




SHORT COMMUNICATION

Covid-19 vaccination uptake by Hapū Māmā – How are we progressing?

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Conflicts of Interest: The authors report no conflicts of interest.

Received: 10 April 2022;
Accepted: 8 August 2022

The Covid-19 vaccine has been recommended for pregnant people (hapū māmā) in Aotearoa New Zealand since June 2021. We surveyed people birthing in a tertiary hospital regarding their vaccination status and reasons for this. There were 74% (142/191) of pregnant people who were fully vaccinated. Motivators for vaccination included protection against Covid-19 and antibody transfer to the baby (pēpē). Unvaccinated participants worried about vaccine safety. Concerns were raised about the change in official advice without well-communicated reasons for the change. Future vaccine and booster rollouts must be delivered equitably and hapū māmā must be a priority group.

KEYWORDS

vaccine coverage, immunisation programs, COVID-19 vaccines, health inequity, pregnancy

INTRODUCTION

Hapū māmā (pregnant people) are at higher risk of severe outcomes from Covid-19 infection compared to the general population.¹ Covid-19 in pregnancy is associated with higher and longer rates of hospitalisation,² mechanical ventilation³ and death⁴ along with increased risks of preterm birth and stillbirth^{5,6} Vaccination during pregnancy is effective in protecting against Covid-19 infection⁷ and may offer temporary protection for newborns as antibodies are transferred across the placenta.^{8,9}

In Aotearoa New Zealand, the Ministry of Health, Royal Australian and New Zealand College of Obstetricians and Gynaecologists (RANZCOG) and the New Zealand College of Midwives have recommended the Pfizer Covid-19 vaccine (Comirnaty) for pregnant people since June 2021.¹⁰ Internationally, large-scale surveillance data indicate there are no safety concerns with administering this Covid-19 vaccine at any stage of pregnancy.¹¹ Prior to June 2021,

RANZCOG had advised vaccination be considered on an individual basis, despite hapū māmā being a prioritised group in Aotearoa New Zealand's vaccine rollout.¹²

Barriers to optimal rates of vaccine uptake include vaccine hesitancy, anti-vaccination campaigns and misinformation promulgated online and in social media.¹³ A Royal College of Obstetricians and Gynaecologists survey of 1300 pregnant people in the United Kingdom found that of pregnant people offered the vaccine, 42% accepted and 58% declined.¹⁴ The main reasons for declining vaccine were worry for their baby's safety and awaiting further information about the safety of Covid-19 vaccines in pregnancy.

The vaccine rollout in Aotearoa New Zealand has occurred against the backdrop of persisting inequities in access to health care and health outcomes.¹⁵ There has been no published local data to assess the reasons for and against uptake of the Covid-19 vaccine by hapū māmā. The aim of this study was to explore vaccination uptake and contributors to vaccination status during pregnancy.

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TABLE 1 Vaccination status by self-identified ethnicity

Self-identified ethnicity	Vaccination status			
	Number (n) % (95% CI)			
	Fully vaccinated	One dose of vaccine	Unvaccinated	Overall (N)
Pākehā/New Zealand European	77 77 (67.5–84.8)	11 11 (5.6–18.8)	12 12 (6.4–20)	100 52.4 (45–59.6)
Māori	11 61.1 (35.7–82.7)	2 11.1 (1.4–34.7)	5 27.8 (9.7–53.5)	18 9.4 (5.7–14.5)
Pasifika	10 66.7 (38.4–88.2)	1 6.7 (0.2–31.9)	4 26.7 (7.8–55.1)	15 7.9 (4.5–12.6)
Asian	32 76.2 (60.5–87.9)	5 11.9 (4–25.6)	5 11.9 (4–25.6)	42 22 (16.3–28.5)
Other†	12 75 (47.6–92.7)	1 6.3 (0.2–30.2)	3 18.8 (4–45.6)	16 8.4 (4.9–13.2)
Total	142 74.3 (67.5–80.4)	20 10.5 (6.5–15.7)	29 15.2 (10.4–21.1)	191 100

†Other includes non-New Zealand European (3 Irish, 3 British, 2 Australian, 2 Dutch, 2 Spanish, 2 Italian, 2 Polish).

MATERIALS AND METHODS

Project setting

The survey was undertaken at either the birthing or post-natal wards at a tertiary level care hospital over a four-week period from November to December 2021. The hospital serves a younger than national average population, with a large proportion of people aged 20–29; and a lower proportion of Māori and a similar proportion of Pasifika compared to the national average. Hapū māmā in the region are older than the national average.

Survey design

The survey was administered in-person (orally) by AM and comprised 12 questions regarding vaccination status and reasons for this. Participants were given the opportunity to share their reasons for accepting or declining vaccination which were recorded manually. Demographic information was collected on self-identified ethnicity, parity and age. Survey questions are available on request.

Survey participants

Hapū māmā who birthed at this time would have been eligible for their Covid-19 Pfizer vaccine during their pregnancy due to the timeline of the Covid-19 vaccine rollout in Aotearoa New Zealand. Self-reported vaccination status and self-identified ethnicity were collected. Inclusion criteria were people birthing at the hospital who were aged over 18 and consented to participate and willing to disclose their vaccination status. Responses were collected in English. Provisions for the survey to be undertaken in Te Reo Māori and other languages were made available, although no participant requested that the survey be undertaken in another language.

Data collection

Ethics approval

Ethics approvals were gained from the University of Otago Ethics Committee (H21/159), Research Advisory Group Māori, and District Health Board locality approval and submitted to the Ngāi Tahu Research Consultation Committee.

Data analysis

Data were analysed using descriptive statistics in Microsoft Excel (version 16.58) and proportions (%; ± CI 95%) are reported. People who had received two or more doses of vaccine prior to giving birth were classed as fully vaccinated. Self-identified ethnicity was collected and classified in-line with the Ministry of Health guidelines.¹⁶

RESULTS

Over the four-week study, there were 205 eligible hapū māmā who birthed at the hospital. Of these, 191 (93%; 88.8–96.2) consented to participate and 100 (52.4%; 45–59.6) participants identified as Pākehā (Table 1).

Of 191 participants, 142 (74.3%; 67.5–80.4) reported being fully vaccinated, 20/191 (10.5%; 6.5–15.7) had received one vaccine dose and 29/191 (15.2%; 10.4–21.1) were unvaccinated (Table 1). Of Māori participants, 61.1% (35.7–82.7%) reported being fully vaccinated compared to 77% of Pākehā (67.5–84.8%).

There was no association between vaccination status and maternal age or parity (data not shown).

Of the 29 people who were unvaccinated, 21 planned to get the vaccine, three did not and four said maybe. The main reason

stated for not having the vaccine was concern regarding safety of the vaccine in pregnancy. None of the participants of this survey study answered that access was a problem preventing them from getting the vaccine. All those who had received their first vaccine dose were intending to have a second dose post-natally.

Study participants were asked about their motivators for accepting or declining vaccination and were able to select multiple answers. Motivators for vaccination were protection against Covid-19 (111 responses), passing on antibodies to their baby (62 responses), presence of Delta variant in Aotearoa New Zealand (18 responses) and recommended by a health professional (14 responses). In comparison, reasons for not being vaccinated were concerns about vaccine safety (30 responses), wanting to wait until post-natal (21 responses), psychological reactance (six responses) and being told not to have the vaccine while pregnant (two responses).

The most common source of information on Covid-19 vaccination was health professionals (midwives, obstetricians, general practitioners, practice nurses and pharmacists). The internet was a frequent source with the Ministry of Health website the most common source. Other websites identified included the Immunisation Advisory Centre, World Health Organization, RANZCOG website and the Centers for Communicable Diseases guidelines. Seventy-one people identified 'family and friends' as a source of information and 19 social media. Sixty-six had done 'research through google'.

Many hapū māmā, both vaccinated and unvaccinated, expressed (unprompted) concerns regarding changing official advice regarding vaccination during pregnancy without well-communicated reasons for the changes. Both vaccinated and unvaccinated people expressed that they found it confusing they were initially told to wait until they had given birth to be vaccinated and then in June 2021 recommendations changed and they were advised to get vaccinated while pregnant.

Participants' further comments regarding their views about their vaccination status are shared in Table 2. The comments demonstrate the value many people placed on advice from health professionals. Both vaccinated and unvaccinated participants wanted to do what they interpreted was best for their baby.

DISCUSSION

This study sought to explore Covid-19 vaccination uptake during pregnancy and contributors to vaccination status in a tertiary hospital in Aotearoa New Zealand. At the time of the study, and in the region when the survey was conducted, the overall vaccination rate was 90% of the eligible general population.¹⁷ Approximately three-quarters of the hapū māmā we spoke to reported being fully vaccinated – which was below the Government's vaccination target. There is a continued need for hapū māmā to be a priority group and equitably resourced in future vaccine booster campaigns and rollouts.

TABLE 2 Quotes from hapū māmā regarding Covid-19 vaccination

Quotes from vaccinated hapū māmā:

'I wanted to protect my baby and pass on antibodies via the placenta'
 'I previously had a miscarriage and saw that catching Covid could increase the risk of this happening again'
 'Side effects of Covid seemed worse than the vaccine'
 'My midwife gave me some helpful resources and said it was up to me but my OB really convinced me to get it'
 'My GP initially told me not to get vaccinated, but my obstetrician convinced me to get it'
 'The evolving situation of Delta coming to New Zealand pushed me to get it'
 'My midwife was amazing in educating me around how the vaccine was safe'

Quotes from unvaccinated hapū māmā:

'It's very new research and was worried about risk of side effects'
 'I had horrible morning sickness and was so close to giving birth so wanted to wait till after'
 'I did not talk to health professionals about the vaccine as thought they were biased in what they were saying'
 'I was told by my GP to wait'
 'I found evidence about passing on antibodies via breastmilk so wanted to wait until after birth'
 'It should be pro-choice'

The vaccine rollout in Aotearoa New Zealand has occurred against the backdrop of persistent and pervasive health inequities¹⁵ and its implementation was not prioritised based on health equity. The vaccination rollout has relied on the efforts of many individual and community champions. Given the small sample size of this study, it is not possible to draw definitive conclusions about equitable access to vaccination – and more research is needed to assess if our findings indicating differential access are reflected elsewhere in Aotearoa New Zealand.

The impact of health providers' advice on patients' decisions around vaccination was highlighted in this study with health providers identified as an important source of information. This is consistent with literature indicating that healthcare provider advice is the most important influencer in maternal decision making.¹⁸ The impact of social media to both support and contradict official advice was observed.

A strength of our study is the high participant rate of 93%. It was performed at a time when participants should have had the opportunity to be vaccinated during their pregnancy. This provided an opportunity to assess the success of the Covid-19 vaccine campaign in achieving Covid-19 vaccination in hapū māmā.

Our study population may not be reflective of the overall Aotearoa New Zealand population as it only included people birthing at one tertiary level maternity hospital. In 2020, 87% of pregnant people residing in the region surveyed birthed at a hospital, 8% in primary birthing units and 4% at home.¹⁹ Our data may not be reflective of smaller centres across the country or more rural populations.

It is likely that ongoing Covid-19 boosters will be integrated into the standard vaccine regime. The vaccination recommendations

changed in August 2021 following the publication of data on the safety of the Covid-19 vaccination during pregnancy while our study group were pregnant. Given participants' expressed confusion and uncertainty with changes to official recommendations during their pregnancy, we must ensure that inevitable changes in vaccine policy are accompanied by explanation of reasons for changes. Both vaccinated and unvaccinated hapū māmā gave concern for their babies as a reason for their decision, so future messaging must be clearer regarding the benefits of vaccination during pregnancy for babies. Health providers need to ensure that they discuss vaccination with hapū māmā as part of routine antenatal care.

Future vaccination efforts need to be focused on equity. Future research on how to enable the real-time and continuous evaluation of vaccination delivery and uptake for hapū māmā in Aotearoa New Zealand is needed.

ACKNOWLEDGEMENT

Open access publishing facilitated by University of Otago, as part of the Wiley - University of Otago agreement via the Council of Australian University Librarians.

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