

# E Hine: access to contraception for indigenous Māori teenage mothers

Beverley Lawton FRNZCGP;<sup>1</sup> Charrissa Makowharemahihi;<sup>1</sup> Fiona Cram PhD;<sup>2</sup> Bridget Robson;<sup>3</sup> Tina Ngata<sup>4</sup>

<sup>1</sup> Women's Health Research Centre, Department of Primary Care, University of Otago, Wellington, New Zealand

<sup>2</sup> Director, Katoa Ltd, Auckland, New Zealand

<sup>3</sup> Director, Te Ropu Rangahau Hauora a Eru Pomare, Department of Public Health, University of Otago, Wellington

<sup>4</sup> Resource Development, Te Wānanga o Aotearoa, University of Otago Wellington

J PRIM HEALTH CARE  
2016;8(1):52–59.  
10.1071/HC15021

## CORRESPONDENCE TO:

**Beverley Lawton**  
Women's Health Research Centre, Department of Primary Health Care and General Practice, University of Otago, PO Box 7343, Wellington 6242  
bev.lawton@otago.ac.nz

## ABSTRACT

**INTRODUCTION:** Timely and equitable access to contraception enables teenage mothers to make informed choices about their sexual and reproductive health. This study aimed to identify barriers and facilitators to contraception for Māori teenagers who become mothers.

**METHODS:** 'E Hine' is a longitudinal qualitative Kaupapa Māori (by Māori, for Māori) study involving Māori women (aged 14–19 years), following them through pregnancy ( $n = 44$ ) and the birth of their babies until their babies' first birthdays ( $n = 41$ ). This analysis focusses on contraception access pre-and post-pregnancy.

**FINDINGS:** Pre-pregnancy most participants accessed contraception or advice. Contraception use was compromised by a lack of information, negative side effects, and limited follow up. All reported their subsequent pregnancies as unplanned. Participants gave considerable thought to post-pregnancy contraception. Despite this many experienced clinical and service delays, financial barriers, and negative contraceptive side effects. There was little focus on contraception initiation and a lack of integrated care between midwives and other primary care services, leaving many participants without timely effective contraception. The system worked well when there was a contraception plan that included navigation, free access, and provision of contraception.

**CONCLUSION:** The majority of participants actively sought contraception pre- and post-conception. Despite a publicly funded system, a lack of health sector integration resulted in multiple missed opportunities to meet the needs of these teenagers for effective contraception. Health service funding formulas should define the goal as initiation of contraception rather than advice and provide funding to improve timely access to long acting reversible contraception.

**KEYWORDS:** Indigenous teenage pregnancy; contraception; barriers to contraception; Māori mothers

## Introduction

Equitable and timely access to sexual and reproductive health information and contraception for teenagers is essential to prevent unplanned

pregnancies.<sup>1,2</sup> However, like many indigenous peoples, young Māori have with higher rates of teen pregnancy and sexually transmitted infections than non-Māori in New Zealand (NZ).<sup>2–6</sup> Māori are also more likely to report



## Pounamu

**MAORI PRIMARY HEALTH CARE TREASURES**

Pounamu (greenstone) is the most precious of stone to Maori.

**'Ahakoa he iti, he pounamu'**

*(Although it is small, it is valuable)*

poorer access to school health clinics and not being able to access GPs when needed.<sup>7</sup>

Sexual and reproductive health services for teenagers (rangatahi) in NZ is primarily delivered through general practices, youth one stop shops, school based health services, and family planning services. These primary care services are the main points of access to contraception for young people, followed by pharmacies and school health clinics.<sup>7,8</sup> Contraceptives available through these services include the oral contraceptive pill, injection (Depo-medroxyprogesterone acetate (DMPA)), contraceptive implant (Jadelle), intrauterine devices (copper IUD or levonorgestrel-releasing intra uterine system (Mirena)), and emergency contraceptive pill. Costs vary depending on the contraception method and the provider.

Maternity care in NZ is a midwifery-led service and publicly funded until six weeks post partum. Care is then handed over to primary care, including Well Child Tamariki Ora and general practices. The Well Child Tamariki Ora is a package of universal health checks and services offered free to all New Zealand families/whānau for children from birth to 5 years.<sup>9</sup>

Young people begin to explore their sexuality during the teenage years and also grow into their cultural identity. However the establishment of their sexual relationships is seldom studied as the lens continues to be on teen pregnancy and STIs, rather than positive expressions of their sexuality.<sup>10</sup> Access to contraception for teenagers can be fraught with stigma, embarrassment, a lack of information, and limited access to culturally responsive services. Even when young women become mothers, more attention is paid to how this impacts on their lives (positively and negatively) without acknowledgement that they are sexual beings in need of contraception if they are to have control over their fertility.<sup>2,11,12</sup>

The Kaupapa Māori (by Māori, for Māori) longitudinal qualitative study called 'E Hine' does not problematise rangatahi sexual health. Rather it aims to shed light on system and clinical service factors surrounding pregnant Māori teenagers aged 13 to 20 years, that may drive differential

## WHAT THIS GAP FILLS

**What we already know:** Compared to young NZ European women, young Māori women have a higher rate of pregnancy as well as negative sexual and reproductive health outcomes that signal denial of their right to make informed decisions about their own sexual and reproductive wellbeing.

**What this study adds:** System and clinical barriers impact on young Māori mothers' access to timely contraception despite these women actively seeking contraception. The lack of integration and limited funding formulas in the New Zealand public funded system results in multiple missed opportunities to meet these young women's needs for effective contraception.

access to appropriate contraception and to identify where they might be mediated for equity. From this standpoint we, a group of Māori health researchers supported by Kāhui Kaumātua (elders advisory group), a Rōpū Mama (Māori mothers advisory group) and our non-Māori colleagues, aimed to expand understandings of the lived realities of pregnant young Māori women and their contraceptive challenges.<sup>13</sup>

## Method

### Participants

Participants were recruited through local health and education providers such as Teen Parent Units, midwives, Well Child/Tamariki Ora services, and primary care practices in two study sites, Wellington and Hawkes Bay, chosen for their social, geographical, and tribal relevance. Participants are women who identified as Māori, were aged less than 20 years when they became pregnant, and who lived in one of the study sites.

Purposive sampling recruited a pre-birth cohort ( $n = 22$ ), enabling examination of their pregnancy and motherhood journey as it occurred and a post-birth cohort ( $n = 22$ ), enabling a retrospective look at their pregnancy journey, not influenced by the research process. Participant numbers were appropriate given the relative homogeneity of the sample and the longitudinal design of the study. Data saturation was therefore theoretically achieved by methodological means.<sup>14</sup>

Ethics approval was obtained from the Central Region Ethics Committee (CEN/10/09/036 October 2010).

### Data collection

Participants in the pre-birth cohort were interviewed 4 to 5 times over a 20-month period. Participants in the post-birth cohort were interviewed 2 to 3 times over a 9-month period. The final interview occurred when participants' babies were one year old. The interviewers were female Māori researchers, who interviewed participants face-to-face at locations chosen by participants.

### Analysis

Interviews were transcribed verbatim. Transcript analysis followed a two cycle coding approach to extract themes from participants' talk.<sup>15</sup> In the first cycle the extracted content related to participants' experiences, knowledge, attitudes or values about contraception. This content was read and re-read by the researchers, to construct a 'grand tour' overview of commonalities, differences and relationships in participants' talk.<sup>15</sup> Whether the participants were pre- or post-pregnancy was noted in the associated thematic analysis timeframe. The themes were then presented to the Rōpū Mama, Kāhui Kaumātua and Steering Group for their input into meaning-making. Their feedback centred on the importance of the facilitators of, and barriers to, contraception, including participants' attitudes and knowledge, their difficulties with contraception methods, and their access to contraception. These themes were then considered in the second cycle of coding, where salient features within participants' talk were further highlighted and explored by the two interviewing researchers. Theme descriptions, including inclusion and exclusion criteria, were determined iteratively with initial decisions made by the interviewing researchers and tested by the larger research group using samples of transcripts. The transcript content was structurally coded in NVIVO when we were satisfied with the theme descriptions.

### Findings

Participants were aged 14 to 19 years old when they became pregnant. In total 160 interviews

were conducted with 44 participants. Interviews covered topics about participants' journeys prior, during, and after pregnancy.

At the end of the study at the Year 1 (age of baby) interview, 41 participants remained. Three had withdrawn from the study (two moved to Australia and one withdrew for personal reasons). Pre-pregnancy data includes all 44 participants; post-pregnancy data includes 41 participants. The data presented here relate to participants' contraceptive experiences.

### Pre-pregnancy

Most young women sought help from a health professional specifically for contraception advice and support before becoming pregnant. They reported attending primary care services, community based youth health services, and/or school based health services to obtain information and contraception. Most were prescribed the oral contraceptive pill (63%), DMPA injectable contraception (34%), and/or condoms (24%). Two (4.5%) received long acting reversible contraception or LARC (1 Mirena, 1 Jadelle).

### Contraception information and support

While participants received information about different contraceptive methods, they did not necessarily always fully understand how their contraception worked.

'...I didn't know that you had to take the yellow ones [pills] so I just used to skip the white pills and just wait that whole week and not take any and then carry on again' (CBHB01.1 – aged 16)

Taking the pill consistently was problematic with many participants 'taking it too late or at the wrong time' (WN04.2 – 15). Remembering to take the pill at the same time every day was a challenge.

'...cause tablets is just not me and I'm quite forgetful with them.' (CBWN06.2 – aged 17)

The pill was commonly prescribed by primary care clinicians but participants were unable to

recall specific information about the name or type of pill they used before pregnancy.

Advice from health practitioners had a significant impact upon the young women and their contraception decisions. For example, one participant who had successfully been on the Depo Provera injection continuously for two years was advised by her school nurse and general practitioner (GP) that she needed to, 'have a little rest then hop back on' (CCHB01.1 – aged 18). During this 'break' from 'the jab' she became pregnant.

### Negative side effects of contraception

Ongoing negative side effects associated with contraception methods such as bleeding and weight gain were significant issues experienced by participants.

'...it was making my bleeding funny as well and we had to get that taken out cause you know having to buy pads and tampons every second week, it wasn't realistic.' (CDWN02.2 – aged 15)

The negative experiences of others such as whānau (extended family) or friends influenced participants' contraception decisions. For example, with the contraceptive implant '...I saw my sister's one straight after she got it done and I didn't like the look of it...cause it was still all bloody and yuck and eww and she told me how they done it and I was like nah...no thank you' (CAWN05 – aged 19).

Bleeding, putting on weight, and getting pregnant were participants' main concerns about others' contraception experiences.

'I've seen like the skinniest people and they get on the jab and it's like holy [weight gain]' (CAHB03.3 – aged 18)

There was little follow-up from health professionals to assess possible problems with the contraception prescribed. Any subsequent interactions with health professionals were always initiated by the young women. Participants would return to their primary care provider to 'try out' another

long-term contraception method when they encountered problems such as bleeding. As the two main methods of contraception prescribed to participants in this study were the pill and the injection, changing did not always alleviate the negative side effects. Rather, one problem was replaced with another.

### Post-pregnancy

Participants gave considerable thought during their pregnancy to the method of contraception they would use post-birth, being particularly influenced by their own previous experiences. Negative experiences with contraceptives pre-pregnancy meant that participants were unlikely to want that same contraception post-birth. They often gathered additional information from other sources such as their maternity carer, whānau and friends, and took this into account in their decision-making.

'I've decided I need it, [I'm] going to get it. They recommend it when you're still bleeding or something. I'm hoping to get that Jadelle rod as soon as I can...cause it's quick and easy. And like my body reacts funny to the pill and the same with the injection...I don't want like a Mirena or those coils. Cause my sister lost her baby through that with her first baby.' (CAHB01.2 – aged 19)

At the time of confirming her pregnancy this same participant (CAHB01.2) was asked by her local youth sexual health service nurse what she wanted to do for contraception after her baby. The participant expressed interest in the contraceptive implant. The nurse advised the participant to make an appointment after she had her baby to get the Jadelle and the participant phoned the youth sexual health service and had the Jadelle inserted a week after having her baby. Having this facilitated plan worked well to gain her access to contraception.

### Barriers to contraception

Most participants sought contraception post-birth but obtaining timely contraception was an issue, as was the cost of contraception and having to make multiple health care visits. Most reported that their midwife briefly discussed

contraception options during pregnancy and/or post-birth. The timing of these discussions varied, as one participant described, '[the midwife] said we won't discuss [contraception] until six weeks or if we're already having sex, which we're not' (CBWN03 – 18). However few ( $n = 4$ ) actually received any kind of contraception from their midwife. Of these four young women, two received injectable contraception (the 'jab'), one a box of condoms, and one received 'some pills' while she was breastfeeding.

'She gave me my first one [injection] .....straight after, or when I was pregnant with him she asked what I wanted to go on after I had him. If I wanted to stay on nothing or go on the Depo or the Pill. Or get that thing [Jadelle].' (CCHB01.2 – aged 17)

When participants discussed contraception with primary care providers the cost associated with the contraception was a barrier to their following through to the receipt of contraception.

'I'm trying to like get some help...I went to see my doctor and they were going to charge me \$120 for that rod.' (CBHB02.4 – aged 20)

With the Jadelle option some participants were given a prescription to take to a pharmacy. When their script was filled they had to re-book back at the doctors to get the Jadelle inserted. Therefore they were at risk of an unplanned pregnancy while they gathered the money needed to pay both for the prescription and to cover the costs of the appointment to have it fitted.

Participants who could not afford a primary care visit for themselves often 'piggy backed', with limited success, on their babies' appointments with GPs, WellChild nurses, or immunisation visits. They received contraception information, and in some cases were charged as well.

'They gave me like lists of what I could go on'. (CDHB06 – aged 18)

'I just asked them a question right [during baby's appointment with the GP] and they charged me 30 something bucks. And I didn't even go through with my question that I asked them....I wanted the Jadelle. And I said to my dad, 'Babies are free aye?'

And he was like, 'Yeah, till they're like five or something they're free'. They charged me and my dad was like, 'What did you say?' and I was like, I only asked them a question' (CAHB03.3 – aged 18)

### Negative side-effects of contraception post-birth

Side-effects of contraception continued to plague many participants, with bleeding the main issue. One participant who received the injection after having her baby said, 'I was bleeding for nearly five months after I had him' (CCHB05.2 – aged 18). This was particularly concerning for the young mothers. One reported thinking 'oh my god, what's wrong with me?' (CAHB02 – aged 17). In one situation a participant still had persistent bleeding after seven months of trying multiple contraception pills, the injection and then the Mirena. She was so frustrated that she removed the Mirena herself.

'I tried...I can't go on contraception cause I just bleed the whole time that I'm on it... even the one that I got after him was the Mirena and I bled with that as well so I ended up having to take it out. I took it out myself. I didn't want to go back there and say it's not working. They would've been like give it some more time but I wasn't gonna sit around.' (CBHB05.4 – aged 20)

Participants tended to avoid or distrust methods that were previously unsuccessful, or had negative side-effects for them or someone else they knew. Primary care practitioners gave advice to some women about the possible side effects of contraception, but the quality and appropriateness of this information was inconsistent.

### Facilitating access

Primary care providers who took a proactive approach were able to facilitate access to contraception; for example, youth health practitioners providing services through Teen Parent Unit.

'...when you see the [youth health nurse] lady she does a health check on you and she asks you what you're on and she tells you what you can get and effects of it like if it will make you get pimples, make you gain weight, make you lose weight, all those

things, if your period will come regularly or if it will be different or if you'll have it for longer or if you won't get it at all.' (CDWN01 – aged 16)

Such examples were more common among participants who attended Teen Parent Units, with this facilitating their access to both information and contraception. Another participant was able to successfully get her contraception through her Tamariki Ora (Well Child) nurses during a home visit for baby.

'When they [Tamariki Ora nurses] came to do a check up on baby they asked how my contraception was and I was like, 'I'm not on any' and they were like, 'Do you want one?' and I was like, 'Oh yeah, I'll go on the jab', they went and got it and come back and did it...the [Tamariki Ora nurse] just comes and does it here....she said she'll be back when my next one's due.' (CAHB05 – aged 19)

Non-health practitioners also played a role in assisting young women to access contraception support. One young woman described how her social worker ...'was talking to me about it [contraception] and we went in and made an appointment' (CBHB03 – aged 17)

Most participants attended visits with their midwife, Well Child provider, and GPs for post-natal and child care but did not receive contraception. At the final study interview when their children were aged 1 year, 29 (71%) of the young mothers were using contraception. The main contraception methods post-pregnancy were the Jadelle (29%), and the MPA injection (22%). Twenty percent of participants were on no contraception and 10% were pregnant again.

## Discussion

Health systems and services play a key role in ensuring timely and appropriate access to contraception.<sup>16</sup> The young indigenous women in this study were proactive in seeking contraception before their unintended pregnancy and post partum. However they met multiple barriers to achieving contraception including financial barriers, lack of access to information and lack of appropriate contraception to meet their needs. Of concern pre-pregnancy was the high use of

oral contraceptive pills rather than long acting reversible contraception (LARC), in spite of these women seeking LARC methods. Multiple studies demonstrate poor continuation rates with the oral contraceptive pill for teenagers. LARC methods are safe and effective for teenagers, with pregnancy rates less than 1% and they have higher satisfaction and continuance rates than oral contraceptives, condoms and DMPA injections.<sup>17-19</sup> The American College of Obstetricians and Gynecologists recommends LARC methods for adolescents at high risk of unintended pregnancy.<sup>17</sup>

There was a marked lack of seamless integrated contraceptive care and provision for these women both pre-conception and post partum. Pre-pregnancy there was inadequate contraceptive follow up. Adequate counselling about side-effects and switching from unsatisfactory methods has the potential to improve contraception continuation. Contraception provision is an accepted standard of post partum care.<sup>20</sup> However in the six weeks post partum midwives did not initiate contraception, possibly because midwives have responsibility under their funding schedule (Section 88 of the New Zealand Public Health and Disability Act) to give 'advice regarding contraception' but not actually provide contraception. These women had multiple health interactions with several practitioners and sought contraception. Despite this in most cases there was no practitioner taking responsibility for contraception initiation. Advice was provided in many cases but was not followed through either with initiation of contraception or navigation to appropriate services when this was not within the scope of the practice of the carer. This finding of a lack of seamless care and lack of navigation was similar to our findings of a lack of integration and navigation along the maternity care pathway for these teenagers.<sup>21</sup>

Māori women aged < 20 years often have limited financial resources: decisions about when to access a primary care practitioner and which contraceptive methods to use were impacted by the cost of these services. Currently there is no funding for GPs to cover a contraceptive visit for women at six weeks post partum. While participants exhibited proactive health seeking behaviour, the cost of

contraception post-pregnancy interrupted their access to it. Providing access to contraception at no cost and promoting the most effective contraception methods is shown to reduce unintended pregnancies.<sup>19</sup> In this study variations in contraception provision caused confusion, and the costs associated with visits and contraception methods created inequities in access to contraception care.

The Well Child Tamariki Ora programme (WCTO) includes 12 health check contacts as well as a GP check at 6 weeks, linked to 6-week immunisations.<sup>9</sup> Again this programme provides for contraception advice, but not the provision of contraception. When a district health board invested additional funding in WCTO services to provide contraception we saw one successful example of a participant accessing contraception through this extended service. This demonstrates how such contractual provisions can improve contraception access, but highlights the inadequacies of the WCTO programme to provide timely access to contraception for young Māori. Despite their frequent health service contacts (5 visits),<sup>9</sup> opportunities to address the contraception needs of young mothers post-birth are not being fully realised. In addition, greater integration and communication between all these services has the potential to better meet the needs of Māori women.

Finally, participants did not always have a good understanding of how the contraception they were provided worked. The advice they received was not always given in the right form or conveyed well enough to facilitate their comprehension. This finding reiterates the importance of health literacy; that is, the degree to which individuals have the capacity to obtain, process and understand basic health information and the services needed to make appropriate health decisions.<sup>22,23</sup> Māori in the 16 to 24 years age group have higher health literacy needs than others, and this is a barrier to their accessing health care, including contraception.<sup>24</sup> It is a responsibility of health practitioners to ensure that young Māori women fully understand how contraception works.<sup>25</sup> The Health Literacy toolkit recommends taking 'universal precautions' for health literacy. Clinicians are encouraged to use good health literacy techniques such as Teach-Back and 'AskMe3'.<sup>26</sup>

Study limitations include the possibility that the participants are different from other young Māori women who find themselves pregnant. We did not, for example, interview any young women who, subsequent to finding out they were pregnant, had a miscarriage or an abortion. However we are confident (from talking with participants and their whānau, the Rōpū Mama, and a wide range of stakeholders) that their journey is representative of the experiences of their peer group who become young mothers.

## Conclusion

Māori teenagers actively sought contraception both pre- and post-conception. Health system barriers resulted in multiple missed opportunities to meet these young women's needs for effective contraception. Government service schedules and specifications hold the potential to improve integration of services and address inadequacies in the provision of contraception by placing greater expectation on service providers to fill this gap in health need. Improved service models may include immediate post partum IUCD or implant insertion and/or extension of midwifery competencies to include insertion of IUCDS and implants and introducing a government schedule payment to primary care doctors to cover contraception in the first 6 weeks post partum including implant and IUCD insertion.

## References

1. The return on investments in services for the urban poor. 6th International Dialogue on Population and Sustainable Development Meeting the challenge - Sexual and reproductive health and rights in an urbanising world; 2008; Berlin. Bayer Schering Parva AG.
2. Larkins SL, Page RP, Panaretto KS, et al. The transformative potential of young motherhood for disadvantaged Aboriginal and Torres Strait Islander women in Townsville, Australia. *MJA*. 2011;194(10):551-5.
3. Ministry of Health. Sexual and Reproductive Health Strategy: Phase One. Wellington: Ministry of Health; 2001.
4. Clark TC, Robinson E, Crengle S, Herd R, Grant S, Denny S. Te Ara Whakapiki Taitamariki, Youth07: The Health and Wellbeing Survey of Secondary School Students in New Zealand. Results for Māori Young People. Auckland: The University of Auckland; 2008.
5. Larkins SL, Page RP, Panaretto KS, et al. Attitudes and behaviours of young indigenous people in Townsville concerning relationships, sex and contraception: the "U Mob Yarn Up" project. *MJA*. 2007;186(10):513-8.

6. Clark T, Crengle S, Sheridan J, et al. Factors associated with consistent contraception and condom use among Māori secondary school students in New Zealand. *J Paediatr Child Health*. 2014;50(4):258–65. doi:10.1111/jpc.12450
7. Crengle SCT, Robinson E, Bullen P, Dyson B, Denny S, et al. The health and wellbeing of Māori New Zealand secondary school students in 2012. *Te Ara Whakapiki Taitamariki: Youth'12*. Auckland: The University of Auckland; 2013.
8. Clark TCFT, Bullen P, Denny S, Crengle S, Dyson B, et al. Youth'12 Overview: The health and wellbeing of New Zealand secondary school students in 2012. Auckland: University of Auckland; 2013.
9. Ministry of Health. *Well Child / Tamariki Ora National Schedule 2013*. Wellington; 2013.
10. Johnson AM, Mercer CH, Cassell JA. *Social determinants, sexual behaviour and health*. Oxford: Oxford University Press; 2006.
11. Archibald L. *Teenage pregnancy in Inuit communities: Issues and perspectives*. Ottawa Pauktuutit Inuit Women's Association; 2004.
12. Eni R, Phillips-Beck W. Teenage pregnancy and parenthood perspectives of First Nation women. *IIPJ*. 2013;4(1). Retrieved from: <http://ir.lib.uwo.ca/iipj/vol4/iss1/3> doi:10.18584/iipj.2013.4.1.3
13. Lawton B, Cram F, Makowharemahihi C, et al. Developing a Kaupapa Māori research project to help reduce disparities experienced by young Māori women and their babies. *AlterNative*. 2013;9(3):246–61.
14. Mason M. Sample Size and Saturation in PhD Studies Using Qualitative Interviews. [63 paragraphs], *Forum Qualitative Sozialforschung/Forum: Qualitative Social Research*, 11/3, art. 8. Available from: <http://nbnresolving.de/urn:nbn:de:0114-fqs100387> (Accessed 1 October 2010).
15. Saldana J. *The coding manual for qualitative researchers*. London: Sage; 2013.
16. Swartzendruber A, Zenilman JM. A national strategy to improve sexual health. *JAMA*. 2010;304(9):1005–6. doi:10.1001/jama.2010.1252
17. American College of Obstetricians and Gynecologists. *Adolescents and long-acting reversible contraception: implants and intrauterine devices*. Committee Opinion No. 539. *Obstet Gynecol*. 2012;120:983–8. doi:10.1097/AOG.0b013e3182723b7d
18. Bitzer J. Oral contraceptives in adolescent women. *Best Pract Res Clin Endocrinol Metab*. 2013;27(1):77–89. doi:10.1016/j.beem.2012.09.005
19. Dalby J, Hayon R, Carlson J. Adolescent Pregnancy and Contraception. *Prim Care Clin Pract*. 2014;41(3):607–29. doi:10.1016/j.pop.2014.05.010
20. Faculty of Sexual and Reproductive Healthcare. *Postnatal Sexual and Reproductive Health*. England Royal College of Obstetricians & Gynaecologists; 2009.
21. Makowharemahihi C, Lawton B, Cram F, et al. Initiation of maternity care for Maori women <20 years. *NZMJ*. 2014;127(1393):52–61.
22. Ministry of Health. *Kōrero Mārama: Health Literacy and Māori*. Wellington: Ministry of Health; 2010.
23. Kickbusch IWS, Magg D. *Navigating Health: The role of health literacy*. In: *Alliance for Health and the Future*, ed.: International Longevity Centre-UK; 2005.
24. Ministry of Health. *Tatau Kahukura: Māori Health Chart Book, 2nd Edition*. Wellington: Ministry of Health; 2010.
25. Yee L, Simon M. The Role of Health Literacy and Numeracy in Contraceptive Decision-Making for Urban Chicago Women. *J Community Health*. 2014;39(2):394–9. doi:10.1007/s10900-013-9777-7
26. AHRQ Health Literacy Universal Precautions Toolkit 2nd Edition. <http://www.ahrq.gov/professionals/quality-patient-safety/quality-resources/tools/literacy-toolkit/>. Rockville, MD.: Agency for Healthcare Research and Quality.