


Moe Kitenga: a qualitative study of perceptions of infant and child sleep practices among Māori whānau

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Abstract

Insufficient sleep is a strong risk factor for unhealthy weight gain in children. Māori (the Indigenous population of Aotearoa (New Zealand)) children have an increased risk of unhealthy weight gain compared to New Zealand European children. Interventions around sleep could provide an avenue for improving health and limiting excessive weight gain with other meaningful benefits for whānau (extended family) well-being. However, current messages promoting good sleep may not be realistic for many Māori whānau. Using qualitative methods, the Moe Kitenga project explored the diverse realities of sleep in 14 Māori whānau. We conclude that for infant sleep interventions to prevent obesity and improve health outcomes for Māori children, they must take into account the often pressing social circumstances of many Māori whānau that are a barrier to adopting infant sleep recommendations, otherwise sleep interventions could create yet another oppressive standard that whānau fail to live up to.

Keywords

sleep, children, infants, obesity, Māori, Indigenous peoples, well-being, sleep interventions

Introduction

Strong and consistent observational evidence clearly demonstrates that insufficient sleep places a child at increased risk of unhealthy weight gain (Fatima et al., 2015, 2016). This has been supported by recent intervention studies demonstrating that simple sleep interventions in infancy, involving general education about normal sleep and wake patterns, sleep safety education, detecting tired signs, avoiding “overtiredness” and “overstimulation,” placing baby to sleep while awake, responding to night waking, establishing routines, settling baby in a quiet, dimly lit space, and self-settling (e.g. cry-it-out or modified extinction methods) (Galland et al., 2017; B. Taylor et al., 2017), can substantially reduce the risk of obesity later in childhood (Paul et al., 2018; B. Taylor et al., 2017; R. Taylor et al., 2018). However, participants in these studies are likely to be wealthier, more highly educated, and Pākehā (New Zealand European) compared to other families in New Zealand. Māori children are at increased risk of obesity so sleep interventions could provide a less stigmatising way of controlling excessive weight gain than interventions focusing on diet and exercise behaviours, while providing a range of other benefits for whānau (extended family, which may include close friends) well-being.

The extent to which sleep interventions meet the needs of contemporary Māori whānau and their lived realities needs to be considered. Too often in research, interventions

have more benefits for groups who “face fewer barriers and have greater access to resources” (Ratima, 2013, p. 21). The “Back to Sleep” campaign launched to combat Sudden Unexplained Death in Infancy (SUDI), which arose from findings from the New Zealand Cot Death Study (Mitchell & Blair, 2012) in the late 1980s, is a prime example of research that did not initially equitably benefit those most in need. Although SUDI halved within 2 years of the launch of this initiative, large ethnic inequalities persisted with Māori babies still seven times more likely to die from SUDI compared to Pākehā babies (Child and Youth Mortality Review Committee, Te Ro- pu- Arotake Auau Mate o te Hunga Tamariki, Taiohi, 2017; Mitchell & Blair, 2012). This inequity was linked back to the common practice of

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bed-sharing in Māori whānau, which was both culturally and socioeconomically determined. Early messages against bed-sharing focused on the biggest risk—maternal smoking (including smoking in pregnancy) combined with bed-sharing but this evolved into an all-encompassing message against bed-sharing in general (Ministry of Health [Manatū Hauora], 2019a). Recommendations to avoid bed-sharing were not readily accepted by many whānau. Māori SUDI researchers and practitioners have worked hard in the subsequent years to create safer sleeping environments for babies that are appropriate for Māori whānau and that reduce disparities in outcomes (Baddock et al., 2017; Tipene-Leach et al., 2014, 2018). This demonstrates the importance of designing sleep interventions that are appropriate and beneficial for Māori whānau if we are to achieve equity in sleep-related health outcomes.

Current sleep guidelines for New Zealand whānau (Ministry of Health [Manatū Hauora], 2019b) emphasise safe sleeping: putting baby to sleep on their backs, in their own cot or bassinette on a firm mattress, and keeping them warm but not too hot. The guidelines also advise parents on helping baby to settle for sleep by having quiet time before bedtime; establishing regular routines before bed (like bathing); teaching baby the difference between day and night by creating quiet, dim environments for night sleeps; and swaddling and helping baby to relax using patting, rocking, and shushing. Parents are advised that cry-it-out or sleep extinction techniques may be helpful for babies that are very difficult to settle for sleep. The Ministry of Health also provides tips for improving sleep quality in young children to prevent negative effects on child behaviour, learning, development, and weight (Ministry of Health [Manatū Hauora], 2019c). These emphasise establishing regular bedtime routines, and comfortable, warm, dark, and quiet sleep environments with no distractions such as TVs or other electronic devices.

Sleep for Māori in New Zealand

In New Zealand, pre-colonial Māori parenting practices centred on love and care for the child. The well-being of every child was the collective responsibility of whānau and hapū (subtribes). Traditional sleep practices included bed-sharing, reflecting the high value placed on physical contact between pēpi (baby) and whānau; high responsiveness to infant cues such as crying; and breastfeeding (Glover & Cunningham, 2011; Jones et al., 2017). With colonisation, non-Māori worldviews were introduced and enshrined in the new institutions established by settlers who believed in their superiority and attempted to systematically replace Māori worldviews and ways of life, including sleep and infant care (Glover & Cunningham, 2011). These introduced cultural sleep preferences have been characterised by a perceived dichotomy between sleep and wakefulness (with sleep taking place at regular, nocturnal intervals) and the privatisation of sleep and sleep spaces (Chenhall & Glaskin, 2013).

Within contemporary Māori cultural contexts, there may be particular circumstances which impact sleep patterns and behaviours for infants and children, for example,

family commitments to evening events at marae (sacred communal meeting spaces of Māori communities) or sport clubs, sole parenting, and busy multigenerational households. The relevance and feasibility of sleep interventions and promotion programmes for ethnically and socioeconomically diverse families are often not prioritised or are unknown (B. Taylor et al., 2017). Informing future interventions or sleep programmes as a novel approach to preventing unhealthy weight gain in children, so that they are relevant and beneficial to Māori whānau, was principal aim of the Moe Kitenga (Perceptions of Sleep) project.

Methods

Recruitment and interviewing

The research team was purposively interdisciplinary and included Māori and Pacific health researchers. The study was led by a Māori academic (L.T.M.). Consultation was undertaken with the University of Otago Māori Research Consultation Committee. The University of Otago human ethics committee approved the study.

Early engagement with Māori whānau service providers was imperative. Before recruiting, our research team approached Arai Te Uru Whare Hauora, a community-based service provider for Māori whānau. In line with kaupapa Māori (Māori principles) values in research, kanohi ki te kanohi (face to face, in person) and whakawhānau (establishing relationships), we met with Arai Te Uru Whare Hauora staff members and shared our research goals, approach, and motivation with them. Upon gaining their approval of our research aims and approach, we began recruiting participants.

The study was set in Dunedin (population 120,000) where 8% of residents self-identify as Māori (vs 15% nationwide). We sought parents or caregivers of children under 5 years and who identified their family as “Māori whānau” using community health and education networks, posting flyers in public places and personal networks.

Parent participants ranged from 23 to 42 years old. Of 14 interviews, 11 were with mums only and 3 were with two parents. For all whānau, at least one parent identified as Māori. Parents had between one and seven children, aged between 8 weeks and 19 years. Interviews focused on sleep experiences with tamariki (children) and pēpi (babies) currently under the age of 5. Informed consent was obtained from all participants.

Eleven interviews took place in participants' homes; 2 in the mum's workplace, and 1 at a café. Interviews were conversational and informal and lasted about 1 hr. Questions were open-ended and based on a predefined list of interview topics that were collaboratively developed by the research team and included broad questions such as “Could you tell me what sleep currently looks like in your whānau?” and more specific questions about how whānau settled infants, the sleep environment, how and when each family member typically falls asleep, and any particular challenges the family may experience around sleep, as well as any advice they had

been given and where they would turn for advice. The interviewer sparingly referred to a predefined list of interview topics to ensure consistency, while allowing for flexibility to include other topics raised in previous interviews as appropriate. Interviewing was stopped when data saturation was achieved—that is, when later interviews continuously confirmed earlier findings (Strauss & Corbin, 1998).

The interviewer (M.G.) is an experienced qualitative researcher who immigrated to New Zealand from USA more than 10 years ago. With two children of her own, she was able to chat with parents in a manner consistent with reciprocal conversation. Before beginning each interview, she carefully clarified that she was not a service provider, parenting expert, or representative of any agency, and several mums explained that they were telling her things that they did not tell their midwives or well-child nurses. Molly's baby daughter, Mae, aged 5 to 9 months, accompanied Molly on most interviews, helping to develop rapport with participants whose own children were present in most interviews.

Qualitative coding

Interviews were recorded, transcribed, anonymised, and entered into NVivo software along with additional fieldnotes. Thematic open-coding was employed, with no pre-determined theories being tested (Chase, 2002; Strauss & Corbin, 1998). The research team discussed each transcript and emergent themes. After 10 interviews were analysed using this process, emergent themes were reviewed collectively. The remaining four interviews were then conducted, serving to verify the identified themes.

Results

Initially the list of codes was expansive with over 50 concepts identified. Through discussion, closely related codes were merged creating a more refined list of 14 categories (Strauss & Corbin, 1998, p. 65). The relationships between each of these categories were examined further and condensed into a final list of empirical based themes including bed-sharing (including its link with breastfeeding), notions of “routine,” and the realities of sleep environments (including discussions of children as “heavy sleepers” and the prevalence and impact of large families). This article focuses on these major themes and also the data on screen time and “cry it out” techniques as these were of further interest to designing future sleep interventions aimed at for Māori whānau.

Bed-sharing: everyone does it, no one admits it

For many reasons, all but one whānau co-slept with their babies at some stage. For some, bed-sharing was a brief or intermittent practice with parents ultimately preferring pēpi to be in their own space. Lauren, for example, explained,

she's slept with me a few times . . . but it was never a routine . . . It was only if she woke up during the night and I was too

tired for this, you know, “okay, I will spend half an hour getting you back to sleep” rubbish.

For most, however, bed-sharing was the norm.

Discussions around bed-sharing revealed the pervasive, societal taboo that has arisen in New Zealand. Most parents in this study who practised bed-sharing clearly demonstrated knowledge that they were acting in opposition to this taboo and to current safe sleep messages. When they spoke about bed-sharing, it was as if confiding a secret. One mum double-checked about anonymity when revealing that she practised bed-sharing: “I'll be quite honest about that, she slept with us quite a lot. This is the part that remains anonymous.” Another mum said that she avoids the topic of sleep in conversation whenever possible:

I don't really talk about sleep with other people 'cause I feel bad that we've got her in the bed. 'Cause I feel there's that stigma that you shouldn't have her in there. I'll talk that she's in the bassinet, but I will just keep the rest of it quite quiet . . . I don't really talk about sleep.

In sharing their experiences, whānau added valuable information to the body of knowledge around why families bed-share in spite of being aware of public health messages advising against doing so. For some, like Nadine, it was simply a matter of being desperate for sleep. Nadine regularly slept with her fourth child, Fran (almost 2 years of age), who needed frequent tending to in the night. Nadine explained,

I used to be quite good at getting the kids back into their bed, but at the moment, with Fran, it's not really happening, she's just in with us . . . Because I am needing my sleep, really, and it's the easiest way . . . Ideally, she wouldn't be in bed with us all the time but that's where we're at . . . We have no resolve left, actually.

Three mums who regularly slept with pēpi described bed-sharing as a safety matter. Two had a child with a serious illness and both felt that they could keep their child safer by having them in closest proximity. Olivia similarly felt that she was better able to ensure her healthy child's safety and well-being by having her in the same bed. Putting her baby to sleep in a Moses basket near the bed did not feel right:

I didn't know if she was okay in the Moses basket. When she was next to me I knew that she was okay. I find that ironic that a lot of people say that that's not safe, because I'm like, I did not feel safe with her in a Moses basket or somewhere else.

In addition, whānau reported other benefits of bed-sharing. Several parents spoke of sleeping with their babies for bonding. For some, this bonding was also connected to their own memories of sleeping with their parents or grandparents. As one father, Eric, explained,

A lot of the things that I do now in terms of the children sleeping is just the way I remember—sleeping on dad's arm . . . That's how I sleep with the kids, just with them on my arm.

There's just something about it I enjoy, just cuddling my children and having them in my arms . . . I'm just enjoying time when they're young and having this time. A part of me just doesn't want them to grow up . . . they'll always be my little girls and my little boy. So even now, definitely we co-sleep . . .

Other reasons for bed-sharing included warmth; several participants reported it was expensive to heat their homes. The physical needs of parents (like difficulty getting in and out of bed due to a C-section or a bad back) was another reason.

In spite of all of these reasons for bed-sharing, several parents reported purposefully not telling health professionals about it. For example, Christina said,

I used to lie to Plunket because they'd say, "Do you sleep with your baby?" They'd say, "she should always be in her own bed," and I'd say, "Yeah, yeah." 'Cause I'd find they'd just make me feel bad and I was just trying to get through.

This fear and avoidance of punitive discussions around bed-sharing resonated with Olivia: ". . . because of the whole making me feel like I was a bad parent because she was sleeping with me."

Bed-sharing promotes breastfeeding

One of the strongest reasons reported for bed-sharing was its link with breastfeeding. Anahera explained that she slept with each of her six children. Anahera was acutely aware that one should not smoke if they sleep with their babies, and she had a very real fear of rolling onto her babies that prevented her from having them in her bed until they were about 3 months old. After that, it seemed logical to have them in bed with her. She breastfed them in her bed until they fell asleep, and there they stayed, ready for the next night-time feed. Nadine explained that her fourth child had been the most challenging. At 18 months old, Fran still woke approximately three times a night to breastfeed. Nadine used to get up, feed her, and put her back in her cot each time. But it was taking a toll on Nadine, "it just got too difficult." She began letting her daughter stay in bed with her and now she wakes less frequently. Nadine can breastfeed without fully waking up and gets a better sleep. Olivia used the term "breast-sleeping" to describe a half-awake state that she's in when her daughter feeds in the night, seemingly just checking, "ok, you're still here." Like several other mums, Pania said pēpi stayed in her bassinette until some stage in the night when she wakes up for a feed and then stays in bed with mum and dad from then on. All strategies were considered to facilitate more breastfeeding and more sleep.

One mum explicitly stated that without bed-sharing, she would not have breastfed her third baby. Based on past experience, Deborah felt breastfeeding her third pēpi was only going to work out if she slept with her, so both could get enough sleep:

My oldest one I only breastfed for eight weeks and then he went onto a bottle, and he slept all night from eight weeks. My

middle son . . . I breastfed him for two years, and he *did not sleep* for two years. So I was not a big advocate for breastfeeding! . . . I know that it's really good . . . So, [bed-sharing] did keep me breastfeeding . . .

"Routine" is good parenting

The interviewer avoided using the word "routine" during interviews, so as not to assume its presence, but most interviewees readily used the term. However, how "routine" was interpreted varied from participant to participant. A subset of whānau valued and enacted routine quite strictly, describing themselves as making sacrifices to do so (it should be noted these were all two-parent families, three of whom described evening routines as an essential part of their religious values). Another subset interpreted routine as a loose framework encompassing structure balanced with variability and flexibility. The reality of how routine was enacted was unique to each family's values, resources, and competing priorities.

With six children, Jennifer's whānau exemplified a strict enactment of routine:

There's lots of kids and it's stressful for them if they're tired and overtired . . . We value our sleep as well. We both work full time and we know if we're tired then we're not giving our best to our work or definitely not to the kids.

She spoke about making "sacrifices" and managing their lives "around our babies, making sure that they have their rest and their sleep, so that we all function better." Their evening routine began with an early dinner and staggered, set bedtimes for their seven children. Naps were similarly set.

Whatever we do, we try to make sure that the morning and the night can stay in place . . . Some people might go, "oh just let her sleep now and then she might wake up and stay up 'til 10 o'clock." So we just don't do any of that, ever.

This picture of family life varied considerably from Anahera's, although she was equally emphatic about the importance of sleep routines. When scheduling the interview with Anahera, she said she could schedule the interview far in advance because of her predictable routine. During the interview, she explained,

we're a pretty full-on family, we're busy all the time . . . but I'm in a routine, I've got them set in a routine. . . . I know if they don't get to sleep, I'm in trouble the next day.

For her, routine consisted of a loosely set bedtime and waking times that allowed the whole whānau to be at school and work on time. But there was significant flexibility. For example, during the interview, Anahera's youngest son, nearly 2, walked into the room, having just woken up. Anahera explained that Luke tended to fall asleep whenever he wanted. She said, "he'll probably have something to else to eat and probably fall asleep on the floor again. He likes napping out." Anahera was not concerned because Luke still went to bed at a broadly consistent bedtime.

Rachel, a single mum with five children, was striving for routine but having great difficulty achieving it. She wanted to give each of her five children individual attention before bed, but this resulted in bedtime being stressful and drawn out and no one was getting enough sleep. Rachel is a further example of whānau having to manage a complex family life where establishing routines is very difficult. Her family had been homeless for 6 months, staying in motels and with friends, until finally granted a council flat 3 weeks before our interview.

Finally, Nicole described her family as “a reo (Māori language) speaking whānau” dedicated to raising their two boys with te reo Māori as their first language. Her family enacted a casual sleep routine at home interspersed with irregular evenings or weekends when Māori cultural and language events would keep them out late or sleeping over at a marae in a same room as many others. She admitted that this can be challenging for her two children but felt it was a matter of balancing priorities.

I think it's important to be flexible because life isn't rigid . . . We work to the best of our abilities around their sleep times but at times it just doesn't happen, and we just roll with that as part of what we're doing . . . one day all this hard work will pay off . . . it's our part in helping to revitalise the reo.

For all whānau interviewed, personalised versions of routine existed within the complexities of each individual family life where priorities had to be balanced and differing resources were available.

Quiet sleep environments are not for every whānau

Creating a quiet, predictable environment for sleep was valued by several whānau. But many families also spoke to the opposite: valuing their children's ability to sleep in a variety of environments and to sleep through noise. Christina, spoke of “creeping around” quietly while her daughter naps. On the contrary, Deborah's whānau were an example of the variety of sleeping circumstances some whānau encounter. She spoke of going on the occasional holiday or staying with out-of-town family. Her youngest son needed to be able to sleep in all situations, including napping at her workplace upon occasion. Looking back, she recalled her oldest son's ability to sleep through anything:

For goodness sake, he would sleep anywhere. We had family over from Australia . . . and they're really loud . . . like playing guitars and . . . songs which are really loud anyway. They couldn't get over how well he could sleep in the middle of it; like, literally in the middle of the floor on a mattress.

Two whānau interviewed lived in a noisy student suburb. Another whānau lived on a busy road. Several parents cited the importance of being able to get household chores done (using anything from food processors to nail guns) or having friends over after their children went to bed without waking them. Having children who are able to sleep through

noise was essential for managing busy family lives. In fact, it was considered a negative if children required a dark, predictable, quiet bedroom as this was simply not often possible or practical.

Some parents deliberately avoided being quiet when their children slept so their kids would learn to sleep through noise. Pania explained, “We said from the get-go we weren't going to be quiet around them because we didn't want to have to be tiptoeing around them 'cause we're not quiet people generally.” Rachel found bedtimes particularly challenging but felt that one thing she had succeeded at was *not* needing quiet when her children slept. It was important to her to be able to do things like vacuuming and even turning on lights in their bedrooms to tidy. Nicole, whose house was peaceful, felt this was detrimental. Her kids struggled to sleep when the family was, for example, at the marae “everything's later and pushed out and lights are on and lots of activity.” Having a noisier house, she said, would probably make it easier for her children to sleep in these noisier environments: “It would be really helpful for when we are out and about.”

Nadine, like many whānau, had several children sleeping in one room. In this situation, it was important that children could sleep through each other's noises, including the night waking of younger children. Having several children in one bedroom was one aspect of “larger families” that stood out in our research.

Conventional sleep advice is not very practical for larger whānau

Nine whānau had between 3 and 7 children and several also had others living with them—such as grandparents, partners of older children, or exchange students. These “larger families” tended to have children sharing bedrooms. Eric explained his four children's sleeping arrangement like this:

There's a double bed and then we have two foam mattresses that we just pull out and just put sheets and blankets on. And two kids will sleep on the big bed and two of the kids will be on the floor. And then we just pack that up in the morning.

Eric's children prefer to share a room. Eric fondly remembers sharing a room with his three brothers. Eric and Sarah had purposefully downsized from three to two bedrooms because it was easier to heat a smaller space and they preferred sleeping together anyway. Anahera's four children similarly preferred sleeping together. Although they had three separate bedrooms, the three older children preferred to share a bed and have the youngest in a cot nearby. Anahera, and another mum Nadine, felt the children slept better when together. Nadine suggested that the younger children were comforted by the presence of the older ones who modelled sleep for the younger ones: “With Ollie, particularly . . . it was kind of like he just copied Ben and what you did was you get in bed and you stay in bed type of thing. And it was awesome.”

Sometimes these larger families had busy schedules and bedtime had to be flexible. As a single mum with five children,

Rachel described having to take all the children whenever she had to take an older child to an evening event, such as sports practice. Thus, Rachel's children were rarely in bed at the time she desired. A further challenge for Rachel was giving individual attention to each child at bedtime. This meant that the youngest (2 years) was the last to get to sleep because he wouldn't fall asleep unless Rachel lay down with him. Rachel felt this was far from ideal but struggled to manage the differing needs and bedtimes for five children on her own.

“Cry it out” settling techniques are a last resort for most whānau

Letting a baby cry for a sustained period of time was untenable for most whānau and just three families had used cry-it-out techniques with any success. One was Pania, who initially was very opposed to leaving her daughter to cry, “When Maia cried it was actually a physical reaction, it hurt . . . I couldn't do it, I could not have my baby girl screaming like that.” But after some time, she reluctantly tried again: “I just got to a point where I could not take it anymore . . . I was just so done with it; done with being screamed at and not having any sleep.” This time, leaving her daughter to cry did result in her daughter learning to go to sleep on her own, in her own bed, rather than needing to be in physical contact with Pania. Several more families said they were OK with their babies crying to sleep, but only if it was for a limited time of 5 min or so. Of the remaining families, some tried some cry-it-out strategies but found it unsuitable. When Ariana tried moving her son from her bed to sleeping in his own bed, she was told by a friend to “Just put them in the room and shut the door.” Ariana tried it, but “I started crying because he was screaming. I was like, ‘No, I can't.’ . . . I was sitting outside the door crying, ‘I can't!’” Several other parents explained that they would never consider leaving their baby to cry.

Thus, the majority of the families interviewed were either against “cry it out” strategies, had tried them without success, or were okay with only a small amount of crying. Of the three whānau who did use “cry it out” techniques, they described themselves as being at their wits' end with sleep deprivation before being willing to do so. This aversion or reluctance to use “cry it out” techniques is noteworthy particularly when considering how frequently it is recommended by health professionals or used in infant sleep research.

Screen time has a place when settling young children

Most families talked of limiting screen time to varying degrees, or at least being aware that excessive screen time was potentially harmful for children. But at the same time, whānau were not too concerned about limiting screen time before bed:

No I haven't really thought of screen time before bedtime is not a good idea. I watch movies before I go to sleep and things like that. But in terms of screen time as a whole I'd like to limit it.

In fact, several families commented that screen time was a useful way to wind kids down at the end of the evening. For example, Sarah and Eric often have the kids quietly watch something after dinner and before bed:

- Eric:** I like it as an activity for them to do, to keep them quiet and for them to—
- Sarah:** Calm down . . .
- Eric:** We have a couple of laptops and the kids watch Peppa Pig or something on the laptop and then once it's around about 7.00, 7.30 Sarah yells out, “Potty, teeth, pyjamas.”

The four children then get ready for bed, followed by a book or story. Sometimes the three older children watch a children's TV programme enabling Sarah to get the youngest child to bed.

Screen time was viewed a tool that can come in quite handy at the end of the day. Nicole, for example, was aware of the drawbacks of too much screen time but she gave a realistic picture of weighing up the situation each evening:

Depends if the dishes need to be done and if Kauri is fussing then, you know . . . We're definitely the same with dinner, bath, come out here and do something, but whether Nikau's doing something on his own or if there's a movie on 'cause we're cleaning up . . . If I'm by myself, putting Kauri to bed, Nikau watches a movie. Or sometimes we need to chill out, so we chuck on a movie . . . There's definitely a thing as too much but it certainly is a tool, a helpful tool . . .

A few families mentioned that their children can nap or fall asleep while the TV is on. Anahera used TV to get her children to bed on a regular basis. Her four children piled into one bed and chose a movie. Within 30 min, they were asleep and she turned the TV off. In contrast with Rachel's struggles to get each of her five children into bed individually (described above), Anahera's use of the TV as a facilitator for a quick, group bedtime is effective, although not compatible with conventional sleep guidelines (Ministry of Health [Manatū Hauora] 2019b).

Discussion

Our findings suggest that current sleep recommendations, particularly those relating to sleep safety education, establishing routines, settling baby to sleep in a quiet, dimly lit space, and helping baby to learn to self-settle to sleep over time, may not fit with the lived realities, child-rearing practices, and beliefs of many contemporary whānau. Many whānau have multiple obligations and responsibilities within their communities which can make it difficult to follow conventional sleep recommendations. Researchers interested in developing sleep interventions that have equitable outcomes for Māori whānau need to understand these challenges and to work with whānau to design feasible approaches to improving the quality of children's sleep. We also found that many whānau were not able to speak openly with their health professionals about managing their

children's sleep highlighting the need for health professionals to take a more non-judgemental, collaborative approach when working with whānau to support better quality sleep.

Sleep is deeply personal and cultural, tied into aspects of personhood, identity, kinship, and community (Chenhall & Glaskin, 2013). Yet sleep, particularly infant sleep, is also moralised and governed by an ordered set of preferences and values: across time and across cultures, varied but strong scripts dictate what constitutes "correct" sleeping behaviour (Alexeyeff, 2013). Some of the whānau in this project suggested that families often edit or strategically present aspects of their parenting to others, including sources of authority, with the most obvious example being concealing bed-sharing practices from health care professionals. While bed-sharing was common, discussions revealed parental awareness of acting against advice. In a context where post-colonial influences have conflated bed-sharing with "poor sleep habits" and "unhealthy dependencies" as well as being a risk factor for SUDI, some parents feared being criticised or judged for bed-sharing (Alexeyeff, 2013; Tomori, 2015, p. 6). Contrary to messages about bed-sharing being unsafe, several parents felt that bed-sharing enabled them to *ensure* the safety and health of their child. This resonates with other New Zealand and Pacific-based research, for example, sleeping in close proximity with a child was seen as "a matter of infant survival and healthy development" in the Cook Islands (Alexeyeff, 2013).

Several mothers in the Moe Kitenga (perceptions of sleep) study described how bed-sharing supported breastfeeding, consistent with biological and anthropological literature supporting bed-sharing for facilitating breastfeeding (McKenna & Gettler, 2017). Whānau in our study felt that messages to breastfeed, but not co-sleep, were contradictory and this may be setting them up for failure to breastfeed.

Ready reference to the parenting paradigm of "routine" in our study was also evidence of how parents may strategically present their practices to others. "Routine" encompassed a wide variety of approaches to parenting in our study, possibly suggesting parents sense it is something that they should be enacting to fit the picture of "good parenting" from a Western, Euro-American paradigm, which includes sleep occurring at a set, consistent time primarily in one nocturnal block (Chenhall & Glaskin, 2013).

The variation of "family life" represented in our small sample also suggests the need to be aware of for whom healthy sleep guidelines are applicable. Some family dynamics may be more prevalent in Māori whānau—such as larger families and sharing bedrooms. Quiet and/or private spaces for sleeping may not be possible nor indeed valued. Being able to sleep through noise and disturbances is viewed positively, while needing quiet for sleeping is not. Most parents in our study valued some limitations around screen time, although most were not aware of guidelines discouraging screen time before bed. For many, whānau screen time was viewed as a helpful tool for winding down before sleep.

Conclusion

Interventions to improve the duration and quality of sleep among infants and babies as an approach for reducing risk of obesity in later life have typically provided advice that many Māori whānau may find irrelevant to their lived realities. All but one of our participating whānau reported bed-sharing to some extent, in line with traditional Māori parenting values of responsiveness, breastfeeding, and familial bonding, and some parents believed they were ensuring their children's safety by keeping them close (Jones et al., 2017). We therefore note that contemporary safe sleep messages to avoid bed-sharing must be recognised as going against what feels "right" or is easiest in light of competing family priorities and resources available for many whānau. Alternative approaches, such as including information and access to wahakura (woven flax basket allowing babies to sleep safely in the caregiver's bed) or pēpi pods, explaining why not smoking and drinking is important, and urging caution in the use of blankets due to the cold may be more relevant for some whānau. It is important to acknowledge that a quiet dark room is not feasible or desirable for some whānau who need their children to be able to sleep in noisy settings. The use of white noise could be investigated as an alternative to creating a quiet sleep space. Furthermore, sleep interventions could provide advice for establishing flexible sleep routines in busy households and accommodating the sleep needs of multiple children at different ages and who may share sleeping spaces. Our research demonstrates that the seemingly simple sleep advice that has been trialled in obesity prevention interventions to date appears biased towards small, multiple caregiver, well-off households, which is not the reality for many Māori whānau. Health promoters and researchers need to be constantly alert to the potential for biased advice in health interventions. As with more traditional diet and activity interventions targeting obesity prevention in Māori communities, effective interventions targeting improved infant sleep must take into account the often pressing social circumstances of many whānau that are a barrier to adopting infant sleep recommendations. Without doing so, there is a risk that sleep interventions for obesity prevention create yet another oppressive standard that whānau fail to live up to.

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