choice. You are free to withdraw at any time without giving a reason, even if we have already started. If you choose to withdraw any information you have already shared will be deleted and not used as part of the research.

He aha te mea ka pā ki āku kōrero kua whakaratohia? What happens to my information provided?

All information will only be used for the purpose of this research. Recorded discussions will be written out, from the digital recording and will remain in a secure and confidential storage. For participation to remain anonymous, all participants used within the project will be given psuedo names unless you request that your real name is used, any identifying data will remain separate from the interviewing data.

Nā wai i whakaae tēnei rangahau? Who has approved this research?

This project has been reviewed and approved by the Massey University Human Ethics Committee: Northern, Application NOR 20/53. If you have any concerns about the conduct of this research, please contact Dr Fiona Te Momo, Chair, Massey University Human Ethics Committee: Northern, telephone 09 414 0800, x 43347, email humanethicsnorth@massey.ac.nz

Mēnā he pātai āku, mā wai aku pātai e whakautu? Who can I contact about the research?

Now is a great opportunity, if you have any further pātai, queries, or concerns? If you wish to receive a summary of the project once it is completed, there is an option to provide your contact details so the summary can be emailed or posted to you.

Project Contacts:

Please feel free to contact Deanne King if you have any questions about this study.

Ngā Kai-rangahau/Researchers:

Deanne King

Taranaki, Ngāruahine

Student Researcher

Email: Deanne.King.2@uni.massey.ac.nz

Ph:

Dr Pikihuia Pomare

Te Rarawa, Ngāi Te Rangi, Ngāpuhi, Ngāti Pūkenga

Kaupapa Māori Lecturer and Research Supervisor

Email: P.Pomare@massey.ac.nz

Wāhine Māori perspectives on social media use during pregnancy.

INTERVIEW CONSENT FORM

- I have read the information sheet provided and understand the material given to me.
- A forum to ask questions and clarification was offered, and the answers were provided to my satisfaction.
- I am aware that my participation in this research project is voluntary and withdrawing is available to me at any time, with no need to provide an explanation.
- I understand that all information from the interview(s) will be kept confidential. Any data that will be used from the interview(s) will be given pseudo names and any interviewing data will remain separate from identifying data, to remain anonymous.

I ______________________________[print full name] agree and would like to take part in this research project.

I would like a summary of the ☐ project

Signature: ____________________ Date: ______________

Address for research project summary______________________________________

Appendix F: Demographic Information Form – Māmā

Wāhine Māori perspectives on social media use during pregnancy.

DEMOGRAPHIC INFORMATION FORM

Ingoa/ Name of Participant………………………………………………………….

Area of Residence (city/community)……………………………………………….

Hapū/Pregnant?: ☐ Yes ☐ No How many weeks?......................
What number pregnancy is this for you?:……………………

If you have recently had a baby, how old is/are your baby/babies now?......................
What number baby/babies is this for you?...

Ethnicity: ……………………………………………………………………………….

Iwi…………………………………………………………….

Age: (Please Circle) 18 – 25, 26 – 35, 36 – 45, 46+

Mahi/Occupation…………………………………………………

Appendix G: Demographic Information Form - Midwives

Wāhine Māori perspectives on social media use during pregnancy.

DEMOGRAPHIC INFORMATION FORM

Ingoa/ Name of Participant…………………………………………………………..

Area of Residence (city/community)………………………………………………..

Ethnicity: ………………………………………………………………………………..

Iwi…………………………………………………………

Age: (Please Circle) 18 – 25, 26 – 35, 36 – 45, 46 - 55, 56+

Mahi/Occupation…………………………………………………

How long have you been supporting wāhine hapū? ………………………